

Economic perspectives on copyright law

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by
The Allen Consulting Group

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Centre for Copyright Studies Ltd

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Abbreviations

ABC	Australian Broadcasting Corporation
ACCC	Australian Competition and Consumer Commission
ACT	Australian Competition Tribunal
AGD	Attorney-General's Department
APRA	Australasian Performing Right Association Limited
CAL	Copyright Agency Limited
CD	compact disc
CLRC	Copyright Law Review Committee
COAG	Council of Australian Governments
Cth	Commonwealth
DCITA	Department of Communications, Information Technology and the Arts
IP	intellectual property
IPCRC	Intellectual Property and Competition Review Committee
IPR	intellectual property right
NCE	new communications environment
NCP	National Competition Policy
ORR	Office of Regulation Review
OTA	Office of Technology Assessment
TPA	<i>Trade Practices Act 1974</i>
TPC	Trade Practices Commission
TRIPs	<i>Agreement on Trade-Related Aspects of Intellectual Property Rights</i>
UK	United Kingdom
US	United States
US\$	United States dollar
WIPO	World Intellectual Property Organization

Preface

The Centre for Copyright Studies was established in 1993 with the primary purpose of undertaking and promoting research into copyright.

As part of the Centre's programme of copyright-related research,^{*} the Centre commissioned The Allen Consulting Group to prepare this study on the economic analysis of copyright. To assist the commissioning of the research a scoping document was prepared for the Centre by David Lindsay, a research fellow at the University of Melbourne Centre for Media, Communications and Information Technology Law.[#]

This commission was made in the belief that policy debates relating to copyright law may be improved by a study that more clearly explains the different economic approaches used to analyse copyright law and policy, particularly as distinct from the analysis applied to other forms of intellectual property. This followed the twin inter-related concerns that:

- copyright protection has not received the same amount of attention from economists as the patent system has, and as a consequence, understanding of the economic role of copyright protection may have suffered by comparison; and
- some of the copyright debate has been undertaken in reliance on the economics of patent material without regard to the significant differences between the two categories of intellectual property.

This paper represents the views of The Allen Consulting Group; they are not necessarily those of the Centre.

^{*} See Ian McDonald, *A Comparative Study of Library Provisions: From Photocopying to Digital Communication* (Sydney: Centre for Copyright Studies, 2001); Ian McDonald, *Copyright in the New Communications Environment: Balancing Protection and Access* (Sydney: Centre for Copyright Studies, 1999); Megan Richardson et al., *The Benefits and Costs of Copyright: An Economic Perspective* (Sydney: Centre for Copyright Studies, 2000).

[#] David Lindsay, *Proposed Study of Economic Analysis of Copyright Law: Executive Summary and Scoping Document* (Sydney: Centre for Copyright Studies, 2001).

Executive summary

This study was commissioned by the Centre for Copyright Studies in order to obtain a clearer understanding of the manner in which economic analysis has been, and can be, applied to copyright law and policy.

Creative products tend to have public good characteristics. That is:

- consumption by one person does not prohibit another person also using the same product (ie the product is non-rivalrous); and
- people cannot easily be stopped from consuming the product (ie the product is non-excludable).

As a result, markets for these products tend to fail, because once they are produced, it is difficult to prevent those who do not pay for them from consuming them. In other words, there are incentives for consumers to become free-riders, obtaining the benefits of the good without incurring any of the costs.

This suggests that in the absence of some mechanism for enabling a producer to recover the costs of investment in the product, there will be an undersupply relative to the socially optimal level. Copyright is one such mechanism to stop free-riding and encourage the production of certain types of products with public good characteristics.

Despite widespread agreement as to this rationale for copyright protection, there exists some disagreement as to the most appropriate economic manner in which to analyse the scope and nature of copyright policy. Indeed, as suggested in the scoping document,¹ there are currently three discernable approaches to analysing copyright law and policy from an economic perspective:

- the dominant school of thought argues that property rights create institutional frameworks for markets, with attendant costs and benefits. These economists view copyright's role as being to balance production incentives (ie benefits) and access (ie costs);
- strong institutional support exists for the view that property rights are merely one form of possible intervention – both public and private – to correct for market failure. These economists see property rights as an important, but complementary, response to the problem of underproduction. In this context, copyright should be only as expansive as is necessary to correct identified market failures; and
- the last approach believes that copyright performs essentially the same “incentive” function as other forms of property rights and, in general terms, that there should be no greater limitations on copyright than on other forms of property. On this view, concerns relating to the costs of copyright are not

¹ David Lindsay, *Proposed Study of Economic Analysis of Copyright Law: Executive Summary and Scoping Document* (Sydney: Centre for Copyright Studies, 2001).

significantly greater than concerns relating to the costs of other forms of property. Economists who support more complete property rights in information tend to believe either that the costs associated with intellectual property are overstated, or that they are best dealt with by market-based solutions such as price discrimination. Indeed, this approach tends to see copyright's role as to facilitate such price discrimination.

The lack of a single analytical framework is understandable, given that there is no single approach to the application of economics to the law; "Law and Economics is not a homogeneous movement; it reflects several traditions, sometimes competing and sometimes complementary."²

This study suggests that:

- the first and second approaches are complementary theoretical frameworks, and together represent the government-endorsed framework for economic copyright analysis. However, the effectiveness of these joint approaches has been limited because of inadequate quantitative support and application; and
- the third approach is less applicable to the analysis of copyright law because individual copyrights fail to provide the monopoly power (or at least strong market power) that is necessary to facilitate welfare maximising price discrimination. However, a price discrimination approach is likely to be more appropriate:
 - when analysing the pricing behaviour of collecting societies or other organisations who have a significant market power because of their breadth of copyright holdings; and
 - as technological improvements facilitate pricing regimes that are tailored to reflect people's willingness to pay.

Given economics' far from unified approach to copyright, looking at a number of copyright doctrines and institutions from the three economic perspectives reveals a number of broad observations:

- economic analysis cannot give clear-cut prescriptions for how a copyright system should look, but it:
 - shows that there is something like an optimal (ie welfare-maximising) level and scope of copyright protection;
 - indicates those factors upon which this optimal level and scope depends;
- neither the complete absence of copyright protection nor complete absence of copyright piracy are likely to be the optimal policy solution; and
- in certain circumstances it can be welfare maximising if a copyright holder can price discriminate. Indeed, the exclusive rights created by the Copyright Act are

² Nicholas Mercurio and Steven G Medema, *Economics and the Law: From Posner to Post-Modernism* (Princeton: Princeton University Press, 1997) ix.

subdivided in a way that seeks to make price discrimination easy, although it is intentionally far from perfect. The commonly stated assumption that more price discrimination is necessarily better is incorrect; price discrimination is at best a mode of reducing a monopoly's negative effects.

These observations suggest that care needs to be taken when advancing or assessing economic analysis of copyright, and that there should be an acknowledgment that there is legitimate scope for alternative economic interpretations.

The challenge presented by this study is to gain a better understanding of the factors that affect:

- incentives for creating copyright works; and
- free-riding by making unauthorised copies of copyright works.

This challenge has never really been fully embraced by the existing economics of copyright literature, and policy-makers relying on the existing literature hence need to be aware of its limitations. While the importance of such information is now acknowledged, the fast-changing world of the “new communications environment” makes it even harder to gather and interpret, while at the same time increasing the demand for economic studies to help direct copyright policy.

Part A: Background

This Part includes an introduction and a brief overview of copyright law and intellectual property generally.

1: Introduction

“The general objective of the system of intellectual property law in Australia is utilitarian, and more specifically economic, rather than moral in character.”³ Given this emphasis on the economic role of intellectual property, copyright would therefore appear to be a natural subject for detailed economic analysis.

While there are remarkably few detailed studies that examine the economics of copyright law *per se*, since the mid-1990s there has been a marked increase in the use of economic concepts and approaches as a basis for discussion about how to formulate Australian copyright law and policy.

However, it is evident that there is a lack of consensus among economists in relation to some fundamental questions concerning the general economic understanding of copyright protection. In Australia, for example, differences in the economic analysis of intellectual property have emerged in connection with recent policy considerations of the simplification of copyright law⁴ and in a recent inquiry of the Intellectual Property and Competition Review Committee (IPCRC).⁵ Given such a lack of consensus, this report aims to provide a deeper appreciation of how economics has been relied upon to explain copyright as a whole, and with respect to particular elements. This should be useful with respect to:

- the future development of copyright policy in Australia; and
- judicial reliance upon economic principles when seeking to interpret the proper scope of the Copyright Act.

To this end, this report is structured into six parts:

- Part A (Chapters One to Three) provides background to support the remainder of the report, and includes this introduction, a brief overview of copyright law and intellectual property generally, and some introduction to the economic analysis of law;

³ Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000) 22.

⁴ Office of Regulation Review, *An Economic Analysis of Copyright Reform, Submission to Copyright Law Review Committee's Review of the Copyright Act 1968 (Cth)* (Canberra: 1995).

⁵ Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000).

- Part B (Chapters Four and Five) addresses the economic role of copyright. The analysis starts from first principles, outlining the problem that copyright seeks to address and the rationale for a proprietary response;
- Part C (Chapters Six to Nine) outlines and critiques the three key schools of thought that are called upon (whether implicitly or explicitly) when analysing copyright from an economic perspective. The three approaches are that:
 - copyright protection is necessary for creating incentives to produce copyright products, but that this benefit must be balanced against the costs generated by copyright, especially the costs of restricted access;
 - copyright is a policy response to correct market failures where alternative methods of appropriation are insufficient; and
 - copyright law is fashioned so as to encourage price discrimination so that total (ie consumer plus producer) welfare is maximised;
- Part D (Chapters Ten to Twelve), drawing on the frameworks identified in Part C, analyses some of the key doctrines and institutions of Australian copyright law. This doctrinal and institutional economic analysis is considered important because so much economic copyright analysis is focused on broader incentive structures without really delving into the economic rationales and consequences at a micro-legal level. As a comprehensive examination of each of the elements of copyright law is not feasible in a single study, this report focuses on a limited number of legal doctrines relating to the subsistence, exploitation and infringement of copyright;
- Part E (Chapter Thirteen) considers the implications of technological change, including new communications and information technologies, for an economic understanding of copyright law;
- Part F (Chapter Fourteen) provides a synthesis of the discussion set out in Parts B to E and identifies issues for further consideration; and
- Part G includes appendices to support the body of the report.

It is important to stress that this report is an introduction to the economic analysis of copyright law in that:

- many of the issues raised in this report are addressed only briefly, and could otherwise be the subject matter of a report in their own right. While this report seeks to draw together the key themes and issues in a comprehensive manner, in many areas more detailed analysis underpins the discussion. Wherever feasible, references are provided to guide the reader to this more detailed material; and
- while covering a spectrum of economic copyright issues, there is a field of inquiry outside the scope of this report. This includes:

- some schools of thought – public choice theory,⁶ for example; and
- some specific areas of copyright policy – parallel importation,⁷ resale royalties,⁸ and so on.

⁶ Clearly, some people see copyright policy as falling very much within the public choice/political economy framework. See, for example: Jill Walker, “The Interface between Intellectual Property Rights and Competition Law and Policy: An Australian Perspective”, *Prometheus* 16, no. 3 (1998): 385. See also Robert P Merges, “Intellectual Property Rights and the New Institutional Economics”, *Vanderbilt Law Review* 53, no. 6 (2000).

⁷ Frederick Abbott, “First Report (Final) to the Committee on International Trade Law of the International Law Association on the Subject of Parallel Importation”, *Journal of International Economic Law* 1, no. 4 (1998); Allan Fels and Jill Walker, “The Market for Books and the Importation Provisions of the *Copyright Act 1968*”, *Melbourne University Law Review* 17 (1990); D Malueg and M Schwartz, “Parallel Imports, Demand Dispersion, and International Price Discrimination”, *Journal of International Economics*, 37 (1994); Keith E Maskus and Yongmin Chen, *Vertical Price Control and Parallel Imports, Policy Research Working Paper 2461* (Washington (DC): The World Bank, 2000); Theo Papadopoulos, “Copyright, Parallel Imports and National Welfare: The Australian Market for Sound Recordings”, *Australian Economic Review* 33, no. 4 (2000).

⁸ The economic literature on durable goods has proved a basis for significant economic analysis of resale rights: Carl M Colonna and Carol G Colonna, “An Economic and Legal Assessment of Recent Visual Artists’ Reversion Rights Agreements in the United States”, *Journal of Cultural Economics* 6 (1982); Randal K Filer, “A Theoretical Analysis of the Economic Impact of Artists’ Resale Royalties Legislation”, *Journal of Cultural Economics* 8 (1984); Larry Karp and Jeffrey Perloff, “Legal Requirements That Artists Receive Resale Royalties”, *International Review of Law and Economics* 13 (1993); Christiane Ramonbordes, “Economic Impact of the European Directive in the Artist’s Resale Right or Droit De Suite”, *Copyright Bulletin* 34, no. 2 (2000); John L Solow, “An Economic Analysis of the Droit De Suite”, *Journal of Cultural Economics* 22, no. 4 (1998).

2: An introduction to copyright and its relationship to other intellectual property rights

This chapter provides a general introduction to copyright and its relationship to the broader concept of intellectual property.

2.1 What is copyright?

Copyright protects creative endeavours by preventing original material being copied without permission. Its introduction and development has been a direct response to the development of new copying technologies:

Copyright was technology's child from the start. There was no need for copyright before the printing press ... Centuries later, photographs, sound recordings, motion pictures, videocassette recorders, compact discs and digital computers have dramatically expanded the markets for mechanically reproduced entertainment and information, and increased copyright's function in ordering these markets.⁹

Copyright, as specified in the Australian *Copyright Act 1968* and its associated regulations, is made up of a bundle of:

- exclusive economic rights¹⁰ to:
 - copy (ie reproduce);
 - adapt;
 - publish;
 - communicate (eg broadcast, make available online); and
 - publicly perform;
- with respect to:
 - literary works;
 - dramatic works;

⁹ Paul Goldstein, *Copyright's Highway: From Gutenberg to the Celestial Jukebox* (New York: Hill and Wang, 1994) 27-28. For the history of copyright, from a number of differing perspectives, see: Office of Technology Assessment, *Intellectual Property Rights in an Age of Electronics and Information* (Washington: US Government Printing Office, 1986); Brendan Scott, *Copyright in a Frictionless World: Toward a Rhetoric of Responsibility* (First Monday, 2001 [cited 30 November 2001]); available at http://www.firstmonday.dk/issues/issue6_9/scott/; Brad Sherman and Lionel Bently, *The Making of Modern Intellectual Property Law* (Cambridge MA: Cambridge University Press, 1999).

¹⁰ Copyright creators also have a number of non-economic rights, known as moral rights. Moral rights recognised in Australia are: the right of integrity of authorship; the right of attribution of authorship; and the right against false attribution of authorship. These rights are not considered in this study.

- musical works; and
- artistic works (reproduce, publish and communicate only).

The Copyright Act also provides similar rights in relation to a variety of copyright material which are collectively referred to as “subject-matter other than works”. These include sound recordings, films (which include pre-recorded television programs and videos), radio and television broadcasts and published editions of works.

There are a number of characteristics of copyright protection that deserve special attention:

- copyright is a form of personal property – this results in a number of related characteristics:
 - it can be transferred just as other forms of property can be transferred;
 - it can be subdivided (ie it is divisible) – in the context of an intangible property right such as copyright this means that rights to exploit copyright material may be split up according to a number of different characteristics. For example, rights in a book may be dealt with separately from the movie rights, rights may be differently assigned by territory, and so on; and
- a clear distinction exists between the copyright in a work and the physical ownership of the article in which the work exists – for example, merely purchasing a physical copy of a book does not grant the purchaser a right to further reproduce the material embodied in the book without the permission of the owner of the copyright in the literary work.

2.2 *Copyright’s relationship with intellectual property*

“Intellectual property” is a term used to describe a broader set of rights than is provided for by copyright. For example, the *Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs)* uses the term “intellectual property” to refer to a variety of rights, including copyright, trade marks, industrial designs, patents and circuit layouts.¹¹ Furthermore, intellectual property rights are specified in Article 2(viii) of the *Convention Establishing the World Intellectual Property Organisation* as being those rights that relate to:

- (1) literary, artistic and scientific works;
- (2) performances of performing artists, phonograms and broadcasts;
- (3) inventions in all fields of human endeavour;
- (4) scientific discoveries;
- (5) industrial designs;
- (6) trademarks, service marks, and commercial names and designations;

¹¹ *Agreement on Trade-Related Aspects of Intellectual Property Rights* (1994), Article 1(2).

(7) protection against unfair competition;

and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.¹²

It is important to remain cognisant of the divisions between these legal regimes. Indeed, Epstein contends that:

intellectual property comprehends at least five or six separate areas ... [and] the mere fact that intellectual property law subsumes these six separate fields does not guarantee that any proposition that holds good for one of these areas will necessarily carry over to a second. In every case, it is just as critical to attend to the differences between these particular systems of regulation on matters of doctrinal organization and administrative organization.¹³

This view of clearly delineated classes of intellectual property rights has strong judicial support in Australia. For example, Mason has noted that “We should not be beguiled by arguments that treat intellectual property as an undifferentiated whole, arguments that fail to take account of the specific characteristics and purposes of copyright protection.”¹⁴

In particular, copyright differs from other forms of intellectual property in two important respects:

- in contrast to patent law, copyright does not confer a legal monopoly, because:
 - it protects the expression of an idea and not the idea itself;
 - independent creation does not give rise to a breach.
- The significance of these distinctions between copyright and patent law was described and justified by Mason in the following terms:

In one case, with the patent, we confer exclusive rights which will enable commercial exploitation of an invention which is of potential benefit to industrial and economic development. In the other case, with copyright, we confer exclusive rights on the person who is the originator of a form of expression, not on the idea, the thought or the information, which is embedded in the form of expression in which copyright subsists. And the exclusive rights so conferred on the copyright owner are subject to rights of use of the work, especially rights of user designed to protect research and scholarship and public access to knowledge and learning.

... to confer on the owner of the copyright in the form of expression exclusive rights in the ideas or information which are incorporated in the form of expression would be to deprive the public of access to ideas and information which do not constitute an element in what the creator of the copyrighted expression has actually created. Hence it would be unreasonable to give the copyright owner exclusive rights in that

¹² *Convention Establishing the World Intellectual Property Organization*, Stockholm (1967), Article 2(viii).

¹³ Richard A Epstein, “Intellectual Property: Old Boundaries and New Frontiers”, *Indiana Law Journal* 76, no. 4 (2001): 804-05.

¹⁴ Sir Anthony Mason, “Developments in the Law of Copyright and Public Access to Information”, *European Intellectual Property Review* 11 (1997): 636.

information or those ideas. Moreover, the element of creativity required to support copyright is much less than that required to support a patent. Consequently, the justification for imposing restraints, which have a detrimental impact on freedom of information and freedom of expression, is stronger in the case of patent protection than with copyright. That is why, unlike patent law, copyright does not grant rights to control all uses of the protected work.¹⁵

- unlike the designs, patents and trade marks systems, copyright does not require registration; protection arises automatically once the necessary connecting factors of nationality, making, or first publication have been made out. The effect of this is that the value and existence of copyright have not been validated by the outside world and remain contestable,¹⁶ with the likely consequence that there will be more litigation relative to patents.

Despite such differences between copyright and other intellectual property regimes, outside the legal profession there has been a tendency to treat intellectual property rights relatively generically, and to neglect distinctions between the legal regimes. In recent times, this tendency has been associated with an increasing emphasis on the economic importance of “information” in the “information economy”.¹⁷ The attention given to “information” as a focus of analysis appears to lead easily to an undifferentiated treatment of intellectual property rights as generic rights in information. While the discussion of “information” policy and economics can be illuminating, it is not necessarily copyright-related.

¹⁵ Ibid.

¹⁶ David J Teece, “Profiting from Technological Innovation”, in *The Competitive Challenge: Strategies for Industrial Innovation and Renewal*, ed. David J Teece (Cambridge MA: Ballinger, 1987). This goes some way to explaining why so much focus on innovation relies upon patent registration statistics – see Birgitte Andersen and Jeremy Howells, “Innovation Dynamics in Services: Intellectual Property Rights as Indicators and Shaping Systems in Innovation”, in *CRIC Discussion Paper No. 8*, ed. Centre for Research on Innovation and Competition (Manchester: University of Manchester, 1998).

¹⁷ See, for example, James Boyle, *Shamans, Software, and Spleens: Law and the Construction of the Information Society* (Cambridge MA: Harvard University Press, 1996).

3: Principles underlying the economic analysis of law, and the challenge in their application to copyright

3.1 Economic analysis of law

Despite some early economic consideration of the structure and nature of law,¹⁸ the appreciation of the role that economics can play in assessing the law was slow to come. For example, in 1912 Berolzheimer confidently noted that:

It is somewhat surprising that so conspicuous a truth as the interaction of economics and law should have waited so long for recognition – a recognition by no means universal. Some of those who question it maintain the independence and self-sufficiency of law, while others maintain that of economics.

In reality law and economics are ever and everywhere complementary and mutually determinative.¹⁹

Although he was prematurely optimistic in 1912, the economic analysis of law is now an established field of inquiry.²⁰ This chapter provides a brief introduction to the economic analysis of law and outlines the background to some early debates about the economic analysis of copyright.

Although there is no standard universally agreed definition of “law and economics”, Hovenkamp suggests two definitions:

- the study of the role of economics in the formation of legal policy; and
- the study of law using the assumptions and methodologies of economics.²¹

Both of these definitions raise the question, what is economics? Samuelson suggests that:

Economics is the study of how people and society end up choosing, with or without the use of money, to employ scarce resources that could have alternative uses, to produce various commodities and distribute them for consumption, now

¹⁸ See Marco EL Guidi, “Bentham’s Economics of Legislation”, in *Department of Social Studies Working Paper STO 2-00*, ed. University of Brescia (2000).

¹⁹ Fritz Berolzheimer, *The World’s Legal Philosophies* (Boston: Boston Book Company, 1912) 23.

²⁰ See Simon Deakin, “Law and Economics”, in *Legal Frontiers*, ed. Philip A Thomas (Dartmouth: Aldershot, 1996); Herbert Hovenkamp, “Law and Economics in the United States: A Brief Historical Overview”, *Cambridge Journal of Economics* 19 (1995); Richard A Posner, “The Decline of Law as an Autonomous Discipline: 1962-1987”, *Harvard Law Review* 100 (1987). For more in-depth discussion of the “economic analysis of law” see the following general texts: Robert Cooter and Thomas Ulen, *Law and Economics* (Glenview IL: Scott Foresman, 1988); Antony Dnes, *The Economics of Law* (London: International Thomson Business Press, 1996); Richard A Posner, *Economic Analysis of Law*, 5th ed. (New York: Aspen Law & Business, 1998). For a particularly Australian context see Megan Richardson and Gillian Hadfield, eds, *The Second Wave of Law and Economics* (Sydney: Federation Press, 1999).

²¹ Herbert Hovenkamp, “Law and Economics in the United States: A Brief Historical Overview”, *Cambridge Journal of Economics* 19 (1995): 331.

or in the future, among various persons and groups in society. It analyses the costs and benefits of improving patterns of resource allocation.²²

This definition:

- proceeds from the assumption that resources are scarce;
- assumes that people act rationally and are utility (ie welfare) maximisers;
- establishes the analytical focus as the allocation of resources to productive activities and the distribution of wealth among the members of society; and
- adopts efficiency in resource allocation as a fundamental criterion of evaluation – efficiency is an important goal in any regulatory regime and, in effect, replicates the Benthamite ideal of the “greatest good of the greatest number” into a more manageable standard.²³ This “wealth-maximisation” criterion counsels lawmakers to select the system of rules that maximises aggregate welfare, measured by consumers’ ability and willingness to pay for goods, services and conditions.²⁴ There are, however, two slightly different conceptions of efficiency:
 - the Pareto criterion states that there is a state of Pareto efficiency if there is no way to make one consumer better off without making some other consumer worse off. For many cases of interest, Pareto efficient outcomes can be thought of as those that maximise the sum of economic benefits minus costs;²⁵ or
 - the Kaldor-Hicks criterion states that one state of affairs is preferred to a second state of affairs if, by moving from the second to the first, the “gainer” from the move *can*, by a lump-sum transfer, compensate the “loser” for his or her loss of utility and still be better off.²⁶ There is no obligation that this transfer will ever be made.

These definitions are both vulnerable to various objections, which, while flagged here, are not copyright-specific, and are considered beyond the scope of this paper.²⁷

²² Paul A Samuelson, *Economics* (New York: McGraw-Hill, 1976) 3.

²³ The Hilmer Committee noted the importance of efficiency as a criterion: “Economic efficiency plays a vital role in enhancing community welfare because it increases the productive base of the economy, providing higher returns to producers in aggregate, and higher real wages. Economic efficiency also helps ensure that consumers are offered, over time, new and better products at lower cost.” – The Independent Committee of Inquiry, *National Competition Policy* (Canberra: AGPS, 1993).

²⁴ For more thorough discussion of this standard, see Richard A Posner, *Economic Analysis of Law*, 5th ed. (New York: Aspen Law & Business, 1998).

²⁵ Hal R Varian, *Microeconomic Analysis* (New York: Norton, 1992) 222-23.

²⁶ See Nicholas Kaldor, “Welfare Propositions in Economics and Interpersonal Comparisons of Utility”, *Economic Journal* 69 (1939).

²⁷ Some of the objections include: both criteria, but especially the Pareto criterion, define social welfare too narrowly; that the Pareto and Kaldor-Hicks criteria, though similar, are not identical, and much may turn on the choice between them; and they ignore the incommensurability of utility functions and bias analysis in favor of the desires of the rich, who, on average, value each dollar less than the poor. These limitations are discussed in: C Edwin Baker, “Starting Points in Economic Analysis of Law”, *Hofstra Law Review* 8 (1980): 966-72; Ronald Dworkin, “Is Wealth a Value?”, *Journal of Legal Studies* 9 (1980); Duncan Kennedy, “Cost-Benefit Analysis of Entitlement Problems: A Critique”, *Stanford Law Review* 33 (1981).

Given these and other assumptions,²⁸ one of the outstanding issues in the economic analysis of law is whether the analysis is (or should be) positive (ie stating what is done) or normative (ie stating what should be done). There is a view, however, that suggests that these two states are in fact complementary:

A positive analysis explains the law, predicts its effects and thereby indicates which legal rule as a matter of fact will be efficient. These results of a positive analysis can then be used for normative purposes, such as the prescription of the efficient rule.²⁹

This complementary approach is the assumption under which this report has been prepared, and hence the analysis is both of a positive and normative nature.³⁰

3.2 *The challenge for this study*

While there has been ongoing development of the economic tools for analysing intellectual property generally, little formal economic analysis of copyright took place until the early 1970s.³¹

That economic analysis which did take place tended to focus on the broader issue of the desirability of copyright as a whole³² – Merges calls this the “Grand Question”³³ – rather than being a detailed analysis of the individual doctrines and institutions of copyright law. For the most part, this issue is now settled, with Part B of this study outlining the generally acknowledged economic rationale for the existence of copyright law.

However, it is important to note that there has been significant analysis of legal and policy issues that are, to varying degrees, associated with copyright. These include:

- studies of the economics of copying – these studies have often focused on the economics of photocopying.³⁴ They are, however, of limited usefulness in

²⁸ Of course, significant current analysis looks at the economic consequences of varying these assumptions, but they remain a useful launching point for analysis.

²⁹ Heico Kerkmeester, “Methodology: General”, in *Encyclopedia of Law and Economics, Volume I. The History and Methodology of Law and Economics*, ed. Boudewijn Bouckaert and Gerrit De Geest (Cheltenham: Edward Elgar, 2000) 390.

³⁰ This approach is consistent with that adopted in Jason Soon, “An Economic Perspective on Intellectual Property: The Case of Copyright”, *Policy Autumn* (1999).

³¹ For the historic development of economic analysis of copyright see Gillian K Hadfield, “The Economics of Copyright: An Historical Perspective”, in *Copyright Law Symposium*, ed. American Society of Composers Authors and Publishers (New York: Columbia University Press, 1992).

³² See: Stephen Breyer, “The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs”, *Harvard Law Review* 84 (1970); Robert M Hurt and Robert M Schuchman, “The Economic Rationale of Copyright”, *American Economic Review Papers and Proceedings* 56 (1966); Benjamin Kaplan, *An Unhurried View of Copyright* (New York: Columbia University Press, 1967); Arnold Plant, “The Economic Aspects of Copyright in Books”, *Economica* 1 (1934).

³³ See Robert P Merges, “The Economic Impact of Intellectual Property Rights: An Overview and Guide”, *Journal of Cultural Economics* 19 (1995): 104.

³⁴ See, for example: Stanley M Besen and Sheila Nataraj Kirby, “Private Copying, Appropriability, and Optimal Copyright Royalties”, *Journal of Law and Economics* 32 (1989); William R Johnson, “The Economics of Copying”, *Journal of Political Economy* 93, no. 1 (1985); Stan J Liebowitz, “Copying

advancing economic understanding of the need for copyright law, although they may be useful in the context of the analysis described in Chapter Seven; and

- studies assessing the significance of copyright industries for the economy – these studies have sought to assess the importance of copyright to employment and economic growth.³⁵ Some of these studies raise difficult issues in relation to how to value cultural industries and products. While it is important to understand the overall economic importance of copyright industries, these studies, by their nature, cannot tell us anything about the economic role of different elements of copyright law. Nor do they promote understanding of the overall economic need for copyright protection.

In this void of explicit doctrinal copyright analysis, economic inquiry was (and to some degree continues to be) largely directed towards:

- copyright as part of a general economic analysis of intellectual property rights in information.³⁶ Shapiro and Varian describe “information” in these terms: “We use the term information very broadly. Essentially, anything that can be digitized and encoded as a stream of bits is information. For our purposes, baseball scores, books, databases, magazines, movies, music, stock quotes, and Web pages are all information goods.”³⁷ This form of analysis, however, is often pitched at such a high degree of generality that it is of limited usefulness in contemporary policy debates relating to the role and function of copyright law; and
- the economics of technological innovation, and the role of the patent system in promoting innovation. For example, while discussing intellectual property policies for a knowledge-based economy, Gera and Weir fail to mention copyright, and instead focus on patent protection.³⁸

and Indirect Appropriability: Photocopying of Journals”, *Journal of Political Economy* 93, no. 5 (1985); Stan J Liebowitz, *Copyright Law, Photocopying, and Price Discrimination* (1986 [cited 2 August 2001]); available at http://wwwpub.utdallas.edu/~liebowit/knowledge_goods/rle/rle1986.html; Stan J Liebowitz, *The Impact of Reprography on the Copyright System, Copyright Revision Studies* (Ottawa: Bureau Of Corporate Affairs, 1981); Ian E Novos and Michael Waldman, “The Effects of Increased Copyright Protection: An Analytical Approach”, *Journal of Political Economy* 92, no. 2 (1984). Some of these studies are summarised in Appendix A.

³⁵ See, for example: Carlos M Correa, “Methodologies for Evaluating the Economic Importance of Copyright and Neighbouring Rights in Latin America”, *Copyright Bulletin* 24, no. 2 (2000); Hans Hoegh Guldberg, *Copyright: An Economic Perspective* (Sydney: Australian Copyright Council, 1994); The Allen Consulting Group, *The Economic Contribution of Australia’s Copyright Industries* (Sydney: Australian Copyright Council & Centre for Copyright Studies, 2001); David Throsby and P Thompson, *What Do You Do for a Living?: A New Economic Study of Australian Artists* (Australia Council, 1994).

³⁶ See, for example, the discussion of the economics of information in Committee on Intellectual Property Rights and the Emerging Information Infrastructure, *The Digital Dilemma: Intellectual Property in the Information Age* (2000 [cited 7 August 2001]); available at <http://www.nap.edu/books/0309064996/html/>.

³⁷ Carl Shapiro and Hal R Varian, *Information Rules: A Strategic Guide to the Network Economy* (Boston: Harvard Business School Press, 1999) 3.

³⁸ Surendra Gera and Tony Weir, *Policies for a Knowledge-Based Economy: Some Relevant Studies, ISR New Economy Issues Paper No. 4* (Canberra: Department of Industry, Science and Resources, 2001).

As a result, there appears to have been a tendency to apply analysis developed for understanding the economics of information or the patent system to copyright law.³⁹ Although for some purposes of analysis it may be appropriate to treat intellectual property rights generically, there are real dangers in an exclusive focus on the general features of intellectual property. In particular, the dangers are that differences between the separate legal regimes, and the different functions performed by the regimes, may be all too easily overlooked.

It is only since the mid-1990s that the use of economic language and theories has infiltrated doctrinal analysis of Australian copyright law. This development arose:

- during debates about parallel importation;⁴⁰
- in the context of administrative and litigious dealings between collecting societies and the competition authority (initially the Trade Practices Commission (TPC), and later the Australian Competition and Consumer Commission (ACCC));
- in the CLRC's copyright simplification review;⁴¹ and
- during the National Competition Policy (NCP) legislative review of intellectual property conducted by the IPCRC;⁴²

and reveals a lack of consensus among economists in relation to some fundamental questions concerning the general economic understanding of copyright protection. This divergence of approaches is understandable given that there is no single approach to the application of economics to the law; "Law and Economics is not a homogeneous movement; it reflects several traditions, sometimes competing and sometimes complementary."⁴³

³⁹ See for example, the copyright cost benefit approach flagged in John Revesz, *Trade-Related Aspects of Intellectual Property Rights, Staff Research Paper* (Canberra: AGPS, 1999) 36.

⁴⁰ Industry Commission, *Book Printing* (Canberra: AGPS, 1996); Prices Surveillance Authority, *Inquiry into Book Prices and Parallel Imports* (Melbourne: AGPS, 1995).

⁴¹ See: Copyright Law Review Committee, *Simplification of the Copyright Act 1968: Part 2: Categorisation of Subject Matter and Exclusive Rights, and Other Issues* (Canberra: AusInfo, 1999); Office of Regulation Review, *An Economic Analysis of Copyright Reform, Submission to Copyright Law Review Committee's Review of the Copyright Act 1968 (Cth)* (Canberra: 1995); Jeremy Thorpe and Stephen Rimmer, "An Economic Approach to Copyright Reform", *Australian Intellectual Property Law Bulletin* 8, no. 10 (1995).

⁴² See Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000). See also Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000).

⁴³ Nicholas Mercuro and Steven G Medema, *Economics and the Law: From Posner to Post-Modernism* (Princeton: Princeton University Press, 1997) ix.

Part B: Economic perspectives on the role of copyright

This Part addresses the economic role of copyright. That is, why do we have copyright law at all? The analysis starts from first principles, outlining the problem that copyright seeks to address and the rationale for a proprietary response.

4: The general problem copyright seeks to address

This chapter sets out the general economic problem that copyright seeks to address. That is, this chapter identifies the rationale for government intervention in markets for creative products. This is an essential first step in justifying copyright from an economic perspective; Chapter Five takes the second step by addressing the economic case for intervention taking the form of a property right.

4.1 Market failure in the absence of copyright protection

As a general rule, efficiency is maximised when markets are allowed to operate unhindered. However, in certain circumstances some markets fail, creating a legitimate reason for government to step in and correct the “market failure”:

When is it legitimate for government to intervene in private affairs? In the United States [and most other advanced economies], the normative answer to this question has usually been based on the concept of market failure – a circumstance where the pursuit of private interest does not lead to an efficient use of society’s resources or a fair distribution of society’s goods.⁴⁴

A market failure exists “where the characteristics of a market are such that its unfettered operation will not lead to the most efficient outcome possible”.⁴⁵ There are four commonly accepted situations in which market failure exists:

- public goods – these exist where provision for one person means the good or service is available to all people at no additional cost. Public goods are said to have two main economic characteristics:
 - they are said to be non-rivalrous – consumption by one person will not diminish consumption by others; and

⁴⁴ David L Weimer and Aidan R Vining, *Policy Analysis: Concepts and Practice*, 2nd ed. (Englewood Cliffs: Prentice Hall, 1992) 13. See also Council of Australian Governments, *Report of Task Force on Other Issues in the Reform of Government Trading Enterprises, Released as Part of the First COAG Communiqué* (Canberra: 1991).

⁴⁵ Productivity Commission, *Cost Recovery: Draft Report* (Canberra: AusInfo, 2001) xxiv.

- they are non-excludable – it is difficult to exclude anyone from benefiting from the good. This means that it is difficult, or costly, to prevent non-purchasers from consuming the goods;⁴⁶
- externalities – externalities (sometimes called spillovers) occur when an activity or transaction has positive (benefits) or negative (costs) welfare effects on others who are not direct parties to the transaction. Public goods and externalities are similar analytically;⁴⁷
- severe information asymmetries – these occur where producers have information that consumers do not. However, it needs to be stressed that “There is nothing unusual about the asymmetry of information available to a supplier and a consumer. Many products are complex, difficult to compare, have considerable importance for the well-being of consumers or are provided over a long period of time.”⁴⁸ A market failure can be said to exist only when the information asymmetries become so severe as to distort actual market outcomes; and
- natural monopolies – natural monopoly occurs where it is more efficient for one firm to supply all of a market’s needs than it would be for two or more firms to do so. It arises, for example, where there are strong economies of scale resulting from fixed costs being large relative to the variable costs of supply.

The question is, in the absence of copyright, which (if any) of these market failures are evident?

The answer is, absent copyright, there is likely to be a market failure because of the public good nature of much of the material that would have otherwise been protected by copyright.⁴⁹

Markets in copyright goods fail because once copyright goods are produced, it is difficult to prevent those who do not pay for the goods from consuming them. In other words, there are incentives for consumers to become free-riders, obtaining the benefits of the good without incurring any of the costs. This suggests that in the absence of some mechanism for enabling a copyright producer to recover the costs of investment in the copyright good, there will be an undersupply of copyright goods relative to the socially optimal level.

Pricing copyright goods is particularly difficult. The first copy of a copyright good will often be very costly to produce, while subsequent copies may cost next to nothing.

⁴⁶ See Richard Cornes and Todd Sandler, *The Theory of Externalities, Public Goods and Club Goods* (Cambridge: Cambridge University Press, 1986) 6–7. It should be noted that the impossibility of exclusion is hardly ever absolute. When exclusion by contract is considered, very few goods, if any, display non-excludable benefits in the strict sense of the term. Thus it is more accurate to describe goods as displaying non-excludable benefits when it is prohibitively costly to bar non-payers from enjoying the good. See Patrick Croskery, “Institutional Utilitarianism and Intellectual Property”, *Chicago-Kent Law Review* 68 (1993): 632.

⁴⁷ Externalities have public good characteristics in that they are non-rivalrous and non-excludable – CV Brown and PM Jackson, *Public Sector Economics*, 2nd ed. (Oxford: Blackwell, 1990) 38.

⁴⁸ Financial Systems Inquiry, *Discussion Paper* (Canberra: AGPS, 1996) 97.

⁴⁹ For a view that intellectual works do not share the distinguishing attributes of public goods, see T Palmer, “Intellectual Property: A Non-Posnerian Law and Economics Approach”, *Hamline Law Review* 12 (1989): 273-87.

The combination of high fixed costs and negligible marginal costs⁵⁰ creates difficulties for conventional forms of pricing. For example, standard economic theory argues that it is desirable to price goods at marginal cost. But if the cost of production is zero, marginal cost pricing will not recover costs and the copyright goods will therefore not be produced.

The emergence of an analysis of copyright as a public good depended upon related developments in the understanding of the economics of information. In 1962, Arrow published a seminal study examining economic problems associated with the market allocation of information.⁵¹ Among other things, Arrow explained that without legal protection there would be an underproduction of information, as competitors could reproduce information at little or no cost:

In the absence of special legal protection, the owner cannot, however, simply sell information on the open market. Any one purchaser can destroy the monopoly, since he can reproduce the information at little or no cost. Thus the only effective monopoly would be the use of the information by the original possessor.⁵²

Arrow stressed the high costs of forms of protection other than legal rights to exclusion (eg secrecy). Moreover, he was the first person to explain the difficulties involved in transferring information: “There is a fundamental paradox in the determination of demand for information; its value for the purchaser is not known until he has the information, but then he has in effect acquired it without cost”.⁵³ In effect, the public good nature of information products may create information asymmetries (ie one of the other categories of market failure).

This analysis is directly applicable to copyright products (which embody intangible value, like information).

As a result of Arrow’s extension of public good analysis through to intangible products, the modern economic understanding of copyright is largely based on an analysis of how markets fail in the absence of legal protection. In particular it is based on market failure analysis regarding public goods and information asymmetries.

4.2 *A Game Theory Explanation*

Another way of explaining the market failure described in section 4.1 is through the language of “game theory”. Game theory is a distinct and interdisciplinary approach

⁵⁰ “Marginal cost” is the increase or decrease in the total costs of a firm as the result of one more or one less unit of output. Marginal cost is sometimes also called “incremental cost” or “differential cost”.

⁵¹ Kenneth J Arrow, “Economic Welfare and the Allocation of Resources for Invention”, in *The Rate and Direction of Inventive Activity*, ed. Kenneth J Arrow (Princeton: Princeton University Press, 1962).

⁵² Ibid.

⁵³ Ibid. The difficulties in bargaining over information have become commonly known as “Arrow’s paradox”.

to the study of human behaviour, principally focused on the disciplines of mathematics, economics and the social and behavioural sciences.⁵⁴

As a discipline, law and economics developed on the back of classical microeconomics, relying on the assumption that humans behave and make economic decisions rationally (ie they compare means with ends). Individual decision-makers maximise utility (or profits) subject to constraints. These individuals are treated either as price-takers in competitive settings or price-setters in monopolies, and are also assumed to be perfectly informed.

Game theory refines the understanding of rational choice. It examines strategic behaviour, which occurs when individual decision-making depends on what an individual expects some other individual will choose to do.⁵⁵ Game theory analyses situations by specifying:

- the players;
- the strategies available to them; and
- the pay-off each will receive for all possible strategy combinations.

With that information, solution concepts can be applied to see what strategy combination the players will adopt.⁵⁶

The best-known element of game theory is the Prisoner's Dilemma. In its simplest form,⁵⁷ the Prisoner's Dilemma is a game described by the payoff matrix as shown in Figure 4.1. It exists when the following chains of inequalities are satisfied: $c_1 > a_1 > d_1 > b_1$ and $c_2 > a_2 > d_2 > b_2$.

⁵⁴ Game theory has gained some recent notoriety because of the movie *A Beautiful Mind*. This movie depicts the life of John Nash, who was awarded the 1994 Nobel Prize for economics for his work in developing game theory.

⁵⁵ See Douglas Baird, Robert Gertner and Randal Picker, *Game Theory and the Law* (Harvard University Press, 1994) 1.

⁵⁶ The most commonly used solution concept is the Nash equilibrium, which identifies a set of strategies that is a best response for each player, having regard to the strategy that the other player will choose. Also useful is the dominant strategy, where a player has a strategy under which he is better off, whatever strategy the other plays.

⁵⁷ For a brief description of possible extensions to this simple Prisoner's Dilemma model, see Steven T Kuhn, *Prisoner's Dilemma* (Stanford Encyclopedia of Philosophy, 2001 [cited 25 October 2001]); available at <http://plato.stanford.edu/entries/prisoner-dilemma/>.

Figure 4.1 A generic Prisoner's Dilemma

		Party 2	
		Cooperate	Don't Cooperate
Party 1	Cooperate	a ₁ , a ₂	b ₁ , c ₂
	Don't Cooperate	c ₁ , b ₂	d ₁ , d ₂

The logic underpinning Figure 4.1 is normally described in terms of two prisoners (eg Mary and Peter). They both have committed a serious crime, but the police prosecutor cannot convict either one of them of this crime without extracting at least one confession. The generic notation in Figure 4.1 is modified in Figure 4.2 to match this story.

Figure 4.2 Mary and Peter's Prisoner's Dilemma

		Peter	
		Remain Silent	Confess
Mary	Remain Silent	-1, -1	-10, 0
	Confess	0, -10	-5, -5

The prosecutor can convict both Peter and Mary on a lesser charge without the cooperation of either. The prosecutor tells each prisoner that if neither confesses, they will both be convicted for the lesser offence, and each will go to prison for a year. This outcome is represented in the upper left cell of Figure 4.2.

If, however, one of the prisoners confesses and the other does not, the prisoner who confesses will go free and the other will be tried for the serious crime and given the maximum penalty of ten years in prison. This applies to both prisoners and is represented in the upper right and lower left cells in Figure 4.2.

Finally, if both confess, the prosecutor will prosecute both for the serious crime, but not ask for the maximum penalty. They will both go to prison for five years. This is the final cell, the lower right cell.

This is a normal form game with the following elements:

- the players – the two prisoners;
- the choices (ie strategies) available to them – to be silent or confess; and
- the pay-off associated with the four different strategy pairs.

With this information the solution of the game can be discerned. Each prisoner wants to minimise time spent behind bars and has no other goal or interest.⁵⁸ Furthermore, as the two prisoners have no way of communicating with each other, each must decide what to do without knowing what the other will do.

This is a game in which each prisoner has a strictly dominant strategy. Each is better off confessing regardless of what the other does. The game can be solved by recognising that each prisoner is likely to reason in the following way:

- if the other prisoner has decided to keep silent, I am better off confessing. That way I spend no time behind bars at all, rather than a year; and
- if the other prisoner confesses, I am also better off confessing because serving a ten-year sentence is worse than a five-year sentence.

No matter what the other person does, each prisoner is better off confessing; no prison is better than a year and five years is better than ten years. Because both prisoners will likely engage in this reasoning, both are likely to confess.

The outcome – both prisoners confess – seems counterintuitive at first because the prisoners would have been better off if both had remained silent. But this result follows once it is assumed that their payoffs have been structured. Even if each prisoner erroneously believed that the other was altruistic and would confess, the same outcome would still result, given the assumption that the prisoners care only for themselves. If a prisoner believes (for whatever reason) that the other will remain silent, confessing is a way of avoiding prison altogether, the best outcome of all. The result is not odd once one recognises that the prisoners lack a means of committing themselves to remaining silent. As long as the two prisoners cannot reach any agreement with each other and as long as their only concern is time spent in prison, their individual interest will lead them to confess, even though they are jointly better off remaining silent.

⁵⁸ This ignores such factors as altruism or spite, as well as the reputational issues that might arise from being known as a snitch or fear of reprisal for confessing. Moreover, each is indifferent to how much time the other spends in prison.

Using this Prisoner's Dilemma framework, Figure 4.3 shows the payoff matrix that would occur in the absence of copyright protection.⁵⁹ Cooperation is equated with copyright creation, and non-cooperation is equated with copying (ie rather than creating) copyright material.

Figure 4.3 Payoff matrix in the absence of copyright

		Peter	
		Creates © material	Copies © material
Mary	Creates © material	100, 100	-300, 400
	Copies © material	400, -300	0, 0

This example assumes that there are fixed costs associated with the creation of a work equal to \$300, with possible payoffs described in these terms:

- if both Mary and Peter create copyright material then they can compete against one another to sell their copyright works so that each returns a benefit of \$100;
- if Mary creates the work and Peter subsequently copies it, Peter will be able to drive Mary from the market so that she loses her fixed costs. This is because by not having to cover overheads, Peter can undercut Mary at every price and so steal her sales. The outcome is reversed if Peter creates and Mary copies; and
- if neither creates a work then there are no costs or benefits for either party and each has a payoff of zero.

Following the processes outlined earlier, if there is no sanction against copying, the outcome is that neither party will produce the work, to the detriment of society generally.

The power of the Prisoner's Dilemma comes from the incongruence between private benefit and the collective good; individual rational decision-making leads to collective loss. The Prisoner's Dilemma is thus often seen as one of the main theoretical justifications for government intrusion into private decision-making.⁶⁰

⁵⁹ See Wendy J Gordon, "Asymmetric Market Failure and Prisoner's Dilemma in Intellectual Property", *University of Dayton Law Review* 17, no. 3 (1992); Wendy J Gordon, *The Intellectual Property Genesis Tale: Some Revisions* (University of Toronto Centre for Innovation Law and Policy, 2000 [cited 5 June 2001]); available at <http://www.innovationlaw.org/lawforum/pages/2publications.htm>.

⁶⁰ Cass R Sunstein, *After the Rights Revolution: Reconceiving the Regulatory State* (Cambridge MA: Harvard University Press, 1990) 49–51.

That is, the Prisoner's Dilemma provides a framework representing how exactly the market failure manifests itself in people's decision to free-ride or not to free-ride. It is important to note, however, that the Prisoner's Dilemma outlined here provides no real extension to the explanation provided in section 4.1, just an alternative way of explaining the development of the market failure.

This game theoretic framework will be used again in Chapter Five to explain how copyright (ie a proprietary right) can be used to address the identified market failures.

5: The rationale for a proprietary interest

This chapter provides an overview of why a proprietary response such as copyright is used to address the market failures described in Chapter Four.

5.1 *The economic role of property rights*

The traditional solution to market failure and the resultant free-riding was for governments to fund public goods (eg lighthouses or defence) from tax revenues. Subsequent analysis, however, suggested that it was possible for public goods to be privately supplied, provided that the institutional arrangements necessary for a market were first established.⁶¹

It is clear that an important precondition for market-based allocation is the definition of property rights (ie by establishing a legal exclusion mechanism).⁶² Thus, in a classic analysis, Demsetz demonstrated the following conclusions:

First, given the ability to exclude non purchasers, private producers can produce public goods efficiently. Secondly, the payment of different prices for the same good is consistent with competitive equilibrium if the good is a public good.⁶³

Economists and lawyers regard property in terms of a bundle of rights specifying what a person can do with a resource. These rights can be constrained by various statutes, by common law, and by the details of contractual arrangements. However, three things stand out as characterising the bundle of rights attached to private property:

- property rights are saleable;
- the author is free to exercise them or neglect them; and
- the interference of others is forbidden.⁶⁴

Property rights are beneficial in two principal ways: by performing an allocational function, and by encouraging production – “They provide both a way of deciding who gets to use what and an incentive for creating things.”⁶⁵ That is, property has both static and dynamic benefits.

More expansively, these benefits include:

⁶¹ See Otto A Davis and Andrew B Whinston, “On the Distinction between Public and Private Goods”, *American Economic Review Papers and Proceedings* 57 (1967); Harold Demsetz, “The Private Production of Public Goods”, *Journal of Law and Economics* 13 (1970).

⁶² See Ronald H Coase, “The Problem of Social Cost”, *Journal of Law and Economics* 3 (1960).

⁶³ Harold Demsetz, “The Private Production of Public Goods”, *Journal of Law and Economics* 13 (1970): 293.

⁶⁴ Antony Dnes, *The Economics of Law* (London: International Thomson Business Press, 1996) 10.

⁶⁵ David D Friedman, *Law’s Order: What Economics Has to Do with Law and Why It Matters* (Princeton: Princeton University Press, 2000) 138. See also William M Landes and Richard A Posner, “Trademark Law: An Economic Perspective”, *Journal of Law and Economics* 30 (1987).

- in the absence of property rights there would be an overuse of the copyright material (ie free-riding), as private individuals use without factoring in social costs. As explained by Coase, well-defined property rights are essential if markets are to deal effectively with external costs;⁶⁶
- many of the goods we value are the product of human endeavour. With property rights:
 - making things results in owning them (if they are made using our initial entitlements and/or other objects secured through consensual transfers); and
 - improving the value of our property allows us to appropriate this value through subsequent sale or further production;
- Thus property rights also provide an incentive to increase production and productivity;
- while there are alternatives to not assigning objects to authors, these alternatives entail costs:
 - people would be constantly fighting to hold on to their possessions and in the process expend resources on private enforcement of their claims (eg locks and weapons);⁶⁷ and
 - holding “personal property” in common ownership may entail very high administrative and collective decision-making costs for use of such items;
- in creating a property right, all the privileges of ownership⁶⁸ are concentrated in one author. This avoids the possible high transaction costs of splitting the incidents of ownership between different people (eg transaction costs between the one entitled to sell the property, the one in exclusive possession and the potential buyer);
- property rights tend to ensure that objects go to those who value these objects most, where “value” is measured by the amount in monetary terms that someone is willing to give up for that object;⁶⁹ and
- the lower transaction costs that come from assigning objects to owners helps facilitate opportunities for trade. An opportunity for trade that is foregone is likely to imply that the well-being of individuals is not as high as it could be. This is because barring informational problems, a trade would not occur unless both

⁶⁶ Ronald H Coase, “The Problem of Social Cost”, *Journal of Law and Economics* 3 (1960). See also S Pejovich, “Towards an Economic Theory of the Creation and Specification of Property Rights”, in *Readings in the Economics of Law and Regulation*, ed. AI Ogus and CG Veljanovski (Oxford: Clarendon Press, 1984).

⁶⁷ Richard A Epstein, *Takings: Private Property and the Power of Eminent Domain* (Cambridge MA: Harvard University Press, 1985).

⁶⁸ See Antony Dnes, *The Economics of Law* (London: International Thomson Business Press, 1996) 10.

⁶⁹ See, for example, Harold Demsetz, “Towards a Theory of Property Rights”, *American Economic Review* 57 (1967).

sides thought the exchange would lead to an increase in their respective well-being.

The beneficial economic role of property rights can be seen by referring to the game-theoretic Prisoner's Dilemma framework (outlined in section 4.2), as shown in Figure 5.1. By granting a right to exclude copying, or to pay damages if copies are made, the incentive for copying is removed because any benefit to the copier should be taken away.⁷⁰ Thus, with a properly functioning system of property rights, in Figure 5.1 the dominant strategy for both Mary and Peter is to both create the copyright material (ie neither has an incentive to move from the upper left-hand quadrant). In effect, the grant of copyright cures the market failure and provides for the socially optimal creation of copyright works.

Figure 5.1 Payoff matrix with copyright

		Peter	
		Creates © Material	Copies © Material
Mary	Creates © Material	100, 100	Mary is awarded damages
	Copies © Material	Peter is awarded damages	0, 0

5.2 To what degree is copyright just like other property?

Like patents and trade marks, copyright fits squarely within the economic property paradigm⁷¹ in that it addresses both:

- the static benefit of preventing overuse of the resource – the “boundaries” which prevent overuse of the resource include among other things:
 - copyright’s fixation and demarcation requirements;
 - the limited definition of copyrightable subject matter;

⁷⁰ This assumes that the likelihood of enforcement and the resultant penalty level are optimal – see the discussion in Jeremy Thorpe, “Determining the Appropriate Role for Charge Bargaining in Pt IV of the Trade Practices Act”, *Competition and Consumer Law Journal* 4 (1996).

⁷¹ See, generally, William M Landes and Richard A Posner, “Trademark Law: An Economic Perspective”, *Journal of Law and Economics* 30 (1987): 266. See Wendy J Gordon, “An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent, and Encouragement”, *Stanford Law Review* 41 (1989): 1380–84.

- the limited set of exclusive rights provided in the Copyright Act; and
- the dynamic benefit of providing an incentive to create or improve upon existing resources – the exclusive rights and lengthy term of protection provide a reward and incentive to create copyrightable goods.

However, some commentators have suggested that a copyright owner's lack of control over a copyright product negates any property paradigm.⁷² It is argued that fair dealing (see section 11.2.2) and other restrictions on copyright owners' exclusive rights prevent them from exercising true control.⁷³ Because the "right to control" is a fundamental characteristic of property, copyright material/goods fails to qualify.⁷⁴ However, other commentators argue that "restrictions" such as fair use – the United States (US) equivalent to the Australian Copyright Act's fair dealing provisions – are acceptable limitations that exist to balance rewarding authors against society's moral interests.⁷⁵ Although a network of property laws provides incentives to create and acquire real and intangible property, limitations and restrictions on these rights are necessary and essential to economic, cultural and social development.⁷⁶ Commentators note that real property is replete with limitations such as zoning laws, which serve to balance the owner's right to exclude against society's interest in having environmentally and economically balanced communities.⁷⁷ As such, copyright is properly categorised as intellectual property.⁷⁸

Most economists regard the economic problem addressed by copyright as, in essence, no more than an instance of the general problem of underproduction in the absence of property rights.⁷⁹ However, special features of the economics of information do need to be taken into account. As Gans et al explain:

when there is a well-functioning property rights system, assets will be exchanged to the point where those who value them the most will use them and assets will be created so long as their social value exceeds the costs of producing them ...

⁷² See, for example, Douglas Y'barbo, "The Heart of the Matter: The Property Right Conferred by Copyright", *Mercer Law Review* 49 (1998).

⁷³ See, for example, *Ibid.*

⁷⁴ *Ibid.*, 645.

⁷⁵ Timothy J. Brennan, "Copyright, Property and the Right to Deny", *Chicago-Kent Law Review* 68 (1993).

⁷⁶ See Wendy J Gordon, "An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent, and Encouragement", *Stanford Law Review* 41 (1989): 1361–64. See also Timothy J Brennan, "Copyright, Property and the Right to Deny", *Chicago-Kent Law Review* 68 (1993): 688.

⁷⁷ Timothy J. Brennan, "Copyright, Property and the Right to Deny", *Chicago-Kent Law Review* 68 (1993): 688-93.

⁷⁸ *Ibid.*, 712.

⁷⁹ See, for example, Frank H Easterbrook, "Intellectual Property Is Still Property", *Harvard Journal of Law and Public Policy* 13 (1990); Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000).

However, for informational assets there are specific difficulties that arise in ensuring the intellectual property rights system functions properly.⁸⁰

There seems to be agreement in relation to some, but not all, the differences between property rights in tangible resources, such as land, and property rights in information goods, such as copyright:

- drawing clear boundaries around an intellectual creation is more difficult than drawing boundaries around physical property.⁸¹ This difficulty adds an element of legal uncertainty for authors and inventors who depend on the same intellectual commons as those who may infringe their copyright. It may be inconvenient for authors to have to determine at every stage of creation whether their intended act impinges upon someone else's property rights;
- there are difficulties relating to the non-rivalrous nature of information goods such as some copyright products. As an information good can be simultaneously used by many consumers, it is clearly more difficult to monitor and enforce intellectual property rights than property rights in tangible resources. It has been suggested that copyright attempts to deal with this difficulty by controlling copying, rather than attempting to control the use of ideas.⁸² Moreover, Gans et al point out that the costs of monitoring and enforcing copyright protection may be minimised by arrangements administered by collecting societies (see Chapter Twelve).⁸³ It has also been suggested that as the consumption of information is non-rivalrous, an information resource cannot be overused;⁸⁴
- as identified by Arrow, and explained above, there are well-known difficulties in transferring information (such as often underlies copyright products), related to the problem of negotiating a value for information without disclosing it;⁸⁵ and
- to commercialise a copyright product and earn a return, a larger number of complementary inputs with some degree of market power often must be brought together; and

⁸⁰ Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 6.

⁸¹ Willard K Tom, "The 1975 Xerox Consent Decree: Ancient Artefacts and Current Tensions", *Antitrust Law Journal* 68 (2001): 987–89.

⁸² Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 6; Megan Richardson et al., *The Benefits and Costs of Copyright: An Economic Perspective* (Sydney: Centre for Copyright Studies, 2000) 15.

⁸³ Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 7.

⁸⁴ This suggests that there is no "tragedy of the commons" in relation to information goods: see Niva Elkin-Koren, "Copyright in Cyberspace – Rights without Laws?", *Chicago-Kent Law Review* 73 (1998): 1191.

⁸⁵ Kenneth J Arrow, "Economic Welfare and the Allocation of Resources for Invention", in *The Rate and Direction of Inventive Activity*, ed. Kenneth J Arrow (Princeton: Princeton University Press, 1962).

- copyright may stifle the dissemination of the ideas contained in the copyright material. The property right in the expression of ideas is very different from the rights attaching to real property; rights attaching to real property are the result of scarcity, while the rights attaching to the expression of ideas create scarcity.⁸⁶

These differences led Friedman to conclude:

So the protection of intellectual property does provide some benefit. But the case for treating ideas [and the expression of ideas] as property is, economically speaking, weaker than the case for propertizing many other things, which may help explain why intellectual property is a relatively recent institution.⁸⁷

As a result, it is important not to focus too heavily on the analogy between copyright and real property:

The reason for the term intellectual property is to distinguish the property of copyright ... from both personality and reality, and we should not make the mistake of emphasizing the term property over the term intellectual. Equating the different properties is logical error in the form of one-word-one-meaning fallacy, the assumption being that all property is entitled to the same rights.⁸⁸

Indeed, Scott goes so far as to argue that:

copyright is nothing more than a legislative monopoly. Copyright is not, and never has been a property right *per se* – copyright can be infringed, but it is impossible for it to be stolen. There is no such thing as copyright theft.⁸⁹

5.3 *Is copyright “as property” a complete fix?*

The claim that propertisation absolutely corrects the market failure may not hold, for two principal reasons.

First, the nature of information goods such as copyright material means that there may be under-utilisation. Changing the partial non-excludability to perfect excludability does not mean that the public goods problem is solved. If a good is truly non-rival, then its marginal cost – the social cost of making it available for consumption by the next person – is zero. No person will produce that good for sale at its marginal cost, because “selling” the good at a price of zero will not allow them to recoup their costs. If, however, they do produce the good because they can exclude all consumers, and sell it only to those who value it at least at a price that covers investment in its production – a price that is above its marginal cost – then the good is being under-utilised at the time it is being sold.

⁸⁶ See the discussion in Michael I Krauss, “Property, Monopoly and Intellectual Rights”, *Hamline Law Review* 12 (1989): 307–08.

⁸⁷ David D Friedman, *Law’s Order: What Economics Has to Do with Law and Why It Matters* (Princeton: Princeton University Press, 2000) 138–39.

⁸⁸ L Ray Patterson, “Copyright in the New Millenium: Resolving the Conflict between Property Rights and Political Rights”, *Ohio State Law Journal* 62, no. 2 (2001): 707–08.

⁸⁹ Brendan Scott, *Copyright in a Frictionless World: Toward a Rhetoric of Responsibility* (First Monday, 2001 [cited 30 November 2001]); available at http://www.firstmonday.dk/issues/issue6_9/scott/.

It is not true to claim that copyright automatically corrects the public good market failure. If produced purely in response to positive (above zero) price signals, copyright material will be produced only in response to consumers who value copyright material at above its marginal cost. In the standard economic model, however, we know that a good is being produced and consumed efficiently only when it is sold at its marginal cost. Some strong property right advocates argue that:

the best prescription for connecting authors to their audiences is to extend rights into every corner where consumers derive value from literary and artistic works ... the results should be to promote political as well as cultural diversity, ensuring a plenitude of voices, all with the chance to be heard.⁹⁰

However, this is simply inconsistent with the standard understanding of the economics of copyright.

Second, the claim that propertisation absolutely corrects the market failure fails to incorporate the implications of transaction costs. Transaction cost can be best explained by looking at its two interrelated components:

- even without exchange, there are costs of defining and policing exclusivity – these may include paying the state (a police power and judiciary) to appropriately define, enforce and protect the boundaries of property via torts, criminal law, etc.⁹¹ The cost of determining whether a property right has been infringed is a component of this and is particularly relevant to intellectual property; and
- there are later costs associated with negotiating and enforcing contracts for the exchange or transfer of property.⁹²

To this point it has been assumed that without copyright, there will be no market for the right to use the product (ie there will be a “missing market”), and hence the product will subsequently be priced at zero, and that this is necessarily inefficient. However, McCain employs a transaction cost framework to argue that incomplete market systems (ie where there are missing markets) correspond to incomplete contracts (ie where a contract does not specify all contingencies), and that these can be optimal in the presence of adjustment (ie transaction) costs.⁹³ This approach refutes the claim that “missing markets” are *per se* inefficient (ie that the lack of copyright is *per se* inefficient); whether there is an inefficiency depends on the magnitude of transaction costs and on elasticities of supply and demand. Thus McCain argues that in the absence of empirical data on these factors, no general judgment may be made on the efficiency of “missing markets”.

⁹⁰ Paul Goldstein, *Copyright's Highway: From Gutenberg to the Celestial Jukebox* (New York: Hill and Wang, 1994) 236.

⁹¹ See Richard O Zerbe and Howard McCurdy, “The End of Market Failure”, *Regulation* 23, no. 2 (2000): 14.

⁹² SNS Cheung, “The Structure of a Contract and the Theory of a Non-Exclusive Resource”, *Journal of Law and Economics* 13, no. 1 (1970).

⁹³ Roger A McCain, *The Case for Minimal Protection of Intellectual Property Rights: Game Theoretic and Cost of Transaction Perspectives* ([cited 11 October 2001]); available at <http://william-king.www.drexel.edu/top/personal/wkpaps/property/property-toc.html>. See also Roger A McCain, “Information as Property and as a Public Good”, *Library Quarterly* 58, no. 3 (1988).

5.4 *Broad implications of copyright as a form of property*

This chapter has highlighted that in the absence of some mechanism for enabling a producer to recover the costs of investment in the good, there will be an undersupply relative to the socially optimal level. Copyright is one such mechanism to stop free-riding and encourage the production of certain types of products with public good characteristics.

However, as shown in section 5.3, the simplistic claim that propertisation absolutely corrects the market failure does not hold in situations where, for example:

- the copyright good is information intensive such that it is under-utilised; and
- transaction costs and elasticities of supply and demand are such that increased proprietary rights decrease social welfare.

These two factors combined suggest that while a proprietary response such as copyright may be appropriate, it need not always be. In effect, neither the complete absence of copyright protection nor the complete absence of copyright piracy are likely to be the optimal policy solution; it will be somewhere between these two extremes. This conclusion puts pressure on subsequent economic analysis to determine the appropriateness of copyright in particular situations.

From the analysis in this chapter, the genesis of the three principal strands of the current economic analysis of copyright can be discerned:

- one approach suggests that a property rights system is merely an incentive device. It is more accurate to say that property rights create institutional frameworks for markets, whether in physical or intellectual objects, and that this creates both costs and benefits. These economists view copyright's role as to balance such incentives and access, and are more comfortable with legal rules that facilitate access to copyright goods, such as exceptions to infringement, than with market-based solutions;
- economists who view property rights as merely one form of possible intervention – both public and private – to correct for market failure see property rights as an important, but complementary, response to the problem of underproduction;⁹⁴ and
- the final approach regards copyright property as performing essentially the same “incentive” function as other forms of property rights and, in general terms, considers that there should be no greater limitations on intellectual property than on other forms of property. Economists who support more complete property rights in information goods such as copyright material tend to believe either that the costs associated with intellectual property are overstated, or that they are best dealt with by market-based solutions, for example price discrimination (see Chapter Eight).⁹⁵

These alternative approaches are considered in the next four chapters.

⁹⁴ Office of Regulation Review, *An Economic Analysis of Copyright Reform, Submission to Copyright Law Review Committee's Review of the Copyright Act 1968 (Cth)* (Canberra: 1995).

⁹⁵ Harold Demsetz, “Towards a Theory of Property Rights”, *American Economic Review* 57 (1967): 348; Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 2.

Part C: Economic perspectives on the role and scope of copyright

This Part sets out three key schools of thought that are commonly called upon (whether implicitly or explicitly) when analysing copyright from an economic perspective.

6: Approach One – Balancing incentives and access

The dominant view of the economics of copyright is that copyright (and other forms of intellectual property) are necessary for creating incentives to produce intellectual material, but that this benefit must be balanced against the costs entailed in establishing the protection, especially the costs, of restricted access.

This chapter sets out in detail the core balancing argument, discusses some of the formal economic models that have been developed as a result of this approach, and addresses the approach's limitations.

6.1 Costs and benefits associated with copyright protection

6.1.1 Benefits of copyright protection

The benefit of copyright protection is that it addresses the market failure identified in Chapter Four. That is, copyright is a defence against large-scale free-riders who wish to benefit from the creation and distribution of intellectual works of authorship without bearing a share of the underlying cost of authorship. Copyright seeks to overcome this problem of free-riding through the statutory proprietary grant of market power.

The grant of a proprietary interest creates incentives for the production of intellectual works by enabling a price to be charged for the work. Thus an author can invest the time and effort required in the production of copyright works, because if there is sufficient demand, he or she can recoup those costs by licensing or assigning the copyright works.

6.1.2 Costs of copyright protection

Landes and Posner identify four general costs associated with intellectual property:

- transfer costs;
- rent-seeking costs – these may take two forms:

- the cost incurred from duplicative creations – such costs are likely to be higher for monopoly rights such as patents than for the weak market power provided by copyright;
- the resources expended by individuals and groups to lobby government for favourable regulation and specification of the property system;⁹⁶
- protection and enforcement costs; and
- the social costs of restricting the use of property when it has public good characteristics.⁹⁷

The first and third of these costs may be generally grouped under the title of “transaction costs”.

The major focus of copyright analysis has been with respect to the fourth of these costs, and this is the focus of the following discussion.

The costs of intellectual property rights such as copyright and patents have historically been the subject of greater concern than the costs of other forms of property. Initially, this was associated with the belief that intellectual property rights conferred monopoly rights. In the nineteenth century, Macaulay explained the concerns in relation to copyright as follows:

Copyright is monopoly and produces all the effects which the general voice of mankind attributes to monopoly ... I believe, sir, that I may safely take it for granted that the effect of monopoly generally is to make articles scarce, to make them dear, and to make them bad.⁹⁸

Concerns relating to the monopoly effects of intellectual property rights continue to have some currency. In a comprehensive examination of the US doctrine of fair use, Fisher stated that:

Granting an artist or inventor a property right in his creation may make him a monopolist, giving rise to familiar economic distortions. To the extent that consumers regard other intellectual products as only imperfect substitutes for a particular copyrighted or patented work, the holder of the copyright or patent will confront a downward sloping demand curve for the right of access to his work. Under such conditions, if he wishes to maximize his profits, he will continue granting access to his work only up to the point where the marginal revenue he reaps from affording access to an additional consumer equals the marginal cost – while at the same time charging a price substantially higher than his marginal cost.⁹⁹

⁹⁶ See Robert D Tollison, “Rent-Seeking: A Survey”, *Kyklos* 34 (1982).

⁹⁷ William M Landes and Richard A Posner, “Trademark Law: An Economic Perspective”, *Journal of Law and Economics* 30 (1987): 267. Friedman describes the costs of intellectual property in a slightly different manner, although the approach is fundamentally the same: David D Friedman, “Standards as Intellectual Property: An Economic Approach”, *University of Dayton Law Review* 19, no. 3 (1994).

⁹⁸ Thomas Babington Macaulay, *A Speech Delivered in the House of Commons on the 5th of February 1841* ([cited 2 December 2001]); available at <http://yarchive.net/macaulay/copyright.html>.

⁹⁹ William W Fisher, “Reconstructing the Fair Use Doctrine”, *Harvard Law Review* 101 (1988): 1700–01.

It is not infrequently claimed that copyright, “protects the property rights of authors, composers and artists as an incentive to creative activity □ and in terms of economics, gives the copyright owner a temporary monopoly on the original work”.¹⁰⁰ Similarly, economists Cooter and Ulen note that “without a legal monopoly not enough information will be produced, but with the legal monopoly too little of the information will be used”.¹⁰¹

In fact, in economic terms the market power provided to copyright is somewhat less than an absolute monopoly. While the individual copyright owner has a monopoly over the particular copyright work (although independent creation is nevertheless permitted), the power provided by the copyright protection can only be assessed in light of the market in which the copyright work competes.¹⁰² In this light, Dam states that the competitive concern is overstated for two reasons:

First, simple observation tells us that even patents (which create a legal right to exclude even in the case of independent creation) generate few monopolies in the market sense; large R&D-oriented firms generate hundreds of patents a year, and yet few such firms have monopolies in any economic market. If this is true of patents, it seems even clearer in the case of copyrights where no power to exclude is granted, where only the power to preclude copying is granted, and where independent creation by competitors is a complete defence.

Second, copyright protection does not permit the innovator to restrict production, the hallmark of monopoly. At most, the innovator will capture economic rent at the same level of output as existed in the market before the innovation, and, in the case of major innovations leading to sharply reduced costs, output may actually expand. In short, output will be the same or higher with the copyrighted innovation than without the innovation. To be sure, if we assume, as most of the literature assumes at least implicitly, that the innovation would have been made without the intellectual property right (or would have been made by someone else very soon), then it may make more sense to talk about monopoly and restriction of production.¹⁰³

Indeed economists now understand that except in certain circumstances, copyright does not confer monopoly power. As Gans et al. explain:

Economists have known since the middle of the eighteenth century that an activity will only yield *ex ante* monopoly profits if entry to that activity is protected by some barrier. If entry is free, no matter what the legal regime of property rights is, entry will occur until excess returns are eliminated.¹⁰⁴

¹⁰⁰ Antony Dnes, *The Economics of Law* (London: International Thomson Business Press, 1996) 33.

¹⁰¹ Robert Cooter and Thomas Ulen, *Law and Economics* (Glenview IL: Scott Foresman, 1988) 135.

¹⁰² Jeremy Thorpe, “Regulating the Collective Exploitation of Copyright”, *Prometheus* 16, no. 3 (1998): 317. See also Jeremy Thorpe, “Reform Options for Collective Licensing of Copyright”, *Agenda* 5, no. 5 (1998).

¹⁰³ Kenneth W Dam, “Some Economic Considerations in the Intellectual Property Protection of Software”, *Journal of Legal Studies* 24 (1995): 336.

¹⁰⁴ Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 16. See also National Competition Council, *Review of Sections 51(2) and 51(3) of the Trade Practices Act 1974: Final Report* (Melbourne: 1999) 149.

Nevertheless, even without monopoly power, there is good cause to be concerned that access to the material protected by copyright will be less than optimal. This is because of the cost structure of information-based goods such as copyright. Like some tangible goods characterised by scale economies, material protected by copyright tends to have high fixed costs of production but low marginal costs of reproduction and distribution.¹⁰⁵ This means that in order to recover the costs of production the price must be set above marginal cost. Setting a single price above marginal cost results in a “deadweight loss”, as consumers who value the copyright material at more than marginal cost but less than the set price will not purchase the good, resulting in a loss in social welfare.

Consistent with the preceding discussion, the IPCRC report summarised the general problem of pricing intellectual property in the following terms (although it is important to note that copyright does not protect ideas *per se*):

While conferring intellectual property rights encourages investment in creative effort, it can allow the owners of the results of this effort to unduly restrict the diffusion and use of these results. In an ideal world, purchasers of ideas whose cost of reproduction is virtually zero would, at the margin of consumption, face a price that was itself close to zero. In practice, intellectual property rights ensure that owners of ideas can, and almost always do, charge some positive price at that margin. As a result, the consumption of the existing output of investment in creative effort falls below that which, in the short term, would maximise social income.¹⁰⁶

6.1.3 *Balancing copyright's costs and benefits*

The economic approach to copyright is centred on finding the level of copyright protection that solves a cost–benefit problem:

- the benefit from an increased degree of protection is that it will provide revenues to authors and so encourage the creation of more works.
- the costs of increased protection are that it will:
 - increase the costs of creating works, since all authors borrow to some degree from what has gone before. While copyright permits the borrowing of the idea, in many cases creators wish to borrow particular expressions that are protected by copyright;
 - restrict access to those who would simply enjoy creations for their own sake; and
 - increase the costs of administering the system, whether through an increased need for private contracts or through the judicial system.

¹⁰⁵ See Carl Shapiro and Hal R Varian, *Information Rules: A Strategic Guide to the Network Economy* (Boston: Harvard Business School Press, 1999) 3.

¹⁰⁶ Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000) 6. Note that copyright does not protect ideas, only their expression.

Adopting the simplification that the degree of copyright protection can be described by a single metric, the *net* benefits from copyright – ie total benefits less total costs – are maximised at the point where the marginal benefits from increasing the degree of protection are exactly equal to the marginal costs from increasing protection:

Economic theories about the optimal design of intellectual property involve a balancing of consumer losses due to proprietary pricing against firms' incentives to invent [or in the copyright context, to create]. The balancing is not because inventors *per se* should be weighed in the social calculus, but because inventors must be protected in order to create benefits for consumers.¹⁰⁷

In an influential examination of the economics of copyright, Landes and Posner succinctly explained this approach as follows:

Striking the correct balance between access and incentives is the central problem in copyright law. For copyright law to promote economic efficiency, its principal legal doctrines must, at least approximately, maximize the benefits from creating additional works minus both the losses from limiting access and the costs of administering copyright protection.¹⁰⁸

The balancing approach argues that the optimal doctrine is the one that maximises the difference between:

- the present discounted value to consumers of the intellectual products whose creation is induced by holding out to authors and inventors the carrot of a property right, and hence the power to exclude parties and charge a cost-recovery price; and
- the aggregate losses generated by such a system of incentives – the consumer surplus sacrificed when authors and inventors price their creations above the marginal costs of producing them, the “administrative costs” of interpreting and enforcing intellectual property rights, etc.

In more general terms, incentive theory urges a law-maker to establish or increase intellectual property protection when doing so would help consumers by stimulating creativity more than it would hurt them by constricting their access to intellectual products or raising their taxes.

As explained in Chapter Four, the distinctive characteristics of most intellectual products are that they are easily replicated and enjoyment of them by one person does not prevent enjoyment of them by other persons (ie they have public good characteristics). Those characteristics create a danger that the authors of such products will be unable to recoup their “costs of expression” (ie the time and effort devoted to writing or composing; the costs of negotiating with record companies, etc) because they will be undercut by copyists who bear only the low “costs of production” (ie the costs of printing, binding, and distributing books; the costs of “burning” and packaging compact discs, etc) and thus can offer consumers identical products at very low prices. Awareness of that danger deters authors from making socially valuable intellectual products in the first instance.

¹⁰⁷ Suzanne Scotchmer, “The Political Economy of Intellectual Property Treaties”, in *Working Paper No. CPC01-24*, ed. Competition Policy Center (University of California, Berkeley, 2001) 28.

¹⁰⁸ William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989): 326.

Landes and Posner argue that this economically inefficient outcome can be avoided by allocating to the authors (for limited times) the exclusive right to make copies of their creations, thereby enabling them to charge consumers monopoly prices. All of the various alternative ways in which authors might be empowered to recover their costs, Landes and Posner contend, are, for one reason or another, more wasteful of social resources.

The view that intellectual property rights must seek to balance incentives and access is the basis for much official policy analysis of copyright and patent laws.¹⁰⁹ For example, this approach was expressly adopted by the IPCRC report, which maintained that:

Intellectual property laws must ... involve some balance between the incentives to invest in creative effort and the incentives for disseminating material that is the subject of intellectual property protection. This balance turns on determining the appropriate scope of protection, in terms of the conditions under which protection is granted, the scope and effectiveness of the exclusive privileges provided by protection, and the duration of protection given.

Balancing between providing incentives to invest in innovation on one hand, and for efficient diffusion of innovation on the other, is a central, and perhaps the crucial, element in the design of intellectual property laws. In the Committee's view, it is essential that the terms of this balance be clearly set out in the intellectual property laws themselves, so that rights owners and users can be certain about the scope and content of the grants being made.¹¹⁰

Similarly, it has strong judicial support: "The law of copyright is concerned with balancing the public interest in economic and cultural development against the interests of individuals in securing a fair and equitable return for their intellectual efforts."¹¹¹

6.2 Modelling the copyright balance

In 1989 Landes and Posner published the default model for copyright analysis;¹¹² it is important to understand its broad approach and general conclusions.¹¹³

The model has the following basic assumptions:

- authors incur fixed costs to produce content but can reproduce this content at marginal cost (ie there are high fixed costs and low marginal costs);

¹⁰⁹ See, for example, Copyright Law Review Committee, *Copyright and Contract, Issues Paper* (Canberra: AusInfo, 2001) 6; Glynn S Lunney, "Reexamining Copyright's Incentives-Access Paradigm", *Vanderbilt Law Review* 49 (1996); Sir Anthony Mason, "Public-Interest Objectives and the Law of Copyright", *Journal of Law and Information Science* 9, no. 1 (1998).

¹¹⁰ Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000) 6.

¹¹¹ *Telstra Corporation Limited v Australasian Performing Right Association Limited*, 146 ALR 649 per Kirby J.

¹¹² See William M Landes and Richard A Posner, "An Economic Analysis of Copyright Law", *Journal of Legal Studies* 18 (1989).

¹¹³ Appendix A provides a list and description of various studies that have involved the development of theoretical models of copyright and copying.

- the level of copyright protection affects the fixed costs of the producer (ie the costs of expression); and
- copiers supply copies up to the point where price equals marginal cost.

This marginal cost of copying increases with both the number of copies and the level of copyright protection. Taking account of this behaviour by copiers, authors maximise profits. If we assume that authors differ with respect to their fixed costs, the number of works in the market will be determined by the marginal cost that equals (gross) profits to this fixed cost.

The impact of a change in the level of copyright protection on the number of works is considered using this model. An increase in the level of copyright protection has two effects in the model:

- it increases the gross profits of each author; and
- it increases the fixed costs of each producer.

The latter effect can be interpreted as an enforcement tax that increases with the number of works produced. At low levels of copyright protection it is likely that the first effect will dominate the second; at high levels of copyright protection the second is likely to dominate the first. As a result, the number of works increases at low levels of copyright protection and decreases at high levels of protection. Too much copyright protection raises the fixed costs of production to such a level that many authors cannot recoup their fixed costs (even in the case where they have complete protection for their work).

An implication of the Landes and Posner model is that the price per copy is greater:

- the less elastic the demand for copies – this relationship relates to the price elasticity of demand for the copyright good. If consumers react strongly on price changes, the author has to set his price at a lower level than in the case where this price elasticity is low (and hence the demand for copies less elastic);
- the less elastic the author's supply curve – the slope of the author's supply curve is also important in determining the optimal price set by the author. If other suppliers react strongly to an increase in price by entering the market, this is likely to erode the profits of the authors who are already in the market; and
- the larger the author's share in the total number of copies produced – the fact that the price of copies is higher when the author's share in total copies is higher is, not surprisingly, related to the relative prices of originals and copies.

Examination of the relationship between the level of copyright protection and the gross profits of authors reveals that gross profits increase up to the moment when copiers start making copies. Additional copyright protection will provide no further benefits because there are no competitors to exclude in this case, but it does raise the price of copyright protection.

The most important welfare implications of this model are that:

- the optimal amount of copyright protection is higher for classes of work that are more valuable socially (the value of a work is defined here as the social welfare per work minus the cost of creating the work);
- increasing copyright protection above the optimal level leads to the production of more works, but to a lower welfare per work (as a result of higher fixed costs/higher administrative and enforcement costs), which results in a lower level of welfare;
- if, over time, growth in income and technological advances enlarge the size of the market for any given work, and the cost of copying declines, copyright protection should expand;¹¹⁴
- the only benefit to be gained by increasing the degree of copyright protection is that it will encourage the creation of more works through a revenue incentive; potential authors see higher expected revenues if their works will be subject to fewer fair dealing provisions, or will have copyright for a longer duration. If, at the present level of protection, an increase in protection has no stimulative effects on creation (eg because duration is already so long that authors are currently discounting the value of the copyright in the last years of its life to zero), then there would be no rationale for increasing the level of protection. In addition, since there are almost certainly marginal costs from increasing protection, such a situation would be a rationale for lowering the amount of protection;
- the optimal degree of copyright protection will be less the greater the difference in cost between that faced by the original author to produce extra units of the work and for a copier to produce units of the work.¹¹⁵ The reasoning is as follows: copyright is necessary in the first place because the author of the work incurs costs in creating the copyright work, which a copier does not have to bear. If a copier can make units of the work just as cheaply as the licensee of the original author, then competitive markets will drive prices for units of the work down to their marginal cost, and there will be no way for the author to recoup the costs of expression. The result would be a great lack of incentive to undertake the costs of expression, and society would be worse for it. But if the author of the work has a cost advantage in producing units of the work, then she can earn some profits on sales. It is easy to imagine that different forms of expression will have different degrees to which the author of the work has a cost advantage in copies; for paintings it would be a much higher cost advantage than for books, for example;¹¹⁶ and
- the optimal amount of copyright protection will be less the greater the degree to which authors draw on the works of others to form new works.¹¹⁷ The intuition is clear. The goal of copyright is to ensure that creative works are produced. But if strengthened copyright protection increases the cost of expression, say by further

¹¹⁴ See William M Landes and Richard A Posner, "An Economic Analysis of Copyright Law", *Journal of Legal Studies* 18 (1989): 343-44.

¹¹⁵ *Ibid.*, 343.

¹¹⁶ This observation is an obvious lead-in to the framework in Part B, but is not fully acknowledged by Landes and Posner. For more discussion of the role of the product being protected see section 7.2.6.

¹¹⁷ William M Landes and Richard A Posner, "An Economic Analysis of Copyright Law", *Journal of Legal Studies* 18 (1989): 343.

restricting fair dealing provisions, or through lengthening the term of copyright so that fewer works are in the public domain, then it may lead to a decrease, rather than an increase, in works produced. This is why it makes economic sense that expressions of ideas, but not ideas themselves, are in the domain of copyright.

6.3 Observations

The balancing approach is intuitively appealing to economists because, at its simplest, it is the manifestation of a supply and demand curve; copyright should be expanded until the marginal cost of increased protection equals the marginal benefit of the increased protection.

As a result, a number of major copyright-related studies have explicitly noted and supported the balancing approach.¹¹⁸

There are three main objections to the view that copyright must balance incentives and access:

- the access problem should not be overemphasised. This may be for two very different reasons:
 - where the copyright product has clear public good characteristics there are unavoidable imperfections in markets for such goods. This suggests that marginal cost pricing is not an appropriate standard to apply for goods with the cost structure of information. As mentioned above, Demsetz was the first to suggest that the problem of pricing a privately supplied public good could be addressed by price discrimination.¹¹⁹ Price discrimination may address the underproduction of information goods by segmenting the market according to the willingness of consumers to pay for the information, with those willing to pay more being charged a higher price than those prepared to pay a lesser amount (see Chapter Eight). As Varian has explained, if this kind of price discrimination is possible, then the producer has an incentive to offer an additional unit of a good provided there are consumers willing to pay more than marginal cost.¹²⁰ In a submission to the IPCRC inquiry, Gans et al. made the same point in the following terms:

there is an important sense in which a monopolist owner of intellectual property wishes to promote access in the same way as is socially optimal. That is, a monopolist holding intellectual property has strong incentives to offer the rights to users who are willing to pay more than the costs

¹¹⁸ See, for example, Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000). Interestingly, no such observation was made in National Competition Council, *Review of Sections 51(2) and 51(3) of the Trade Practices Act 1974: Final Report* (Melbourne: 1999).

¹¹⁹ See Harold Demsetz, "Information and Efficiency: Another Viewpoint", *Journal of Law and Economics* 12 (1969); Harold Demsetz, "The Private Production of Public Goods", *Journal of Law and Economics* 13 (1970).

¹²⁰ Hal R Varian, *Differential Pricing and Efficiency* (First Monday, 1996 [cited 21 November 2001]); available at <http://www.firstmonday.dk/issues/issue2/different/>.

associated with ... providing the rights. A monopolist will seek to maximise profits from the sale of intellectual property by segmenting the market according to willingness to pay, and offering rights to individual users to the point where price of the last bundle of rights just exceeds the costs of supply of that bundle.¹²¹

- in other cases the copyright product may have only weak public good characteristics (eg an original painting) and hence the concerns about reduced access are less applicable;
- it is questionable how feasible it is to set legal rules that establish a socially optimal balance between incentives and access. Determining the appropriate balance is likely to be exceedingly complex. Moreover, as Peyton has pointed out, an approach based on balancing the interests of producers and of consumers is unlikely to lead to optimal outcomes:

legal interest-balancing leads to no unique solutions, only acceptable bargaining outcomes. The law can more easily recognize the existence of competing interests than measure relative costs and benefits. Even more to the point, interest-balancing embodies no clear notion of net social gain.¹²²

- given the global reach, via international treaties, of current copyright laws, domestic balancing may imperfectly incorporate relevant overseas costs and benefits:

The policy prescriptions suggested by such a calculus are implemented in a fragmented world connected by trade. National policies in a fragmented world create externalities that are not accounted for. These externalities cause trade negotiators to weigh the interests of inventors directly in their welfare calculations, since inventors can become the recipients of cash transfers from abroad. But the value created for consumers abroad is not counted at all, since consumers abroad are not part of the constituency. Thus, we would not expect the intellectual property prescriptions of trade negotiators to accord with those indicated by considering a more comprehensive notion of social welfare.¹²³

These limitations suggest that while the balancing approach provides an appropriate framework for thinking about particular copyright issues (eg the scope of the particular copyright doctrines), in practice it has provided little guidance when seeking to frame the actual legal boundaries of the copyright system.

Further consideration of the effectiveness and appropriateness of this approach is provided in Chapter Nine.

¹²¹ Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 2.

¹²² David Peyton, "A New View of Copyright", *Journal of Policy Analysis and Management* 6, no. 1 (1986): 92.

¹²³ Suzanne Scotchmer, "The Political Economy of Intellectual Property Treaties", in *Working Paper No. CPC01-24*, ed. Competition Policy Center (University of California, Berkeley, 2001), 28.

7: Approach Two – Copyright as a complement to alternative incentive capture mechanisms

The approach outlined in Chapter Six focused on the specification of copyright as a stand-alone institution. In contrast to this “copyright as an island” approach, the second current economic approach to copyright focuses on the environment beyond copyright. Rather than seeing copyright as a *per se* justified institution, copyright is seen as an explicit policy response to defined market failures.

7.1 Copyright as a response to market failure

7.1.1 The general case

It is quite common for economists to use an analytical framework in which they assess whether there is a market failure, and if there is, whether it is sufficient to justify the claimed breadth of market intervention. More particularly, this approach is described in these terms:

Originally, the market failure concept was used only as a normative concept to define appropriate situations for government intervention in markets. As it matured, the market failure concept took on an additional characteristic – that of a diagnostic tool by which policymakers learned how to objectively determine the exact scope and type of intervention ...

To employ the diagnostic approach, analysts attempt to identify both the precise type of problem that gives rise to the market failure and the different types of nonmarket failures (bureaucratic malfunctions) likely to occur if public officials attempt a cure. Advocates of the approach present use of this double market failure test as an essential part of the diagnostic process. Like doctors attempting a cure, policy analysts render a diagnosis of the underlying disease and consider the dangers of treatment, including side effects ...

In keeping with the diagnostic model, policy analysts are taught to apply the least intrusive intervention. If a market failure can be resolved by the creation of an incentive that will allow the market to correct itself, such a measure is to be favored over more aggressive treatments, such as the creation of a government monopoly.¹²⁴

The point is that government intervention must be shown to be necessary and superior to other methods:

From these considerations it follows that direct governmental regulations will not necessarily give better results than leaving the problem to be solved by the market or the firm. But equally, there is no reason why, on occasion, such governmental administrative action should not lead to an improvement in economic efficiency. This would seem particularly likely when ... a large number

¹²⁴ Richard O Zerbo and Howard McCurdy, “The End of Market Failure”, *Regulation* 23, no. 2 (2000): 10.

of people is involved and when therefore the costs of handling the problem through the market or the firm may be high.¹²⁵

Some commentators are critical of applying a market failure test, as they claim that it is likely to result in overinvolvement by government because:

- information asymmetry is inherent in almost all activities – there is rarely perfect, or even equal, information; and
- externalities are almost ubiquitous – almost every activity affects third parties either negatively or positively.¹²⁶

In any event, market failure analysis is entrenched in Australian policy-making as an analytical tool. For example, the Council of Australian Governments (COAG) has publicly stated that government interventions in markets should generally be restricted to situations of market failure and that each regulatory regime should target the relevant market failure or failures.¹²⁷ Indeed, a market failure-based approach underlies almost all NCP legislative reviews.¹²⁸

7.1.2 *Market failure and copyright*

In the markets for copyright products the market failure is clearly acknowledged: “The problem of the free-rider is at the heart of the analysis of public good. It is then crucial to thoroughly determine its theoretical and empirical relevance.”¹²⁹

Thus the next step is to determine precisely when the market failure (ie the free-riding) occurs, and when that failure can be said to be significant. Put in a reform context, this approach would seek to ensure that proposals for modifying copyright law, “aim to set property rules in such a way that they have a positive incentive effect – information is created which, but for the property rights, would not have been created”.¹³⁰

Plant was the first economist to expressly direct attention to an analysis of the actual incentives available to authors and inventors. In 1934 Plant analysed whether, in the absence of intellectual property protection, there would be insufficient productive activity with respect to:

¹²⁵ Ronald H Coase, “The Problem of Social Cost”, *Journal of Law and Economics* 3 (1960).

¹²⁶ See Richard O Zerby and Howard McCurdy, “The End of Market Failure”, *Regulation* 23, no. 2 (2000).

¹²⁷ Council of Australian Governments, *Report of Task Force on Other Issues in the Reform of Government Trading Enterprises, Released as Part of the First COAG Communiqué* (Canberra: 1991) 22.

¹²⁸ Although we note that the National Competition Council’s guidelines do not mention the phrase “market failure”: Centre for International Economics, *Guidelines for NCP Legislation Reviews: Prepared for the National Competition Council* (Canberra: National Competition Council, 1999).

¹²⁹ Bernard Salanié, *The Microeconomics of Market Failures* (Cambridge MA: MIT Press, 2000) 85.

¹³⁰ Office of Regulation Review, *An Economic Analysis of Copyright Reform, Submission to Copyright Law Review Committee’s Review of the Copyright Act 1968 (Cth)* (Canberra: 1995) 19.

- books,¹³¹ and
- inventions.¹³²

In essence, Plant questioned the need for intellectual property protection, arguing that incentives other than intellectual property rights, especially the “first mover advantage”, would ensure the production of intellectual material such as books or inventions. In relation to books, the “first mover advantage” refers to the lead time between initial publication and the publication of copies, which Plant argued should be sufficient to allow an author to recover costs. Plant also argued that the copying of books by competitors would be restricted by the fear that the original author would produce a “fighting edition”, meaning a copy set at a price below the competitor’s costs. Breyer later repeated Plant’s arguments in an article dealing with copyright in textbooks, tradebooks, photocopies and computer programs.¹³³

The analytical framework underpinning the Plant and Breyer work gained significant support in Australian policy analysis and development circles. For example, COAG has agreed that government interventions in markets should generally be restricted to situations of market failure and that each regulatory regime should be targeted on the relevant market failure or failures.¹³⁴

Consistent with the COAG framework, the analysis pioneered by Plant has continued to exert an influence in the form of a degree of scepticism among some Australian economists in relation to the overall advantages of intellectual property,¹³⁵ or at least to the scope of copyright.¹³⁶ However, rather than the relatively blunt assessment of Plant and Breyer, which saw no role for copyright, present application of the market failure approach sees non-proprietary appropriation methods as complementary to copyright rather than a replacement for it.

This market failure approach has also been acknowledged as an appropriate economic framework (although not always fully applied) in a number of Australian copyright studies.¹³⁷

¹³¹ Arnold Plant, “The Economic Aspects of Copyright in Books”, *Economica* 1 (1934).

¹³² Arnold Plant, “The Economic Theory Concerning Patents for Inventions”, *Economica* 1 (1934).

¹³³ Stephen Breyer, “The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs”, *Harvard Law Review* 84 (1970). See also Stephen Breyer, “Copyright: A Rejoinder”, *UCLA Law Review* 20 (1972); Robert M Hurt and Robert M Schuchman, “The Economic Rationale of Copyright”, *American Economic Review Papers and Proceedings* 56 (1966); Barry W Tyerman, “The Economic Rationale for Copyright Protection for Published Books: A Reply to Professor Breyer”, *UCLA Law Review* 18 (1971).

¹³⁴ Council of Australian Governments, *Report of Task Force on Other Issues in the Reform of Government Trading Enterprises, Released as Part of the First COAG Communiqué* (Canberra: 1991) 22.

¹³⁵ For a generally sceptical view of the economic benefits of the Australian patent system see TD Mandeville, DM Lamberton and EJ Bishop, *Economic Effects of the Australian Patent System: A Commissioned Report to the Industrial Property Advisory Committee* (Canberra: AGPS, 1982).

¹³⁶ See Office of Regulation Review, *An Economic Analysis of Copyright Reform, Submission to Copyright Law Review Committee’s Review of the Copyright Act 1968 (Cth)* (Canberra: 1995) 4; Jeremy Thorpe and Stephen Rimmer, “An Economic Approach to Copyright Reform”, *Australian Intellectual Property Law Bulletin* 8, no. 10 (1995).

¹³⁷ See Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000); Office of

7.2 *Non-proprietary methods used to appropriate returns*

The following sections list some of the non-proprietary methods that have been identified as reducing the market failure associated with particular products' public good characteristics. As the intensity of these methods of support increases, the less there is a role for copyright.

7.2.1 *Subsidies and rewards*

In addition to the provision of a property right, two policy solutions to the problem of underproduction are often proffered:

- subsidies □ the government or private parties may subsidise the production of copyright goods to solve the market failure. Indeed, Towse notes that, “cultural economists have observed that grants elicit a considerable supply response measured in terms of time devoted to arts work”,¹³⁸ and
- rewards □ another solution to the underproduction problem might be to reward authors of copyright goods.¹³⁹ The reward mechanism could take the form of prizes or grants.

The IPCRC notes that “Society already provides substantial direct and indirect subsidies to the creation of copyright material.”¹⁴⁰ The concern is that while there are many subsidies that encourage the creation of copyright material, are they in the appropriate areas? It is important to at least make some initial assessment in an Australian context of the areas in which non-proprietary methods are used to encourage the creation of creative works and to assess whether these are in decline, increasing, or steady.

7.2.2 *Social convention*

An area of considerable recent research in the “law and economics” field has been with respect to the economics of “norms” (ie customary behaviour).¹⁴¹ In the copyright context this approach asks whether social conventions mean that copying would not occur, even without a property right such as copyright.

Social convention is clearly an important factor when considering matters related to legal compliance. For example, in a 1990 study Tyler found that both legitimacy and morality influenced compliance with the law, independently of judgments about the risk of being caught and punished for wrongdoing. The strongest influence was that

Regulation Review, *An Economic Analysis of Copyright Reform, Submission to Copyright Law Review Committee's Review of the Copyright Act 1968 (Cth)* (Canberra: 1995).

¹³⁸ Ruth Towse, “Partly for the Money: Rewards and Incentives to Artists”, *Kyklos* 54, no. 2/3 (2001): 488.

¹³⁹ Steven Shavell and Tanguy van Ypersele, “Rewards Versus Intellectual Property Rights”, *Journal of Law and Economics* 44, no. 2 (2001).

¹⁴⁰ Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000) 96.

¹⁴¹ Robert C Ellickson, “Law and Economics Discovers Social Norms”, *Journal of Legal Studies* 29, no. 2 (1998).

of morality, the second strongest influence that of legitimacy. Risk estimates also influenced compliance, but were the weakest influence of the three outlined. In other words, ethical judgments had the greatest influence on compliance, and risk estimates the least influence.¹⁴²

It should not be controversial to assert that individuals' behaviour is often informed by social norms (ie social attitudes of approval and disapproval, specifying what ought to be done and what ought not to be done).¹⁴³ Two basic theories are most often offered to explain why people obey social norms, both of which can be seen as rational in a global sense:

- people value not only the inherent qualities of actions that they might take but also the esteem, or social approval, of others.¹⁴⁴ Compliance with social norms earns people esteem, whereas violation of social norms costs them esteem. In economic terms, social norms can be thought of as providing a subsidy (in the form of esteem) for some behaviors while imposing a tax (in the form of negative esteem) for others;¹⁴⁵ and
- people obey social norms that are contrary to their direct interests because they internalise the norms of their communities.¹⁴⁶ According to this view, the cost of violating social norms is not loss of esteem in the eyes of peers but guilt or shame for doing something the person experiences as “wrong” (the benefit to be gained from compliance with social norms can be referred to as “pride”). The costs of violating social norms are imposed not by society but by the violators themselves.¹⁴⁷

In many cases, a social norm might derive its power from both the desire for social approval and from internalisation.¹⁴⁸ This could make social norms doubly powerful as a determining cause of behavioural choices.

When individual behaviour motivated by social norms differs from what would be in the individual's direct self-interest, there are a number of potential implications for legal policy-makers:

- the existence of a social norm supporting or undermining a particular desired behaviour can affect whether and to what extent policy-makers need to employ

¹⁴² See Tom R Tyler, *Why People Obey the Law* (New Haven: Yale University Press, 1990).

¹⁴³ See Cass R Sunstein, “Social Norms and Social Roles”, *Columbia Law Review* 96 (1996): 914.

¹⁴⁴ Richard McAdams, “The Origin, Development, and Regulation of Norms”, *Michigan Law Review* 96 (1997): 355-56.

¹⁴⁵ See, generally, Cass R Sunstein, “Social Norms and Social Roles”, *Columbia Law Review* 96 (1996): 935.

¹⁴⁶ Robert Cooter, “Expressive Law and Economics”, *Journal of Legal Studies* 27 (1998): 585-86; Robert D Cooter, “Decentralized Law for a Complex Economy: The Structural Approach to Adjudicating the New Law Merchant”, *University of Pennsylvania Law Review* 144 (1996): 1662; Robert C Ellickson, “Law and Economics Discovers Social Norms”, *Journal of Legal Studies* 29, no. 2 (1998): 539-40.

¹⁴⁷ Robert D Cooter, “Decentralized Law for a Complex Economy: The Structural Approach to Adjudicating the New Law Merchant”, *University of Pennsylvania Law Review* 144 (1996): 1667.

¹⁴⁸ See Cass R Sunstein, “On the Expressive Function of Law”, *University of Pennsylvania Law Review* 144 (1996): 2031.

laws to encourage the behaviour. In other words, law might be used to encourage individuals to violate inefficient or undesirable social norms;¹⁴⁹ and

- rather than attempting to support or impede social norms, policy-makers might attempt to shape social norms through law and other forms of public policy. The primary deterrent effect many laws have on undesirable behaviour might not be the direct increase in the price of the behaviour through the threat of fines, civil liability or jail sentences, but the encouragement of a social norm against the activity.

For example, by increasing penalties for unauthorised copying, the government raises the price of use, which undoubtedly decreases such use on the margin, but it also might create or reinforce a social norm against paying for copies that has an even larger effect on behaviour. Note that this approach can be successful only in communities prone to generally respect the law, although this is likely to be the majority of the Australian population.¹⁵⁰ If a sub-group is hostile to expressive statements of law, attempts to manage social norms might have just the opposite effect. For example, if teenagers as a sub-group have a general social norm that favours defying authority, the legal prohibition of CD copying might, ironically, encourage such copying among teenagers.¹⁵¹

Norms as a reason for reduced copyright protection

One school of thought is that the market failure associated with information goods such as copyright material is overstated.

On the empirical plane ... there are good reasons to doubt the importance of the free-rider problem. The first is that honesty is a social norm that molds the behaviour of individuals.¹⁵²

Two business methods have gained attention for their underlying assumptions that people generally respect the intellectual effort of others and will not free-ride.

The first such example relates to tipping. Some parties are actually advocating “tipping” as a form of online compensation separate from any proprietary interest. Stephen King is one prominent author to experiment with this business model:

This summer, Stephen King began a laudable experiment of a variant of the tipping model. He published the first part of a new novel, *The Plant*, on the Internet, and asked readers to pay \$1 if they liked it. If enough readers paid up, he promised to release further instalments. So far, he reports that about 76% of the people who downloaded the first instalment have paid up.

Notice how many parallels to tipping there are in Mr. King’s model:

¹⁴⁹ See, for example, Eric A Posner, “Law Economics, and Inefficient Norms”, *University of Pennsylvania Law Review* 144 (1996): 1728.

¹⁵⁰ Tyler cites a study where 82 percent of respondents agreed with the statement, “People should obey the law even if it goes against what they think is right.” – Tom R Tyler, *Why People Obey the Law* (New Haven: Yale University Press, 1990) 45.

¹⁵¹ Compare this with Sunstein’s view that some people like to reject social norms – Cass R Sunstein, “Social Norms and Social Roles”, *Columbia Law Review* 96 (1996): 919.

¹⁵² Bernard Salanié, *The Microeconomics of Market Failures* (Cambridge MA: MIT Press, 2000) 85.

You can get the service before you pay.

You don't have to pay if you don't want to.

Because if too many people free ride, everyone loses, there is a powerful social incentive to contribute.

There's no publisher involved; it's a direct transaction between the readers and the author.¹⁵³

However, King suspended publishing *The Plant* after five chapters. By the fifth chapter, only 46 percent of downloaders were paying the download fee – see Table 7.1.

Table 7.1 Stephen King's *The Plant*

Chapter	Price per download	Percentage paying
One	\$1	76%
Two	\$1	70%
Three	\$1	76%
Four	\$2	46%
Five	\$2	46%

Source: Derived from multiple online accounts of *The Plant's* publication

This change in fortune can suggest two similar but slightly different outcomes:

- fewer people considered the chapter to constitute \$2 in value, and hence did not pay; or
- there had been a shift in consumer sentiment, and an increased willingness to free-ride irrespective of the underlying value of the product.

It is not clear which description best matches the outcome, leaving the efficacy of tipping somewhat in doubt.

A second example is with respect to the cooperative environment embedded in the “Open Source Software” movement. Some people may be willing to adopt a cooperative approach to overcome the Prisoner's Dilemma described in Chapter Four. Assume that there are two changes to a common piece of software, both of which are required to add \$40 value for users of the software; the cost of adding each change is \$25.¹⁵⁴ For either Mary or Peter to independently add both features, the cost does not justify the benefit (ie there would be a negative return of \$10 each, shown in the bottom right quadrant of Figure 7.1). However, if Mary and Peter can agree to each contribute one of the changes, the total value to each of them increases by \$40, at a cost of only \$25 each (ie both have a net gain of \$15, shown in the top left quadrant of Figure 7.1).

¹⁵³ Robert Woodhead, *Tipping – a Method for Optimizing Compensation for Intellectual Property* (2000 [cited 21 August 2001]); available at <http://tipping.selfpromotion.com>.

¹⁵⁴ In general terms, two changes are both required to add \$a value to users of the software. However, the cost of adding each change is \$b, with $2 * \$b > \a , but $\$b < \a .

Figure 7.1 Open Source Software Development

		Peter	
		Cooperate	Independent
Mary	Cooperate	15, 15	0, -10
	Independent	-10, 0	-10, -10

In this environment, the sharing of copyrightable material (either absolutely or through a licence) encourages the most efficient outcome.

This view leads to the implication that the need for copyright protection is not as important as one might assume. Whether or not this outcome is achievable depends on a number of factors such as the degree of trust between parties, and whether each party can deliver what they promise.

A more ambiguous view of the impact of norms on copyright

While there is a legitimate argument that the market failure associated with public good characteristics is reduced because people have a natural inclination to not copy, it may only be relevant to some countries, communities and cultures, and is likely to be inappropriate for others. For example:

- the degree of copying relates in some part to the extent to which society has individualistic or collectivist attitudes;¹⁵⁵
- there may be different norms within countries on the basis of geography or generation (eg “Generation X” consumers may have different norms from others). This is particularly likely with respect to new technologies which tend to be adopted by younger generations:

Software piracy laws are so practically unenforceable and breaking them has become so socially acceptable that only a thin minority appears compelled ... to obey them ... Whenever there is such profound divergence between the law and social practice, it is not society that adapts.¹⁵⁶

¹⁵⁵ See Donald B Marron and David G Steel, “Which Countries Protect Intellectual Property? The Case of Software Piracy”, *Economic Inquiry* 38, no. 2 (2000).

¹⁵⁶ John Perry Barlow, *Selling Wine without Bottles: The Economy of Mind on the Global Net* (1994 [cited 26 November 2001]); available at http://www.eff.org/pub/Intellectual_property/idea_economy.article.

- there may be other socio-economic factors which influence free-riding. This view is supported by Burke, who found that the level of copyright protection does not influence the level of audio software counterfeiting.¹⁵⁷ Rather, Burke concludes that the “extensive efforts and copious attention to detail by international legal experts are not sufficient to effectively curtail counterfeit activity and are indeed secondary in importance to the socio-economic environment in which these laws are applied”.¹⁵⁸

There is little Australian evidence regarding how social norms affect attitudes towards compensating authors, and few overseas studies (see Box 7.1, next page).

¹⁵⁷ Andrew E Burke, “How Effective Are International Copyright Conventions in the Music Industry?”, *Journal of Cultural Economics* 20 (1996).

¹⁵⁸ Ibid.

Box 7.1 US consumer attitudes to copying in 1986

“A survey of the public commissioned by OTA on the issue of intellectual property rights reveals a number of findings of relevance to the public’s perceptions of what rights should and should not exist in information products. With respect to the issue of private use, in particular, the public’s attitudes seem to reflect a rough congruence to the distinction between commercial and non-commercial uses.

The survey reveals that two-thirds of the public is neither familiar with nor feels affected by intellectual property rights issues. However, neither familiarity nor self-interest appears to be related to their responses; the knowledgeable and the uninformed responded in very much the same way. Among the more significant of those responses were:

- The vast majority of the public (over 7 in 10) believes that *copying personal possessions* like a record or a program from TV is *acceptable* behavior.
- A majority of the public believes that *trading and copying* information and entertainment such as computer programs and records is *acceptable* behavior.
- Where there is an *issue of access* – either the information is readily available, such as a library book, or there is a question whether the information (broadcast signals or airwaves) should be free – the public is *divided*.

While each of these behaviours involved personal or private behavior, which might give rise to *civil* liability under copyright law, there appears to be little public support for such consequences.

However, when asked about conduct which generally involved commercial, for-profit activity or wilful, active attempts to avoid paying for something the public responded as follows:

- More than 8 in 10 among the public find behaviors that obviously circumvent a fee or service (such as purchasing a descrambler to watch pay TV, or secretly recording a concert) to be unacceptable.
- There is almost complete unanimity among the public that behaviors which jeopardise privacy, such as entering a database without permission, are unacceptable.
- If copying of copyrighted materials is done for reasons other than private use, for public display, for sale or personal gain or on behalf of a large corporation, the majority of the public found the behavior less acceptable.

While the public was not informed of the illegality or criminal nature of any of these behaviors on which they were questioned, it is interesting to note that many of their responses reflect the criteria for criminal infringement set forth in the copyright law: the infringement of copyright “wilfully and for purposes of commercial advantage or private financial gain”. In general, the public seems to be in support of laws regarding criminal infringement or access, and competitive or institutionalised copying activities, but it withholds support for prohibitions on civil infringement or private use copying behavior.”

Source: Office of Technology Assessment, “Intellectual Property Rights in an Age of Electronics and Information”, 1986

7.2.3 Access controls

The need for copyright is predicated on the inability to restrict copying (ie free-riding). There is a view that technological developments may assist in reducing the ability of people to free-ride:

At the same time that cyberspace presents a threat to copyrighted material, it also offers a much greater opportunity to control the access and use of copyrighted materials ... Technologies are being developed that can radically increase the protection and control that copyright holders have over their copyrighted material. These technologies will in turn, in my view, make it possible for copyright holders to exercise more control over the use of copyrighted material than they could in real space.¹⁵⁹

To the extent that such additional control does eventuate, and is permanent – ie is not quickly circumvented by technological developments which facilitate copying – there is a case for suggesting that the market failure that justifies copyright is no longer present and hence copyright protection should be reduced.

7.2.4 *First-mover advantages*

Some information is only valuable when it is new. Since copying takes time, this reduces the value of copies in markets for information goods such as copyright material where “time is money”. The passage of time can be said to provide an additional layer of protection for the author and provides an argument for reduced protection in these types of markets.¹⁶⁰ Indeed, Jensen claims that “Most works earn more than 90% of the royalties they will earn in the first year after publication.”¹⁶¹

Beyond these statements asserting that there are first-mover advantages in a number of copyright industries, however, there is little rigorous assessment of the actual impact that any such advantage has.

In contrast, there has been substantial work done on the relationship between patents and market timeliness. For example, discussing the voluminous literature on the degree of protection offered by patents, Menell concludes that:

In many industries, first-mover advantages, including the establishment of production and distribution facilities, rapid progress down a learning curve and other factors have proven to be at least as important as formal patent rights. Through a large survey of research and development personnel across a wide range of industries in the United States, Levin et al. (1987) found that intellectual property rights, in comparison with trade secrecy, lead time, rapid movement down the learning curve and marketing efforts, play a relatively modest role in enabling most firms (with the exception of those in the pharmaceutical and chemical industries) to appropriate returns for their inventions. Similar results have been found in Japan and Germany (Japan Institute of Intellectual Property, 1994; Oppenlander, 1984).¹⁶²

¹⁵⁹ Lawrence Lessig, *Expert Report of Professor Lawrence Lessig Pursuant to Federal Rule of Civil Procedure 26(a)(2)(B)* (2000 [cited 21 August 2001]); available at <http://www.napster.com/pressroom/legal.html>.

¹⁶⁰ Stephen Breyer, “The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs”, *Harvard Law Review* 84 (1970).

¹⁶¹ Mary Brandt Jensen, *Compulsory Licenses and Electronic Material* (1993 [cited 2 December 2001]); available at <http://www.cni.org/Hforums/cni-copyright/1993-03/0307.html>.

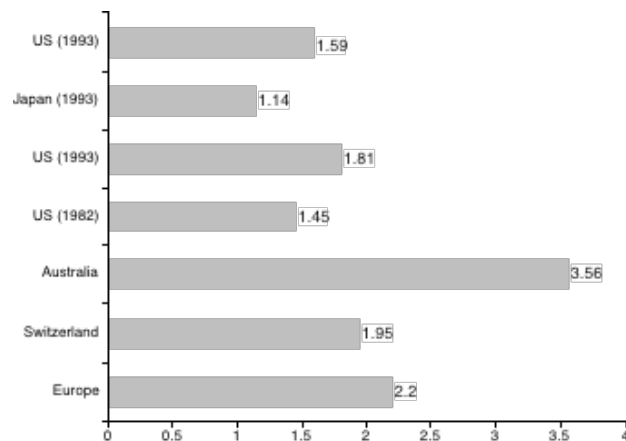
¹⁶² Peter S Menell, “Intellectual Properties: General Theories”, in *Encyclopedia of Law and Economics: Volume II (Civil Law and Economics)*, ed. Boudewijn Bouckaert and Gerrit De Geest (Cheltenham: Edward Elgar, 2000) 136.

In discussing patents, Scherer notes that firms may innovate even without patent protection where there are:

- natural imitation lags – for example, from the time it takes to gain necessary know-how;
- the “advantages of competitive product leadership” – the product differentiation advantage of being first; or
- market structure characteristics, apart from patents, which will inhibit rapid entry and imitation.¹⁶³

The available evidence suggests that the importance of the first mover advantage in comparison with patents is particularly strong in Australia – see Figure 7.2. It is unknown whether such importance is carried over from patents to copyright.

Figure 7.2 The relative importance of lead time for earning competitive advantages from process innovation (compared with the importance of patents)



Source: Arundel, “Patent - the Viagra of Innovation Policy? ”, 2000, cited in Cowan and Harison, “Intellectual Property Rights in a Knowledge-Based Economy”, 2001

Even without any quantitative support, there are a number of technology-related grounds for thinking that any first-mover advantages are not as strong as was once thought:

- the traditional view has been that time-sensitive products that benefited from a first-mover advantage included news and other news-related products (eg newspapers), principally because such information was soon worthless. This view as to worthlessness was explained at a time when the products were physical and the costs associated with their storage, cataloguing, searching and retrieval were very high in relation to the initial value of the product. However, with digitisation, such costs related to storage, cataloguing, searching and retrieval are relatively low and it is now feasible to have secondary markets for dated information (eg commercial libraries). In such a case the first-mover advantage is reduced,

¹⁶³ Frederic M Scherer and David Ross, *Industrial Market Structure and Economic Performance*, 3rd ed. (Boston: Houghton Mifflin Company, 1990) 626–30.

because the cost structure makes the information relatively more valuable over a longer period; and

- as the technology associated with copying is now more responsive (ie copies can be made and distributed more quickly¹⁶⁴ and more cheaply) the duration of any first-mover advantage may be dramatically reduced.¹⁶⁵

7.2.5 *The superstar phenomenon*

The standard economic consideration of copyright assumes that there is no uncertainty about the quality of a copyright product. In practice, however, there is likely to be significant uncertainty about copyright products before their consumption.¹⁶⁶

In markets characterised by “superstars”, copyright protection is less important because most consumers are oblivious to substitutes for the products of the “superstar”. The “superstar” phenomenon is evident in an industry when there are a handful of superstar performers (ie earning returns well in excess of the average), and the remaining bulk are ordinary performers.¹⁶⁷

7.2.6 *The nature of the product*

“Whether the basis establishment of copyright ... is economically efficient depends very much on the characteristics of the market in which the creations are traded.”¹⁶⁸ As a result, when considering incentives other than copyright there is a tendency to focus on the various types of copyright works and their respective markets. For example, some studies have focused on books,¹⁶⁹ academic journals,¹⁷⁰ chess problems,¹⁷¹ surveyors’ plans¹⁷² and so on.

¹⁶⁴ It is not uncommon to hear that some pirated products (eg software, movies, etc) are publicly available before the authorised copies.

¹⁶⁵ This decline in the strength of the first-mover advantage has been well documented with respect to patents – Rajshree Agarwal and Michael Gort, “First-Mover Advantage and the Speed of Competitive Entry, 1887–1986”, *Journal of Law and Economics* 44, no. 1 (2001).

¹⁶⁶ Kenneth J Arrow, “Economic Welfare and the Allocation of Resources for Invention”, in *The Rate and Direction of Inventive Activity*, ed. Kenneth J Arrow (Princeton: Princeton University Press, 1962).

¹⁶⁷ The economics of superstars has been discussed extensively in: Moshe Adler, “Stardom and Talent”, *American Economic Review* 75 (1985); Glenn M MacDonald, “The Economics of Rising Stars”, *American Economic Review* 78 (1988); Sherwin Rosen, “The Economics of Superstars”, *American Economic Review* 71 (1981). Compare with William A Hamlen, “Superstardom in Popular Music: Empirical Evidence”, *Review of Economics and Statistics* 73 (1991).

¹⁶⁸ Michael O’Hare, “Copyright and the Protection of Economic Rights”, *Journal of Cultural Economics* 6, no. 1 (1982): 39.

¹⁶⁹ Arnold Plant, “The Economic Aspects of Copyright in Books”, *Economica* 1 (1934).

¹⁷⁰ CPB Netherlands Bureau for Economic Policy Analysis, “Tackling the Journal Crisis: When Authors Pay with Money Instead of Copyrights”, in *Working Paper No. 121* (The Hague: CPB Netherlands Bureau for Economic Policy Analysis, 2000); Stan J Liebowitz, “Copying and Indirect Appropriability: Photocopying of Journals”, *Journal of Political Economy* 93, no. 5 (1985).

¹⁷¹ Björn Frank, “On Art without Copyright”, *Kyklos* 49, no. 1 (1996).

O'Hare argues that copyright is most likely to be an efficient response in the following circumstances:

The critical requirements are that the work be valuable in derivative forms, or that copying be expected at a rate of many copies per pirate and that the fixed costs of copying a particular work be low.¹⁷³

The implication is that in the event that these characteristics are not sufficiently present, scope for free-riding is reduced.

7.2.7 *Network externalities and exposure effects*

A network externality (also called a positive consumption externality or effect) is an externality that causes the value of a unit of a good to increase with the number of units sold.¹⁷⁴ A distinction can be made between:

- direct network externalities that are created through the direct effect of a number of buyers on the quality of the product; and
- indirect effects that are caused by things such as the greater availability of complementary goods when the network of buyers increases.¹⁷⁵

Another classification of network effects is given by Bensaid and Lesne – they refer to three types of network effects:

- metaphorical network externalities – these arise when the users of a good benefit from the same additional services and common expertise;
- “word of mouth” externalities – these arise from the fact that when a product has more users, more information about its quality becomes available, so search costs are lowered and reservation prices are increased. These types of externalities seem to be especially relevant for information products where the quality cannot be learned by a superficial inspection of the product (eg experience goods); and
- learning by doing externalities – these originate because of the fact that when a product has more consumers the quality of the product is likely to be improved by

¹⁷² Norman Siebrasse and John D McLaughlin, *Contested Markets and the Optimal Breadth of Copyright Protection: The Example of Surveyors' Plans of Survey* ([cited 2 August 2001]); available at <http://www.spatial.maine.edu/tempe/siebrasse.html>.

¹⁷³ Michael O'Hare, “Copyright: When Is Monopoly Efficient?”, *Journal of Policy Analysis and Management* 4, no. 5 (1985): 417.

¹⁷⁴ Economides, “The Economics of Networks”, *International Journal of Industrial Organization* 14, no. 2 (1996). See also Stan J Liebowitz and Stephen E Margolis, “Network Effects and Externalities”, in *The New Palgrave's Dictionary of Economics and the Law* (Macmillan, 1998) 671–75.

¹⁷⁵ Liebowitz and Margolis show that the consequences of internalising direct and indirect network effects are quite different – Stan J Liebowitz and Stephen E Margolis, “Are Network Externalities a New Source of Market Failure?”, *Research in Law and Economics* 17 (1995). Indirect network effects are generally pecuniary in nature and should therefore not be internalised by the producer because, in that case, they impose deadweight losses.

further updates. This type of externality is particularly relevant in the software market.¹⁷⁶

After the introduction of a new product into a market with network externalities, consumers base their decision whether or not to adopt the new product on both the stand-alone benefits and the network benefits. In many instances, the adoption of a new product is hindered because of incompatibility of the new product with the network of the old product, even though the adoption of the new product might be welfare enhancing – this phenomenon is called “excess inertia”.

Increased unauthorised copying may actually boost the demand for legitimate information products through positive demand-side externalities in two ways:

- some people just like to consume the same item as others, so lower copyright protection to stimulate uptake may boost subsequent legitimate and copyright-protected demand;¹⁷⁷ and
- other benefits from direct and indirect network externalities¹⁷⁸ – for example, a specific word processor might become more valuable to a user the more other individuals are using that same word processor. With more users, it should become easier to exchange files with one another. In such an instance, it is conceivable that the extra value that paying customers receive from having unauthorised or non-protected copies also using the good might outweigh any loss in revenues from the fact that such people are not paying for the good. If the prevention of copying would result in the free-riders staying away from the market altogether, the prevention of unauthorised copying might prove financially harmful to the interests of the copyright owner. However, if all or enough of the free-riders were to become authorised users when such free-riding was no longer possible, the prevention of free-riding would still be remunerative for the copyright owner even in the presence of network effects.

Closely related to network effects are exposure effects. These are instances when unremunerated use of the copyright product might raise buyers’ willingness to pay and hence the demand for the legitimate item.¹⁷⁹ In some cases, reduced appropriability (eg higher piracy levels or reduced copyright protection) may benefit

¹⁷⁶ Bernard Bensaïd and Jean-Philippe Lesne, “Dynamic Monopoly Pricing with Network Externalities”, *International Journal of Industrial Organization* 14, no. 6 (1996).

¹⁷⁷ Gary S Becker, “A Note on Restaurant Pricing and Other Examples of Social Influences on Price”, *Journal of Political Economy* 99, no. 5 (1991); Edi Karni and David Schmeidler, “Fixed Preferences and Changing Tastes (in the Formation of Economic Values)”, *American Economic Review* 80, no. 2 (1990).

¹⁷⁸ KR Conner and RP Rumelt, “Software Piracy: An Analysis of Protection Strategies”, *Management Science* 37, no. 2 (1991); F Nascimento and WR Vanhonacker, “Optimal Strategic Pricing of Reproducible Consumer Products”, *Management Science* 34, no. 8 (1988); Oz Shy and Jacques-François Thisse, “A Strategic Approach to Software Protection”, *Journal of Economics and Management Strategy* 8, no. 2 (1999); Lisa N Takeyama, “The Welfare Implications of Unauthorized Reproduction of Intellectual Property in the Presence of Demand Network Externalities”, *Journal of Industrial Economics* 17 (1994).

¹⁷⁹ For further discussion see A Jacob and D Ben-Shahar, “A Preach for a Breach: Promoting Copyright Infringements as an Optimal Monopolistic Behavior” (Herzliya (Israel): Working Paper, Radziner School of Law, Interdisciplinary Center, 2000); Lisa N Takeyama, “The Intertemporal Consequences of Unauthorized Reproduction of Intellectual Property”, *Journal of Law and Economics* 40, no. 2 (1997).

the legitimate producer of a copyright product. The legitimate demand may derive from the buyers' supply of copies to others¹⁸⁰ and sharing among peer users.¹⁸¹ For these reasons, unremunerated use of copyright products may be seen as a form of advertising or sampling that might ultimately lead to larger sales of legitimate versions.¹⁸² Users of such unremunerated products might find themselves wanting, for example:

- in the case of software, the manuals and technical support that would only be available to authorised users; or
- as is claimed in defence of Napster,¹⁸³ copies might just be used to sample songs, allowing a better selection of CDs to be purchased.

It needs to be remembered of course, these are the exceptions to the more general rule that allowing potential consumers to pirate copies of a work is likely to reduce the revenues available to the copyright owner.

7.2.8 Price discrimination and indirect appropriability

Sometimes copyright owners are able to collect revenue from unauthorised copiers by charging higher prices for the originals from which the unauthorised copies are made; this is known as "indirect appropriability".¹⁸⁴ The basic premise is simple – if the copyright owner knows which originals will be used to make copies, a higher price can be charged for the original, allowing the copyright holder to capture part, all, or more of the net revenue that might have been appropriated by more traditional methods if unauthorised copying could be prevented. Where indirect appropriability is feasible, the case for stronger protection to offset copying is negated.

Liebowitz is the strongest advocate of indirect appropriability and argues that there is at least one documented instance where the impacts of indirect appropriability are strong and where unauthorised copying appears to have benefited copyright owners – photocopying. He argues that the ease with which copies of books and magazines can be made might have been thought to jeopardise the livelihood of authors. His

¹⁸⁰ Stanley M Besen and Sheila Nataraj Kirby, "Private Copying, Appropriability, and Optimal Copyright Royalties", *Journal of Law and Economics* 32 (1989); Stan J Liebowitz, "Copying and Indirect Appropriability: Photocopying of Journals", *Journal of Political Economy* 93, no. 5 (1985); Hal R Varian, "Buying, Sharing, and Renting Information Goods", *Journal of Industrial Economics* 48, no. 4 (2000).

¹⁸¹ Y Bakos, E Brynjolfsson and D Lichtman, "Shared Information Goods", *Journal of Law and Economics* 42, no. 1 (1999).

¹⁸² Stan J Liebowitz, *The Impact of Reprography on the Copyright System, Copyright Revision Studies* (Ottawa: Bureau Of Corporate Affairs, 1981).

¹⁸³ Napster, *Legal Documents* ([cited 12 July 2001]); available at <http://www.napster.com/pressroom/legal.html>.

¹⁸⁴ Coined in Stan J Liebowitz, "Copying and Indirect Appropriability: Photocopying of Journals", *Journal of Political Economy* 93, no. 5 (1985).

research suggests, however, that the photocopier proved a boon to those whose works were most frequently copied.¹⁸⁵ This came about for two related reasons:

- authors were able to appropriate a portion of this additional value through indirect appropriability; and
- the convenience of being able to make copies was so great that the nature of scholarship changed among the academic communities that used so much of the copyright materials that were copied.

Liebowitz claims that this combination of factors appears to have greatly benefited publishers of photocopied works as they were able to identify those locations where photocopying occurred (ie libraries and other similar institutions). Publishers then charged a much higher price for subscriptions that went to institutions as opposed to individuals. In support of this analysis, Liebowitz argues that the price differential that we now take for granted did not exist prior to the photocopier.

7.2.9 *Author and publisher*

So far, it has been assumed that the author acts as his or her own publisher. This is clearly an unrealistic assumption in many markets for copyright goods. Think of the (often conflicting) roles of musician and the music publisher, the author of fiction and his publishing house, and so on.

Towse discusses the different incentives faced by authors and publishers and argues that the two might differ in terms of:

- time preferences;
- risk; and
- reputation.¹⁸⁶

Authors are likely to have a shorter time horizon, be more risk-averse and more concerned with reputation than are publishers. Besides these differences, publishers tend to have more information about the chances of success of a new work. In other words, there is asymmetric information between author and publisher.

The distinction between author and publisher is important in order to estimate the impact of copyright legislation on the incentives to produce new work. As discussed in Landes and Posner's economic model of copyright (see Chapter Six), the price elasticity of supply is an important determinant of the number of works on the market. This is likely to be true for publishers but not necessarily for authors, who might have other motives, such as:

¹⁸⁵ The claims in this section are documented in Ibid; Stan J Liebowitz, *Copyright Law, Photocopying, and Price Discrimination* (1986 [cited 2 August 2001]); available at http://wwwpub.utdallas.edu/~liebowit/knowledge_goods/rle/rle1986.html; Stan J Liebowitz, *The Impact of Reprography on the Copyright System, Copyright Revision Studies* (Ottawa: Bureau Of Corporate Affairs, 1981).

¹⁸⁶ Ruth Towse, "Copyright and Economic Incentives: An Application to Performers' Rights in the Music Industry" (Working Paper, University of Exeter, Department of Economics: 1999).

- to “appear in print” (eg the academic concept of “publish or perish”);
- producing work of good quality; or
- reaching a wider audience.

A side effect of a too high level of copyright protection might therefore be that it simply redistributes revenues from authors to publishers and does not affect the incentive for authors in itself.

7.2.10 Contract

Contract law is a fundamental legal building block upon which much trade and commerce rests. This is particularly so for those new intellectual works which may arguably fall outside the Copyright Act (eg some databases).

Kobayashi notes that contract is often seen as upsetting the copyright balance,¹⁸⁷ but may actually facilitate the attainment of a balance:

Arguments for limitations on contracts are frequently based on the assumption that they alter the carefully considered optimal tradeoff between use and creation reflected in the federal intellectual property statutes (Lemley (1995, 1999)). However, if the statutory regime in fact does not resemble an optimal balancing of use and creation, restrictions on contract may instead serve to prevent welfare enhancing alterations to imperfect intellectual property laws.¹⁸⁸

Contractual solutions have long been recognised as potential alternatives or supplements to copyright. These may include:

- contracts of adhesion – authors may seek to use contractual arrangements so that to gain access to their service you have to sign a contract promising not to take anything from their service and put it in a database, redistribute it, etc. This approach is commonly used to protect both copyrightable material (the expression of the data) and non-copyrightable material (the data itself). Such contractual arrangements are only effective, however, for information that has a limited initial distribution, because as the distribution increases, the transaction costs of formulating contracts rise and the potential for undetected breaches increases. In this way, contracts of adhesion mirror cartels, effective when small, but unworkable on a larger scale;¹⁸⁹ and
- intellectual property tie-ins – tie-ins are licensing terms that stipulate the supply of a good or service on the condition that the licensee will acquire other goods or

¹⁸⁷ This is implicit in Article 40 of TRIPs, which makes specific provision for the use of contractual provisions to restrict trade for the purpose of fostering the production of intellectual property.

¹⁸⁸ Bruce Kobayashi and Michelle Burtis, “Intellectual Property and Limitations on Contract: Antitrust, Preemption and the First Sale Doctrine”, in *Dynamic Competition and Public Policy*, ed. J Ellig (ed), Cambridge University Press, 2001, pp 229–263. See also Mark A Lemley, “Beyond Preemption: The Law and Policy of Intellectual Property Licensing”, *California Law Review* 87 (1999); Mark A Lemley, “Intellectual Property and Shrinkwrap Licenses”, *Southern California Law Review* 85 (1995).

¹⁸⁹ William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989): 330.

services from the licensor. Thus an intellectual property tie-in is a licence term that deals with intellectual property (the tying good) on the condition that another good or service (the tied good) is also purchased.¹⁹⁰ For example, common tie-ins bundle the information good (ie the data in a database) with a good that is costly to reproduce: printed books, documentation, user support, a special kind of viewer, etc.¹⁹¹

While contracts are not generally a complete solution – due in large part to the privity doctrine¹⁹² – this incompleteness can be overcome in the online environment by technical protection measures. In such cases, advocates of property rights would have to make a case that contracts do not provide sufficient protection for the property rights of producers, and that a legislated alternative system of property rights could do better.

The scope for contractual arrangements to provide protection in addition to copyright has recently been considered by the CLRC.¹⁹³

7.3 Observations

Approach two (ie the market failure framework) reverses the onus of proof, and requires those advocating government intervention (ie copyright) to establish that there is, in practice, a demonstrable and significant market failure (ie the presence of free-riding that undermines incentives for production).

In this questioning light, and reverting to the language of game theory, free-riding with respect to copyright products is unlikely to constitute a Prisoner's Dilemma when:

- creation of a new work is inexpensive;
- creation of a new work carries intrinsic rewards that equal its costs;
- the author or inventor's legitimate distributor has connections/knowledge/advantages of scale unavailable to the copyist and these connections, etc provide savings to the authorised distributor equal to the creation cost;
- copying requires reverse engineering or other expense that approaches the cost of creating the item;

¹⁹⁰ See T Palmer, "Intellectual Property: A Non-Posnerian Law and Economics Approach", *Hamline Law Review* 12 (1989): 289-91; Jeremy Thorpe, "In Defence of Intellectual Property Tie-Ins", *Corporate and Business Law Journal* 8, no. 1 (1995).

¹⁹¹ Intellectual property tie-ins are a suitable mechanism for monitoring the initial use of copyrightable material but are inadequate to deal with multiple uses of the same material. To solve this problem people are turning to technical solutions – see Office of Regulation Review, *An Economic Analysis of Copyright Reform, Submission to Copyright Law Review Committee's Review of the Copyright Act 1968 (Cth)* (Canberra: 1995) 46.

¹⁹² The privity doctrine holds that only the parties to a contract are legally bound by and entitled to enforce it; a third party may be benefited or burdened *in fact* by performance of the contract, but only the contracting parties are benefited and burdened *in law*.

¹⁹³ See Copyright Law Review Committee, *Copyright and Contract*, (Canberra: AusInfo, 2002).

- consumers do not perceive the copyist's product as identical to the originator's product (ie substitutability is not perfect); or
- the copyist sells to a different market from those targeted by the originator.¹⁹⁴

In effect, Picker concludes that:

All of this should introduce a level of caution into willy-nilly invocations of the Prisoner's Dilemma as a basis for legislation. More generally, it is critical to understand the context in which a particular game occurs and the extent to which it is embedded in a larger game.¹⁹⁵

While the analysis of the actual degree to which free-riding is occurring is an admirable objective, it is limited in a number of practical respects:

- the analysis tends to be on a product-by-product or industry-by-industry basis, whereas the trend for copyright law, at least in Australia, is to become more product- and industry-neutral. While this may suggest that the current policy trend is inappropriate,¹⁹⁶ it also makes it difficult to conduct a discourse, as the debate tends to run on parallel paths;
- the market failure analysis, if conducted properly is –
 - difficult, given the paucity of data about motives, incentives and so on in many copyright industries; and as a result
 - expensive, if original research is to be conducted to overcome the information deficiencies; and
- it is useful in drawing conclusions on broad policy matters, but does not necessarily provide much guidance as to the nuances of copyright law.

Further consideration of the effectiveness and appropriateness of this approach is provided in Chapter Nine.

¹⁹⁴ Wendy J Gordon, *The Intellectual Property Genesis Tale: Some Revisions* (University of Toronto Centre for Innovation Law and Policy, 2000 [cited 5 June 2001]); available at <http://www.innovationlaw.org/lawforum/pages/2publications.htm>.

¹⁹⁵ Randal C Picker, "An Introduction to Game Theory and the Law", in *Chicago Working Paper in Law & Economics* (No. 22) (Chicago: University of Chicago, 1994), 18–19.

¹⁹⁶ Office of Regulation Review, *An Economic Analysis of Copyright Reform, Submission to Copyright Law Review Committee's Review of the Copyright Act 1968 (Cth)* (Canberra: 1995) 4; Jeremy Thorpe and Stephen Rimmer, "An Economic Approach to Copyright Reform", *Australian Intellectual Property Law Bulletin* 8, no. 10 (1995).

8: Approach Three – Copyright as an aid to price discrimination

The strong property view of copyright regards intellectual property as performing essentially the same “incentive” function as other forms of property rights and, in general terms, considers that there should be no greater limitations on intellectual property than on other forms of property. The implication of the property rights approach to information goods is that intellectual property rights such as copyright should be as complete as other forms of property rights.

Economists who support more complete property rights in information tend to believe that:

- costs associated with intellectual property are overstated;¹⁹⁷ and/or
- are best dealt with by market-based solutions (eg price discrimination).¹⁹⁸ Indeed, possibly, this relationship – between price discrimination and copyright – has attracted more academic legal and economic interest than any other single recent copyright issue.¹⁹⁹

The focus of this chapter is upon the view that allowing copyright holders to price discriminate will overcome many of the access concerns discussed explicitly in Chapter Six.

8.1 The logic of pricing on the basis of willingness to pay

Traditional economic analysis typically examines situations where the relevant technology involves no economies of scope and constant or decreasing returns to scale. In such industries the conventional wisdom – “set prices at marginal cost” – is both economically viable and the likely outcome of competitive forces.

However, many copyright products involve technologies that exhibit:

¹⁹⁷ Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 2.

¹⁹⁸ Harold Demsetz, “Towards a Theory of Property Rights”, *American Economic Review* 57 (1967): 348.

¹⁹⁹ Some examples include Yochai Benkler, “An Unhurried View of Private Ordering in Information Transactions”, *Vanderbilt Law Review* 53, no. 6 (2000); Stanley M Besen, Sheila N Kirby and Steven C Salop, “An Economic Analysis of Copyright Collectives”, *Virginia Law Review* 78 (1992); James Boyle, “Cruel, Mean or Lavish?; Economic Analysis, Price Discrimination and Digital Intellectual Property”, *Vanderbilt Law Review* 53 (2000); Julie E Cohen, “Copyright and the Perfect Curve”, *Vanderbilt Law Review* 53 (2000); William W Fisher, “Property and Contract on the Internet”, *Chicago-Kent Law Review* 73 (1998); William W Fisher, “Reconstructing the Fair Use Doctrine”, *Harvard Law Review* 101 (1988); Terrel Gallaway and Douglas Kinnear, “Unchained Melody: A Price Discrimination-Based Policy Proposal for Addressing the MP3 Revolution”, *Journal of Economic Issues* 35, no. 2 (2001); Wendy J Gordon, “Intellectual Property as Price Discrimination: Implications for Contract”, *Chicago-Kent Law Review* 73 (1998); Glynn S Lunney, “Reexamining Copyright’s Incentives–Access Paradigm”, *Vanderbilt Law Review* 49 (1996); Michael J Meurer, “Price Discrimination, Personal Use and Piracy: Copyright Protection of Digital Works”, *Buffalo Law Review* 45 (1997).

- increasing returns to scale;
- large fixed and sunk costs; and
- significant economies of scope.

In these industries, setting prices equal to marginal cost will generally not recoup sufficient revenue to cover the fixed costs and the standard economic recommendation of “price at marginal cost” is not economically viable. Instead, the characteristics of consumer demand are an integral part of efficiency judgments (ie whether or not a particular policy is efficient cannot be based on cost considerations alone).

Pricing at marginal cost may or may not be efficient; it depends on how the consumers’ total willingness to pay relates to the total cost of providing the good. To see this, compare the following two examples:

- consumer A is willing to pay \$10 for a single unit of a good, and consumer B is willing to pay \$5. There is a zero marginal cost of producing multiple units of the good, but there is a fixed cost of \$10. In this case, total benefits are \$15 and total costs are \$10, so it is socially worthwhile to produce the good. There are a variety of ways to recover the fixed cost:
 - each consumer could pay \$5;
 - consumer A could pay \$10 and consumer B could pay nothing, and so on.
- The only requirement is that consumer A pays no more than \$10 and that consumer B pays no more than \$5 – otherwise they would not be willing to purchase the good;²⁰⁰
- alternatively, suppose that the fixed cost of producing the good is \$20. In this case, the total benefits from producing the good are \$15 and the total costs are \$20. There is no way to allocate the good (and the cost of producing it) to the two consumers in a way that makes them both better off than they would be if the good were not produced at all.

This simple comparison illustrates why efficiency requires that the marginal user face their marginal cost, but making all users face a constant price equal to marginal cost can easily fail to be efficient. In industries with certain characteristics – increasing returns to scale, large fixed and sunk costs, and significant economies of scope – as is common in copyright industries, pricing on the basis of willingness to pay is vital to ensure efficiency.

²⁰⁰ If marginal willingness to pay exceeds marginal cost, there is an obvious incentive for a profit-seeking firm to supply the good at some price between the willingness to pay and the marginal cost of provision, thereby increasing its profits. In the extreme case described above, where the marginal cost of provision is zero, a profit-maximising producer would want to supply the good to everyone who had a positive willingness to pay for the good, no matter how low. What is it that stands in the way of such mutual Pareto improvements? The problem is that the firm would not want to offer the good at a low price to marginal customers when such an offering would have an adverse effect on the firm’s ability to sell to inframarginal customers. That is, selling an incremental unit at more than marginal cost increases profits in the first instance. It is only when such a sale reduces profits made on the units sold to other consumers that the firm may wish to forgo this profit opportunity.

8.2 *Forms of price discrimination*

One problem with general discussions of price discrimination and copyright is the failure to appreciate the different methods of price discrimination. This failure may impair the ability of commentators to draw appropriate normative conclusions regarding the social welfare effects of price discrimination.

Economists use a three-way classification scheme for price discrimination depending on how preferences are measured:²⁰¹

- first-degree price discrimination – the producer sells different units of output for different prices and these prices may differ from person to person. This is sometimes known as perfect price discrimination;
- second-degree price discrimination – the producer sells different units of output for different prices, but every individual who buys the same amount of the good pays the same price. Thus prices depend on the amount of the good purchased, but not on who does the purchasing; and
- third-degree price discrimination – the producer sells output to different people for different prices, but every unit of output sold to a given person sells for the same price. This is the most common form of price discrimination, and examples include senior citizens' discounts, student discounts and so on.

These three forms of price discrimination are discussed in the following sections.

8.2.1 *First-degree price discrimination*

First-degree price discrimination is an ideal benchmark. It involves the seller knowing (or learning) the exact valuation of all buyers. This enables the seller to charge for all uses valuable to users; then users can use price signalling to tell vendors what information they value. In this case the seller can (and must) block arbitrage and transact at a different price with each buyer.²⁰² The profit-maximising pricing strategy is to charge every buyer his or her valuation as long as the valuation exceeds marginal cost.

The impact of first-degree price discrimination can be seen in Figure 8.1. The demand curves represent consumers' willingness to pay to use a copyright product.²⁰³ The differences between the two circumstances shown in Figure 8.1 are:

- without price discrimination a single price will be charged that is above the marginal cost (MC) of the product. As a result, some people will be excluded from

²⁰¹ For the initial such classification see Arthur Cecil Pigou, *The Economics of Welfare* (London: Macmillan, 1920). For a more recent discussion see Jean Tirole, *The Theory of Industrial Organization* (Cambridge MA: MIT Press, 1988) 135.

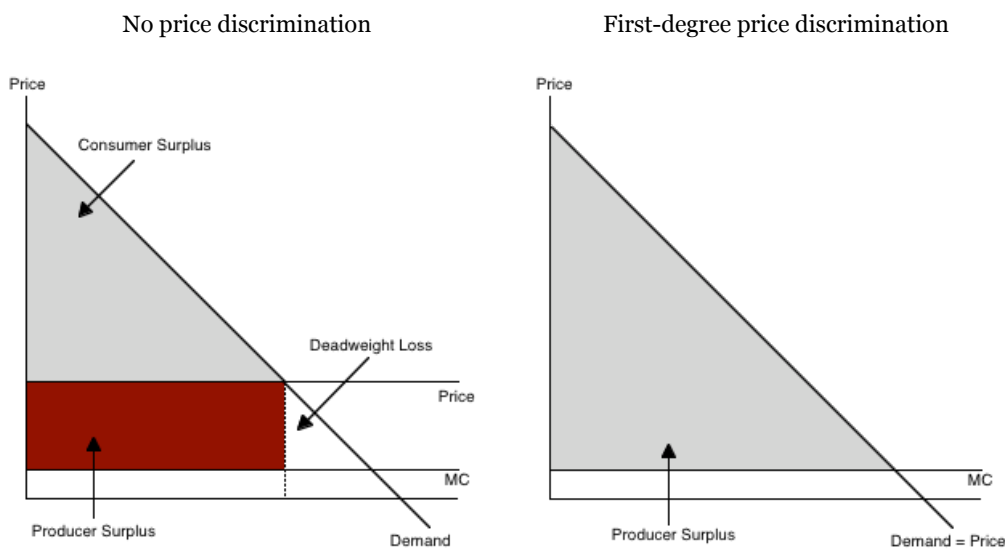
²⁰² The profitability of resale may be blocked by a variety of exogenous factors. Transportation cost is a factor that supports geographic price discrimination for some products. For low-value products, the transaction costs of arbitrage may exceed the profit to resellers. Arbitrage of services is often physically difficult or impossible. Finally, if the seller can identify the resale activity, then it can stop making sales to the arbitrageur.

²⁰³ Willingness to pay reflects the value the consumer ascribes to use of the good or service. Thus users who value the service highly will be prepared to pay more for its provision.

using the product. The result is a splitting of consumer and producer welfare, and a deadweight loss; and

- with first-degree price discrimination, all consumers will be charged a price equal to their willingness to pay (as long as the price exceeds the opportunity cost of supplying the product – see section 8.1). As a result, more people will be able to purchase the product, and the deadweight loss will be removed. However, the entire consumer surplus is transferred to the producer.

Figure 8.1 Welfare with and without first-degree price discrimination



Thus, perfect price discrimination has two striking normative implications – it:

- maximises total welfare (ie the sum of the producer and consumer surpluses) because there is no deadweight loss; and
- distributes the entire surplus to the seller – in contrast, competition distributes the entire surplus to buyers, and uniform pricing divides the surplus between the parties.²⁰⁴

In effect, if producers are permitted to appropriate all social welfare generated by their production efforts, they will produce at the socially efficient level, and deadweight loss will be eliminated. That is, there will be no copyright access problem.

In reality, first-degree price discrimination is highly unlikely unless the market is very small. It may be a possibility, however, for highly specialised or unique copyright products.

²⁰⁴ Despite the inefficiency, consumers are better off with a uniform price monopoly than with perfect price discrimination.

8.2.2 *Second-degree price discrimination*

Second-degree price discrimination is “weaker” than first-degree price discrimination. It relies upon sellers measuring preferences by observing buyers’ choices. The seller controls what choices are available to buyers by selecting product attributes. Economists use the term “product differentiation” to describe this marketing strategy. A clever seller differentiates a product in terms of an attribute that partitions buyers into high-value and low-value segments. For example, if all high-value customers are eager to get a product quickly, and all low-value buyers are indifferent to the delivery date, then the delivery date is the right attribute to use for product differentiation. Discrimination is implemented by charging a high price for early delivery and a low price for later delivery.²⁰⁵

In markets for copyright works, price-discriminating sellers differentiate their products in terms of the following attributes:

- delivery date – the delivery date is used for movies, books and other copyright products.²⁰⁶ For example, a movie viewer can choose between:
 - a first-run or second-run showing in a movie theatre;
 - a special pay-per-view broadcast on pay-tv;
 - hiring the movie on video cassette or DVD;
 - a broadcast on pay-tv; or
 - a broadcast on free-to-air television.
- The price of these choices usually declines over time. Additionally, there are quality as well as timing differences that roughly correspond with the price and release date. Viewing quality is higher in theatres than on television, and first-run theatres are usually more pleasant than second-run theatres. Pay-per-view, standard pay-tv, videotapes and DVDs do not have commercials. If delivery dates are used, arbitrage is impossible. A favoured buyer who purchases at a later date at a lower price cannot go back in time to arbitrage;

²⁰⁵ Pricing is complicated in second-degree price discrimination because:

- prices respond to marginal cost – if the product with the more attractive attributes is more costly, then its price should be higher. This relationship between price and marginal cost applies whether or not a seller price discriminates;
- market power allows a seller to mark-up price above marginal cost – a price-discriminating seller is especially interested in marking up the price to the high-valuation segment of the market; and
- prices are subject to a sorting constraint – if a seller is too aggressive and chooses a mark-up that is too large for the more attractive product, then high-valuation buyers will switch to the other product. The sorting constraint keeps the difference between the two prices small enough so buyers will sort themselves.

The second and third principles conflict; the profitability of second-degree price discrimination is limited because the sorting condition limits the mark-up that can be levied against the high-valuation buyers.

²⁰⁶ See Frank Björn, “Optimal Timing of Movie Releases in Ancillary Markets; the Case of Video Releases”, *Journal of Cultural Economics* 18, no. 2 (1994).

- quality – quality restrictions are manifest in constraints on use. In addition, many buyers accept a restriction to consumer, educational, or non-profit use in return for a lower price.²⁰⁷ Use restrictions can also be imposed by the operation of copyright law. For example, public performance of a work is off limits to a purchaser without permission from the copyright owner. The higher price associated with such a permission reflects second-degree price discrimination; and
- quantity – quantity discounts often reflect some kind of manufacturing or distribution cost saving, but in the markets for copyright works they are likely to reflect price discrimination.²⁰⁸ For some quantity discounts, an arbitrage danger arises because a buyer might buy a larger quantity than she uses personally. They could resell to small-quantity purchasers who otherwise would pay a higher price. Sellers include restrictions on resale to discourage this kind of arbitrage.

If a producer can identify users with different willingness to pay, and charge them accordingly, there may be no efficiency loss at all – the producer would simply charge users their maximum willingness to pay. Users with high willingness to pay would pay a high price; users with low willingness to pay would pay a low price, but everyone who valued the good at more than its marginal cost of production would be served.

If the producer cannot precisely identify the users, it may want to adjust the characteristics of the good being sold so that users self-select the product targeted for them. In this case, the resulting outcome may be less efficient than it would be if perfect price discrimination were possible. The efficiency cost is the value of the transactions that consumer A would like to consume but is prevented from consuming by the producer since that would make too attractive a package for consumer B.

Still, second-degree price discrimination may well be more efficient than no price discrimination at all, since without such price discrimination the markets with low demand may not get served at all. Reducing the quality or quantity of the good offered to the market with the low willingness to pay may make them somewhat worse off due to the inconvenience cost. On the other hand, without such a device to segment the market, the producer may not want to service the low-demand market. Price and quality discrimination of the sort described can easily make all parties to the transaction better off than if price discrimination were not possible.²⁰⁹

²⁰⁷ Since the use restriction does not follow a copyrighted work when it is resold, the seller must also prohibit resale by contract.

²⁰⁸ Sellers link price discrimination with large quantity purchases because marginal utility declines as quantity grows. This simply means that the incremental benefit from each additional purchase is less than the previous purchase.

²⁰⁹ RJ Deneckere and RP McAfee, “Damaged Goods”, *Journal of Economics and Management Science* 5 (1996).

8.2.3 *Third-degree price discrimination*

In third-degree price discrimination price differentials are tied to a characteristic of a buyer that is correlated with the buyer's valuation.²¹⁰

Examples of third-degree price discrimination abound in copyright-dependent industries:

- senior citizen and student discounts are common for musical, theatrical, and movie performances; and
- many authors offer software and books at a discount to students and other academic users.

This approach assumes that senior citizens and students have weaker demand than other buyers do.

Scherer and Ross note that “Third-degree discrimination is probably the most widely used of the three main theoretical types. Its efficiency implications are also the most difficult to evaluate.”²¹¹ One way in which to evaluate its implications is to determine whether the presence of third-degree price discrimination increases or decreases total surplus.²¹²

For simplicity, it is assumed that the good is provided at constant marginal cost, and that there are only two groups of consumers involved. In this environment, two scenarios are considered:

- where differential pricing is allowed; and
- where differential pricing is not allowed.

If differential pricing is not allowed the firm is required to sell to the two different groups at the same flat price p_0 . If differential pricing is allowed, the firm may charge two different prices to the two groups: p_1 and p_2 . It can be shown that the change in total welfare (consumer plus producer surplus, denoted by DW), that results from moving from uniform pricing to differentiated pricing is bounded by the following expression:²¹³

$$(p_0 - c) [Dx_1 + Dx_2] > DW > (p_1 - c)Dx_1 + (p_2 - c)Dx_2$$

²¹⁰ Third-degree price discrimination does not always depend on immutable characteristics such as age. It can also depend on buyer attributes that cannot be changed easily. For example, movie distributors discriminate based on the size and location of a theatre. These attributes reflect past choices of buyers that will not be altered just to avoid price discrimination.

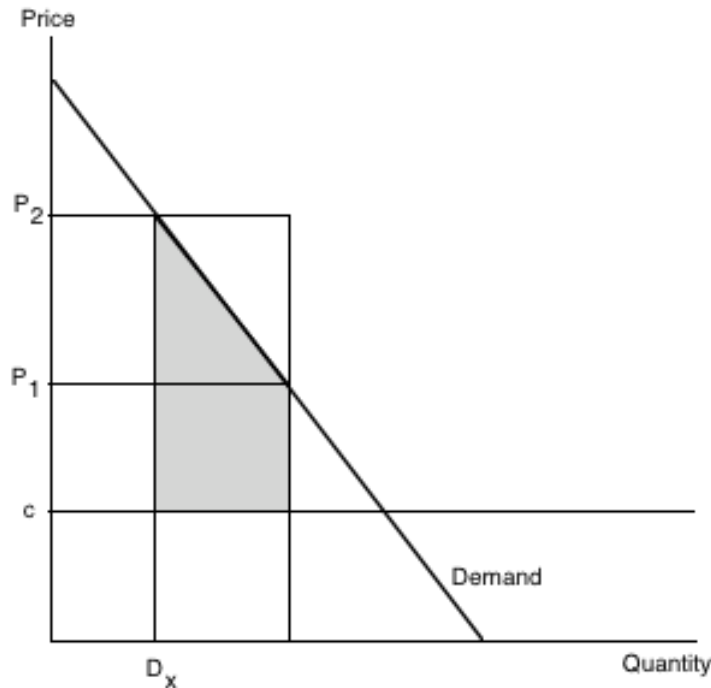
²¹¹ Frederic M Scherer and David Ross, *Industrial Market Structure and Economic Performance*, 3rd ed. (Boston: Houghton Mifflin Company, 1990) 495.

²¹² Discussion of this question is provided in Joan Robinson, *The Economics of Imperfect Competition* (London: Macmillan, 1934); Frederic M Scherer and David Ross, *Industrial Market Structure and Economic Performance*, 3rd ed. (Boston: Houghton Mifflin Company, 1990) 494-502; R Schmalensee, “Output and Welfare Implications of Monopolistic Third-Degree Price Discrimination”, *American Economic Review* 71 (1981); M Schwartz, “Third-Degree Price Discrimination and Output: Generalizing a Welfare Result”, *American Economic Review* 80 (1990); Hal R Varian, “Price Discrimination and Social Welfare”, *American Economic Review* 75 (1985).

²¹³ Hal R Varian, *Microeconomic Analysis* (New York: Norton, 1992) 250–53.

In this expression, Dx_1 denotes the change in the demand for the good in market 1, and Dx_2 denotes the change in the demand for the good in market 2. Some intuition for this expression may be found by examining Figure 8.2, which depicts the impact of a price change for a single good. The change in welfare from moving from p_0 to p_1 is given by the trapezoidal area bounded by the two rectangles $(p_1-c)Dx_1$ and $(p_2-c)Dx_2$.

Figure 8.2 The change in welfare due to price discrimination



This bound has the following implication: the left-hand side of the expression shows that a necessary condition for efficiency to increase when price differentiation is implemented is that total output increases. If output remains constant or decreases when price discrimination is allowed, total welfare must necessarily decline.

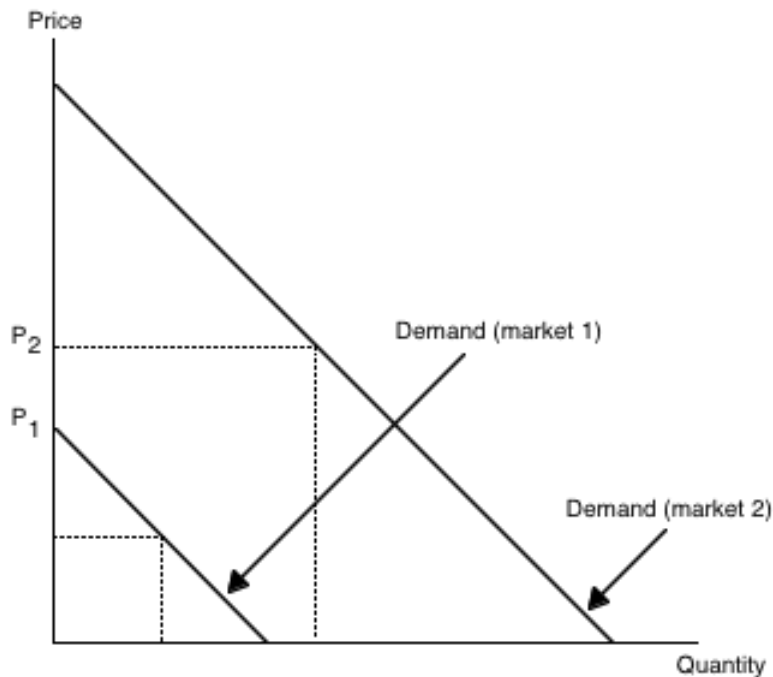
On the other hand, welfare may increase when price differentiation is allowed, as long as output increases significantly. The requirement is that the weighted change in output on the right-hand side of the expression is positive.

We can see how this works in Figure 8.3. Here we have illustrated two demand curves:

- consumers in market 1 have a low willingness to pay; and
- consumers in market 2 have a high willingness to pay.

If only uniform pricing is allowed, market 1 will not be served if the joint price is set above P_1 . However, if differential pricing is allowed, the firm will find it profitable to serve both markets.

Figure 8.3 The impact on unserved markets



Thus small niche markets will generally not be well served if the producer is required to charge a uniform price. In cases of this sort, differential pricing can provide very significant efficiency gains since it allows markets to be served that would otherwise not be served at all.²¹⁴

8.3 *The relationship between copyright and price discrimination*

The relationship between copyright and price discrimination is somewhat disjointed, in that there are two somewhat contradictory views:

- price discrimination is a substitute for copyright; and
- price discrimination is the *raison d'être* for copyright.

These views are discussed in the following sections.

8.3.1 *Price discrimination as a substitute for copyright*

Given the cost structure of information-based goods such as copyright material, there are unavoidable imperfections in markets for such goods. As noted earlier in this

²¹⁴ JA Hausman and JK MacKie-Mason, "Price Discrimination and Patent Policy", *RAND Journal of Economics* 19 (1988).

study, this suggests that marginal cost pricing is not an appropriate standard to apply for such goods.

Demsetz was the first to suggest that the problem of pricing a privately supplied public good could be addressed by price discrimination.²¹⁵ Price discrimination addresses the underproduction of information goods by segmenting the market according to the willingness of consumers to pay for the information, with those willing to pay more being charged a higher price than those prepared to pay a lesser amount. If this kind of price discrimination is possible, the producer has an incentive to offer an additional unit of a good provided there are consumers willing to pay more than marginal cost:

there is an important sense in which a monopolist owner of intellectual property wishes to promote access in the same way as is socially optimal. That is, a monopolist holding intellectual property has strong incentives to offer the rights to users who are willing to pay more than the costs associated with ... providing the rights. A monopolist will seek to maximise profits from the sale of intellectual property by segmenting the market according to willingness to pay, and offering rights to individual users to the point where price of the last bundle of rights just exceeds the costs of supply of that bundle.²¹⁶

In effect, price discrimination pushes copies “out of the market”, and therefore reduces the need for copyright protection.

Of course this argument is weakened by the fact that copyright does not provide an economic monopoly. While there is growing evidence that price discrimination is feasible with less than a full monopoly,²¹⁷ it is nevertheless necessary to have strong market power, which is unlikely to be attributable to any given copyright.

8.3.2 *Price discrimination as the rationale for copyright*

The other view is that all intellectual property law operates to explicitly foster price discrimination.²¹⁸

For example, when a copyright proprietor puts a product on the market, copyright helps them distinguish between copiers and non-copiers. It also helps the proprietor charge differing prices among those purchasers who are public performers, adapters, and so on, and to further subdivide the rights and pricing structures within those groups.

²¹⁵ See Harold Demsetz, “Information and Efficiency: Another Viewpoint”, *Journal of Law and Economics* 12 (1969); Harold Demsetz, “The Private Production of Public Goods”, *Journal of Law and Economics* 13 (1970).

²¹⁶ Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 2.

²¹⁷ Marcus Asplund, Rickard Eriksson and Niklas Strand, “Price Discrimination in Oligopoly: Evidence from Swedish Newspapers”, in *SSE/EI Working Paper Series in Economics and Finance No. 468*.

²¹⁸ See Wendy J Gordon, “Intellectual Property as Price Discrimination: Implications for Contract”, *Chicago-Kent Law Review* 73 (1998).

Without an ability to distinguish at least two groups of customers, the copyright owner will probably have to sell the products at one price. As noted in section 8.1, this may be inappropriate from an efficiency perspective.

Copyright enables a copyright owner to effectively distinguish between consumers, on the one hand, and copiers (eg publishers, record companies, etc) on the other. That is because any person who buys the product has a legal duty to refrain from copying it without the copyright owner's permission. Those who wish to replicate the product must identify themselves and negotiate a separate deal with the copyright owner or face liability and, potentially, criminal sanctions.

Since the users who place a higher value on access to an embodiment will often be the users who plan to copy and resell it, the law's restraint on replication provides copyright owners with a means by which to divide most of the customers with high valuations from most of the customers whose valuations are low. The copyright owner can then charge different prices to each group. Further, since the law forbids copying regardless of where an embodiment was purchased, a copier will gain nothing by purchasing a cheap copy from a consumer, or by pretending to be a consumer and purchasing a cheap consumer copy. Thus intellectual property rights discourage arbitrage between high- and low-valuation markets.

The price discrimination provided by the Copyright Act is, by design, not perfect. For example:

- the Copyright Act gives copyright owners no right to control private performances (such as watching a video at home with friends); and
- the rights are subject to various exceptions, such as fair dealing.

It is argued that copyright does not need to provide perfect price discrimination in order to perform its primary economic function – enabling a copyright owner to sell embodiments at a price above their marginal cost.

In effect, what copyright does is provide the copyright owner with a tool with which to distinguish classes of buyers. As copyright owners cannot perfectly divide all buyers by the intensity of their valuations, they nevertheless possess a legal device for provoking self-selection by customers who plan certain typical, commercially significant uses that involve differing intensities. Thus copyright forces such purchasers to identify themselves and bargain separately from ordinary purchasers, or face legal penalties for carrying out their plans without permission.

8.4 Observations

Many years ago, Demsetz argued that the copyright and patent systems play the important roles of letting potential producers of intellectual products know what consumers want and thus channelling productive efforts in directions most likely to enhance consumer welfare.²¹⁹ In the past decade, some theorists have argued that

²¹⁹ Harold Demsetz, "Information and Efficiency: Another Viewpoint", *Journal of Law and Economics* 12 (1969).

recognition of this function justifies expanding the copyright system.²²⁰ It is argued that this strategy will not impede public dissemination of intellectual products.²²¹ Sales and licences will ensure that goods get into the hands of people who want them (and are able to pay for them). Only in the rare situations in which transaction costs would prevent such voluntary exchanges should intellectual property owners be denied absolute control over the uses of their works – either through an outright privilege (like the fair use doctrine in the US) or through a compulsory licensing system.

Price discrimination classically was a way for monopolists to profit by distinguishing among different buyers' differing willingness to pay. Yet a monopolist charging a single price imposes a higher deadweight loss on society than one who does not. That is because a monopolist who price discriminates makes more money, but also provides more products to more people, than a monopolist who does not.

It is true that once one has a monopoly in an intellectual product, it can be a good thing for society if that monopolist can price discriminate. This is precisely what the Copyright Act seeks to facilitate; the Act creates exclusive rights and the rights are subdivided in a way that makes price discrimination easy. The choices of where to allow price discrimination are deliberate. Thus the copyright statute fosters price discrimination between readers and copiers, but does not foster price discrimination between those who buy a copy for reading pleasure and those who buy a copy to mine it for ideas on which to base their own next production.

This summary assumes that price discrimination is both feasible and leads to the outcomes suggested by its proponents. In reality, both assumptions are questionable, at least in certain circumstances.

Although price discrimination is common in markets for copyright works, it is far from inevitable. Discrimination is not generally considered feasible unless three conditions are satisfied:

- the seller has market power – market power is required because otherwise the disfavoured customers of a price discriminator would find another supplier who would offer a better deal;²²²
- the seller can somehow link prices to individual customers' preferences – assuming market power, a price discriminator needs information about individual demand so that prices and product features can be tailored to maximise the return from different customer classes; and

²²⁰ See Paul Goldstein, *Copyright's Highway: From Gutenberg to the Celestial Jukebox* (New York: Hill and Wang, 1994).

²²¹ See the discussions in Wendy J Gordon, "An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent, and Encouragement", *Stanford Law Review* 41 (1989): 1439–49; Robert P Merges, "Are You Making Fun of Me?: Notes on Market Failure and the Parody Defense in Copyright", *American Intellectual Property Law Association Quarterly Journal* 21 (1993): 306–07; Neil Netanel, "Copyright in a Democratic Civil Society", *Yale Law Journal* 106 (1996): 308–10.

²²² This view is increasingly being challenged as closer analysis of competitive (ie non-monopoly) markets reveals price discrimination – Marcus Asplund, Rickard Eriksson and Niklas Strand, "Price Discrimination in Oligopoly: Evidence from Swedish Newspapers", in *SSE/EI Working Paper Series in Economics and Finance No. 468*.

- customers cannot arbitrage away price differentials – it must also be unprofitable for favoured customers to arbitrage away price differentials by reselling to dis-favoured customers.

In most markets, price discrimination is either infeasible or feasible only to a limited degree, since these requirements are rarely fully met.²²³

Where price discrimination is possible, we see that:

- first-degree price discrimination yields a fully efficient outcome, in the sense of maximising consumer plus producer surplus;
- second-degree price discrimination generally provides an efficient amount of the good to the largest consumers, but smaller consumers may receive inefficiently low amounts. Nevertheless, they will be better off than if they did not participate in the market. If differential pricing is not allowed, groups with small willingness to pay may not be served at all; and
- third-degree price discrimination increases welfare when it encourages a sufficiently large increase in output. If output doesn't increase, total welfare will fall. As in the case of second-degree price discrimination, third-degree price discrimination is a good thing for niche markets that would not be served under a uniform pricing policy.

The general impression that follows from this discussion is that if price differentiation allows more consumers to be served it will generally increase welfare. On the other hand, price differentiation that merely shuffles prices paid by pre-existing customer groups and that does not result in an increase in the number of customers served, or the amount that they consume, will tend to reduce overall welfare. The key issue is whether the output of goods and services is increased or decreased.²²⁴

Price discrimination, however, cannot be a complete solution to the problem of pricing information goods such as copyright material, and there are many reasons to think that this story is less attractive than it might initially seem.²²⁵

First, in practice, perfect price discrimination is almost impossible to implement. This is because it is difficult (ie costly) for a producer to determine the marginal willingness of consumers to pay and to prevent the resale of an information good such as copyright material among consumers.

Second, when implementation is attempted, the costs of implementation will affect outcomes. The producer must invest in identifying discrete market categories that would bear different prices. It must also take measures – technical, contractual, marketing, or any combination of those – to prevent arbitrage of the good from low-

²²³ See Jean Tirole, *The Theory of Industrial Organization* (Cambridge MA: MIT Press, 1988) 133–34.

²²⁴ See Frederic M Scherer and David Ross, *Industrial Market Structure and Economic Performance*, 3rd ed. (Boston: Houghton Mifflin Company, 1990) 496.

²²⁵ See, for example, Julie E Cohen, “Copyright and the Jurisprudence of Self-Help”, *Berkeley Technology Law Journal* 13 (1998): 1101–27; Niva Elkin-Koren, “Copyright Policy and the Limits of Freedom of Contract”, *Berkeley Technology Law Journal* 12 (1997); Wendy J Gordon, “Intellectual Property as Price Discrimination: Implications for Contract”, *Chicago-Kent Law Review* 73 (1998).

value users to high-value users. The total cost of implementing price discrimination for a given category of consumers determines the minimal granularity at which price discrimination can be implemented.²²⁶ The lumpiness of price discrimination is especially important in information goods such as copyright material, and may also have a number of implications.

Third, there is a range of reasons for users not being willing to pay enough to gain access to a more perfectly excluded information good:

- high uncertainty of the value of any given piece of information – transformative users whose use is most likely to be considered “fair dealing” under copyright law will often require access to many pieces of information, each of which has a low probability of being the really useful information input in the transformative process. The willingness and ability to pay for information that will be transformed may be very low, depending on how remote the probability that any given piece of information will be a valuable input. The more transformative the reworking of an existing information input, the less useful the value of the input prior to the transformative reworking is as a predictor of its value as input. This adds to the valuation uncertainty for these kinds of uses;
- high positive externalities associated with a user having a given piece of information – work that is functionally equivalent to basic scientific research has very high social returns that cannot be captured by the producer. Such works may include information production that has widespread basic effects in its area, be it scientific, cultural (say, experimental theatre), philosophical and so on. People who benefit from these positive externalities are likely to under-utilise existing information if they must pay a price significantly above its marginal cost. They are therefore likely to be part of those who generate social welfare by accessing the non-excludable aspects of the work, who would not be well served by increased access to the excludable aspects of the work in exchange for loss of access to the non-excludable aspects; or
- hard budget constraints on paying for access to information that would typify users who use information for non-commercial reasons – producers who themselves produce for the public domain or otherwise for free distribution serve an important function of producing information without the systematic inefficiencies that attend commercial production for appropriation in reliance on intellectual property rights. Academics, non-profit organisations, government/public education institutions, librarians, for example, all provide important information production functions. To pay the original producer, and thereby share the social value they produce with it, these producers must themselves begin to charge a price for access to their products (eg through university fees, charges for document delivery services, etc), thereby limiting the efficiency gains that these public providers of this public good generate.

Fourth, in the event that price discrimination is implemented, compensation to producers may be excessive. In Demsetz’s classic piece on price discrimination, perfect price discrimination appeared desirable because its infinite divisibility generated the seller at least as much revenue as did a monopoly (and Demsetz was

²²⁶ The product is never sold to each and every consumer at his or her valuation, but is instead sold in categories the size of which is determined by the costs of identifying and implementing price discrimination for that group of consumers.

working from a framework that assumed that full monopoly revenue was required to provide adequate incentives). However, if in a particular context a lesser amount of revenue is acceptable from the incentive perspective, then it is better to give intellectual property right owners rights with restrictions than to give them all-embracing rights, no matter how finely the owners are able to price discriminate. This view appears to be endorsed by the IPCRC, given its support for the minority view (Judge Jacobs) in *American Geophysical Union v Texaco Inc*:

Nowhere in the case law is there support for the proposition that the monopoly granted by copyright is designed to ensure the holder a maximum economic return; rather, the law's purpose is to balance competing interests – assuring the author of a fair return, while permitting creative uses that build upon the author's work.²²⁷

As a result of these factors, the IPCRC was not persuaded of the merits of price discrimination □ the final report stated that:

if it were believed that close to perfect price discrimination was possible and perhaps even likely ... all concerns about market power would be misplaced, and the competition provisions of the Trade Practices Act would be superfluous if not positively harmful.²²⁸

Further consideration of the effectiveness and appropriateness of this approach is provided in the next chapter.

²²⁷ *American Geophysical Union v Texaco Inc* (1994) 29 IPR 381 per Jacobs J at 417–418.

²²⁸ Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000) 64.

9: Finding common ground?

The previous three chapters outlined the three major threads of current economic analysis of copyright law:

- the dominant school of thought argues that property rights create institutional frameworks for markets, whether in physical or intellectual objects. All the costs and benefits enumerated here have their equivalents in the sphere of intellectual objects. Thus these economists view copyright as balancing incentives and access, and are likely to be more comfortable with legal rules that facilitate access to copyright goods, such as exceptions to infringement, than with market-based solutions;
- strong institutional support exists for the view that property rights are merely one form of possible intervention – both public and private – to correct for market failure. These economists see property rights as an important, but complementary, response to the problem of underproduction; and
- another approach is that copyright performs essentially the same “incentive” function as other forms of property rights and, in general terms, considers there should be no greater limitations on intellectual property than on other forms of property. On this view, concerns relating to the costs of copyright are not significantly greater than concerns relating to the costs of other forms of property. Economists who support more complete property rights in information goods such as copyright material tend to believe either that the costs associated with intellectual property are overstated, or that they are best dealt with by market-based solutions, such as price discrimination. This approach tends to see copyright’s role as to facilitate such price discrimination.

The question then arises as to the degree to which these approaches are complementary or inconsistent, and the degree to which they are applicable to copyright policy (rather than to intellectual property generally or other specific forms of intellectual property). These issues are addressed in the following sections.

9.1 Balancing and alternative appropriability approaches

The balancing and alternative appropriability approaches are not unique to copyright analysis. That said, at a theoretical level their application has been quite specifically applied to copyright.²²⁹ They are considered jointly in this section because of their natural complementarity.

²²⁹ See William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989).

The balancing proponents acknowledge the role of alternative appropriability mechanisms in stimulating the production of copyright works.²³⁰ However, Landes and Posner are dismissive of the role of such factors, arguing that:

Practical obstacles limit copying the original works of others even in the absence of any copyright protection. But these obstacles, while serious in some cases, can easily be exaggerated. When fully analysed, they do not make a persuasive case for eliminating copyright protection.²³¹

This observation overstates the claims made by those who see the value of non-proprietary protection. Indeed, Kobalt explicitly acknowledges the key weakness in his stylised model of copyright (which is itself a derivative of the Landes and Posner model) – its inability to explicitly incorporate appropriability mechanisms beyond copyright:

there may exist mechanisms that render copyright protection obsolete or imply a reduction in the intensity of protection.

Generally, these alternative institutional arrangements are important because a copyright system can never produce the first best solution for the problem of information protection and dissemination. Thus, there is room for other mechanisms to perform better than a system of copyright protection, backing up a market. Even if one does not believe that there are alternative institutional arrangements which perform better than copyright ... this has to be proven.²³²

In effect, the key issue is that there has been little detailed analysis of the practical effect of the factors listed in Chapter Seven. When there is, the balancing and market failure approaches should fit neatly together, with the market failure approach applied first, and the balancing approach used to fit copyright to address the identified market failure.

9.2 Price discrimination

Like the previous two analytical frameworks, the price discrimination framework for analysis is not unique to copyright. Rather, it represents the application of standard analytical approaches to the pricing of public good-like products (ie copyright). However, the advocates of the strong property aspect of copyright protection tend not to directly engage the other approaches, arguing that price discrimination is a complete “answer” on its own.

It is true that in certain circumstances it can be welfare enhancing for society if a copyright holder can price discriminate. Incentives are necessary, so the Copyright Act creates exclusive rights, and the rights are subdivided in a way that makes price discrimination easy. However, a number of concerns are manifest in the argument as it is applied to copyright:

²³⁰ See, for example, Christian Koboldt, “Intellectual Property and Optimal Copyright Protection”, *Journal of Cultural Economics* 19, no. 2 (1995): 150; William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989): 326–33.

²³¹ William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989): 329.

²³² Christian Koboldt, “Intellectual Property and Optimal Copyright Protection”, *Journal of Cultural Economics* 19, no. 2 (1995): 150.

- perfect price discrimination is most effective when applied to monopoly rights. Given that copyright provides only a very weak form of market power (ie it protects an expression and not the idea underlying the expression), it is unlikely that copyright will itself provide for highly effective price discrimination. While the weak power provided by copyright may facilitate second- or third-degree price discrimination, this may entail costs to certain groups or welfare generally;
- the choices of where to allow price discrimination are deliberate and are intentionally far from perfect, and one should not leap to the assumption that where some monopoly is a good idea, more price discrimination is better; and
- price discrimination is at best a mode of ameliorating a monopoly's effects; it is not a reason to approve a firm's efforts to use contracts to acquire monopoly power over a market.

These concerns about the price discrimination approach suggest, for instance, that some of the arguments advanced by the copyright sector in favour of maintaining parallel importation restrictions may carry less weight than their proponents suggest.

9.3 Overarching concerns about the application of these frameworks for the economic analysis of copyright

While the previous sections considered the applicability of the three general frameworks for the economic analysis of copyright law, there are a number of inter-related concerns that arise (intentionally or unintentionally) in the application of these frameworks:

- there is a tendency to be loose in the language used – for example, it is very easy to slip into a discussion of “information” when it may be that the party meant to refer (or should have referred) to copyright.²³³ To a significant degree this is understandable, given the often high information content of some forms of intellectual property, but it can have a number of implications:
 - this generic form of analysis is often pitched at such a high degree of generality that it is of limited usefulness in contemporary policy debates relating to the role and function of copyright law;
 - it may imply that copyright owners have rights over the information when they only have a right over the representation of the information in a particular form;
- in some circumstances there is a tendency to overstate the market power created by copyright. This is often the result of general observations about “intellectual property” that bundle together both patent and copyright policy.²³⁴ As a result, the

²³³ As one example, at least in parts, see Committee on Intellectual Property Rights and the Emerging Information Infrastructure, *The Digital Dilemma: Intellectual Property in the Information Age* (2000 [cited 7 August 2001]); available at <http://www.nap.edu/books/0309064996/html/>.

²³⁴ For example, a number of times the IPCPRC referred to the protection of ideas when referring to intellectual property rights, yet copyright does not protect ideas: Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000) 6.

concerns about the social costs of under-utilisation can be overstated in some policy analysis, including at the judicial level.²³⁵

²³⁵ See, for example, *Australian Competition & Consumer Commission v Universal Music Australia Pty Limited* [2001] FCA 1800 (14 December 2001).

Part D: Economic analysis of specific copyright doctrines

This Part, drawing on the frameworks described in Part C, analyses some of the key doctrines and institutions of Australian copyright law. This analysis is considered important because so much economic copyright analysis is focused on broader incentive structures without really delving into the economic rationales and consequences at a micro-legal level.

10: Subsistence of copyright

Under the Copyright Act copyright protection applies to the original expression of works (literary, dramatic, artistic and musical) and subject matter other than works (sound recordings, films, broadcasts and published editions of works) in material form. This chapter provides an assessment of the economic significance of three key elements of Australian copyright law relating to the subsistence of copyright:

- the doctrine that copyright protects the form in which an idea is expressed and not the idea itself (the “idea/expression” dichotomy);
- the requirement that the subject matter of protection be embodied in a “material form”; and
- the requirement that the subject matter be original, in the sense that the author has not copied it from someone else.

10.1 The idea/expression dichotomy

The idea/expression dichotomy is a central principle of Australian copyright law. Under this principle copyright protects original expressions but does not protect the ideas, opinions, information or facts that underlie the expressions.

This distinction is best explained through an example. If a person authors an article describing the process by which an animal can be cloned, the expression is how the author chooses to convey that process through words, diagrams, pictures and so on. It is this expression that copyright protects. Anyone reading the article is able to take the ideas contained in it (ie how to clone an animal) and use them to write their own article or to undertake the process.

10.1.1 Broad rationales for the idea/expression distinction

There are at least four somewhat interrelated rationales for protecting expression and not ideas. These are discussed in the following sections.

Sufficient incentives for idea creation

Because the costs involved in developing ideas are relatively low compared with the costs in time and effort of expressing ideas, Landes and Posner suggest that there is less need for incentives to produce ideas, and therefore less need for the protection of ideas.²³⁶

This is a highly plausible rationale, but tends to be overlooked in the rush for more complex explanations.

The “building block” approach

It is argued that by denying copyright to facts and ideas this assures authors the right to their original expression whilst encouraging others to build upon the ideas developed in future works. This view is known as the “building block” approach as it simply states that ideas are denied protection because they serve as basic elements in subsequent works.²³⁷

In effect, if copyright protects the first author’s idea, the cost of expression to each subsequent author would increase, and the development of subsequent works would be impaired (ie a negative impact on dynamic efficiency). The increased costs of protecting ideas would come about because each subsequent author:

- would have to invest time and effort in coming up with an original idea for his or her work;
- would need to substitute additional expression for the part of this idea that overlapped the first author’s; or
- would incur additional licensing and other transaction costs to obtain the right to use the first author’s idea.²³⁸

Licensing costs

It has been argued that the monopoly created by providing copyright protection in ideas raises the cost of future innovation by requiring prospective innovators to obtain licences, and therefore leads to welfare losses.²³⁹

Subsequent licensing would entail additional costs for the initial author in monitoring and enforcing copyright over an idea. These additional administrative costs would include:

- defining each idea;

²³⁶ William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989): 347–53.

²³⁷ Ibid.

²³⁸ Ibid. See also Wendy J Gordon and Robert G Bone, “Copyright”, in *Encyclopedia of Law and Economics*, ed. Boudewijn Bouchaert & Gerrit De Geest (Cheltenham UK: Edward Elgar, 2000) 195.

²³⁹ See Wendy J. Gordon and Robert G. Bone, “Copyright”, in *Encyclopedia of Law and Economics*, ed. Boudewijn Bouchaert & Gerrit De Geest (Cheltenham UK: Edward Elgar, 2000) 195.

- setting its boundaries;
- determining its overlap with other ideas; and
- identifying the work of alleged infringers.²⁴⁰

Thus, Gans et al. argue that the idea/expression dichotomy minimises the costs of monitoring and enforcing copyright: “Copyright laws have traditionally overcome the problems associated with establishment, not by protecting the idea, but by restricting the rights to reproduction.”²⁴¹

Rent-seeking

A fourth explanation for the idea/expression dichotomy is that providing copyright protection to ideas would encourage rent-seeking.²⁴² That is, since the cost of developing new ideas is likely to be low relative to the potential reward from licensing the idea to others, this would induce firms to develop and copyright ideas (ie a race to invent ideas).

It is generally considered that because of the idea/expression dichotomy, the rent-seeking argument is not generally applicable in the copyright context, for the simple reason that copyright does not grant a monopoly right.²⁴³

Siebrasse is less than convinced that there would be a complete rent-seeking problem. He argues that copyrighting of ideas would arguably result in a *de facto* monopoly, but the same is not true of ideas that are in themselves facts:

An author who rushed to create a factual work before it was needed would gain no advantage over a rival who waited until the time was ripe, but would incur higher costs in the form of interest on pre-mature expenditures. For this reason no copyright race is likely.²⁴⁴

10.1.2 Discussion

As noted in Chapter Six, it is widely acknowledged that copyright should provide a balance between the incentive to create copyright works and the need to disseminate them widely. However, there has been significant debate concerning the economic rationale underlying the idea/expression dichotomy.

²⁴⁰ William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989): 347-53.

²⁴¹ Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 6.

²⁴² William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989): 347-53.

²⁴³ See Norman Siebrasse, *An Economic Analysis of Copyright in Facts and the Idea/Expression Dichotomy*, *WPS-42: Law and Economics Working Paper Series* (Canadian Law & Economics Association, 1995).

²⁴⁴ *Ibid.*, 20.

On the one hand it is argued that copyright should be denied to facts and ideas because they are building blocks. This approach distinguishes between:

- works used in the “primary” market, where the work is bought solely for consumption purposes (eg books bought to be read by someone who is not an author); and
- a “secondary” market, where the work is used as an input to another work.

However, in making this distinction one is assuming that property rights can be in fact established over the work in question, and restrictions placed on the dissemination of information. While it is possible to exclude persons from the use of physical assets until they have paid for such use, it is much more difficult to enforce rights over intellectual property, because of its non-rival nature. For example, if one person has used an idea it is impossible to remove that idea from further use, especially if that idea is passed on to other users.

This non-rivalry in consumption, combined with Landes and Posner’s inability to distinguish between the various types of building blocks (eg a novel may be used for the basis of a movie, an author may use a character from an earlier book in a new book, etc)²⁴⁵ – which are themselves subject to different levels of protection – makes it increasingly difficult to differentiate between the use of facts and ideas used in the “primary” market and those used in the “secondary” market.

As a result, according to Siebrasse, the building block approach is inherently flawed, because it fails to distinguish adequately between;

- the licence fee; and
- the transaction costs associated with the licensing process.

He argues that this is a crucial distinction because it is the transaction costs associated with licensing rather than the licensing fee itself that is responsible for the restrictions on the dissemination of work.²⁴⁶

In arguing that the “licensing cost” approach is more consistent with several facets of copyright policy than the “building block” approach, Siebrasse makes particular reference to derivative works which are a significant example of the use of expression in the creation of subsequent works, but constitute an infringement if unlicensed.²⁴⁷

²⁴⁵ Landes and Posner’s formal model does not distinguish between these various types of building blocks. The extent of copyright protection is modelled by a single parameter. While this parameter is not defined explicitly, it is clear that any restriction of the use of the earlier work in a subsequent work increases the extent of protection – see *Ibid*.

²⁴⁶ Siebrasse assumes that the cost of transferring the work is zero and that the licensing costs are incurred in bargaining. This is similar to the distinction made between the price of a transfer of technology, which is the compensation received by the licensor firm, and the transfer costs of enabling the technology transfer – see Farok J Contractor, *International Technology Licensing* (Massachusetts: Lexington Books, 1981).

²⁴⁷ Landes and Posner argue that the economic case for giving the original author copyright in derivative works is not to enable the original author to recoup his fixed costs, since the derivative works are not demand substitutes and do not reduce the author’s revenue in the primary market. Rather they speculate that some copyright is necessary for the production of works because without protection, and hence revenue, some works would not be created. While Landes and Posner also suggest that transaction costs are lower if one person holds both copyrights, Siebrasse points out that approach

Siebrasse argues that the licensing cost approach provides a much simpler reason for unauthorised derivative works being an infringement, with the premise that giving the original author copyright in any secondary market increases the incentive to create the underlying work.

More recent analysis suggests that if licensing costs are low, the “building block” approach may not be welfare maximising. With low licensing costs, losses from restricted dissemination may be small and protection of both ideas and expression can increase both the quantity of works created and their dissemination. This implies that a policy decision to deny copyright to ideas or facts cannot be justified simply on the basis that they are used as building blocks. Rather, the focus must be on transaction costs associated with licensing in the particular market for a given type of building block.²⁴⁸

Thus copyright law either:

- extends exclusive rights – copyright owners of individual works may enjoy market power due to the fact that the subject matter of the work cannot be expressed in any other way; or
- fails to provide protection because of the idea/expression distinction.

Hence authors face an outcome between complete protection and no protection, providing either inflated rewards for owners or removing the possibility of any reward.

This dilemma can only really be addressed by a case-by-case analysis of the particular circumstances when licensing costs are low and hence the idea/expression distinction is unwarranted. While this was historically unlikely, technological developments that reduce licensing costs may encourage a dilution of the idea/expression distinction.

10.2 “Material form”

The Copyright Act requires subject matter to be in a tangible embodiment (ie in some material form) for it to be protected. In relation to works, this requirement arises indirectly to the “making” of a work and to the time when a work is “made”. As a result of this requirement, copyright protection is not available to literary, dramatic, musical or artistic material that does not have tangible embodiment. Thus, for example, spoken words and *extempore* music are not protected by copyright unless written down or otherwise recorded in a tangible form.

In order to better accommodate new technologies, the CLRC recently recommended abolishing the “material form” requirement so as to apply copyright protection to all

ignores the fact that without both copyrights, transaction costs are raised in the first instance as the translator must negotiate with the holder of the copyright of the original version for compensation. As just as many transactions occur either way, the efficient pattern of copyright will depend on the relative costs of the various transactions, and on the proportion of translations which have second editions produced.

²⁴⁸ See Norman Siebrasse, *An Economic Analysis of Copyright in Facts and the Idea/Expression Dichotomy*, WPS-42: *Law and Economics Working Paper Series* (Canadian Law & Economics Association, 1995).

forms of expression of an idea.²⁴⁹ Such a reform would extend copyright protection to material such as *extempore* speeches and impromptu performances which previously fell outside copyright protection.

While the abolition of the requirement of material form should in principle create a greater incentive for the production of *extempore* speeches and impromptu performances, the reform could only be classified as a net benefit according to the degree that it encourages the creation of new works. Unfortunately, the likelihood of new works being stimulated is small, because:

- the potential for free-riding on an impromptu performance is small because the free-rider would have to have been present; and
- given the impromptu nature of these works, the existence of an improved incentive structure is unlikely to stimulate new works.

Furthermore, protecting creative endeavours that have no material form (ie conferring protection on disembodied ideas) may have the effect of increasing transaction costs because a person seeking to enforce such a copyright may face substantial difficulties in satisfying the evidentiary burden of proof concerning:

- the existence of the material; and
- the subsistence of copyright in it.

Together, these factors suggest that proposed changes to subsistence in a material form are unlikely to be an overall improvement.

10.3 Originality

Before a work can be protected by copyright it must be considered original.

The Australian threshold for originality requires that “more than merely negligible” skill and labour needs to be applied to create the copyright.²⁵⁰ This does not mean that the material is especially “new” or “creative”; it simply has to have originated from the author (ie it must not have been copied).

The CLRC has recommended the introduction of a new two-tier originality threshold. This approach would distinguish between:

- “creations” (which would replace the existing category of “works”) – for creations a higher standard of “significant intellectual effort” would replace the current threshold; and

²⁴⁹ Copyright Law Review Committee, *Simplification of the Copyright Act 1968: Part 2: Categorisation of Subject Matter and Exclusive Rights, and Other Issues* (Canberra: AusInfo, 1999) 59–61.

²⁵⁰ See *Ladbroke (Football) Ltd v William Hill (Football) Ltd* [1964] 1 WLR 273 at 287.

- “productions” (which would replace the existing category of “subject matter other than works” and include electronic databases) – productions would have a lower threshold of “labour and effort”, but be protected only against literal copying.²⁵¹

There has been strong support for the view that the Australian originality threshold is set too low. For example, Mason has stated that “If there is to be a change in the concept of copyright, there should be an insistence on a stronger element of originality. In Anglo-Australian copyright law, the threshold requirement for originality is low.”²⁵²

However, in the past, economists have suggested that provided not too much is expected of the skill element, this is broadly consistent with the economic idea that the protection encourages innovation, not some normative concept of creativity.²⁵³ This is because the higher the innovation threshold the greater uncertainty and cost in determining whether or not the threshold has been met and the rights conferred:

The problem is that originality or novelty is an even more debatable quality of fiction than of mechanical and other technical processes. If copyright protection depended on originality, authors and publishers would find it hard to know in advance of litigation whether they actually had a property right.²⁵⁴

However, a case can be made that changes in technology have upset the traditional copyright balance and that a somewhat higher threshold is now appropriate. For example, Bannister argues that:

A low threshold that once may have ensured comprehensive accurate versions of otherwise unrecorded sources, may now work against the object of public access by granting strong copyright protection to large quantities of data that are available from the moment of creation in accessible electronic form. Comprehensiveness and accuracy are best achieved using technology that diminishes the skill and labour of the operator, and with advances in computer storage and processing capacity, the investment is also decreasing. Given the strong and long protection granted to copyright owners, there is an important policy distinction to be made between automatically gaining a reward for production, and offering an incentive for the organisation of information that facilitates public access.²⁵⁵

Indeed, Bannister concludes by saying that:

²⁵¹ Copyright Law Review Committee, *Simplification of the Copyright Act 1968: Part 2: Categorisation of Subject Matter and Exclusive Rights, and Other Issues* (Canberra: AusInfo, 1999) 54-68.

²⁵² Sir Anthony Mason, *Reading the Future* [The Inaugural Australian Library and Information Association Library Week Oration] (1 May 1996 [cited 7 August 2001 2001]); available at <http://www.nla.gov.au/nla/staffpaper/mason.html>.

²⁵³ See Jane C Ginsburg, “Creation and Commercial Value: Copyright Protection of Works of Information”, *Columbia Law Review* 90 (1990).

²⁵⁴ William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989).

²⁵⁵ Judith Bannister, “Originality and Access; Copyright Protection of Compilations and Databases”, *Journal of Law and Information Science* 10, no. 2 (1999): 235-36.

The current low level of originality has a detrimental effect upon the range of material available in the public domain, without the benefits that might once have justified such a standard.²⁵⁶

But there are problems also associated with expecting courts to assess the significance of intellectual effort, and the resultant transaction costs associated with a nebulous and subjective standard could be very high. However, given the volume of litigation surrounding the current originality standard, and the ongoing uncertainty that it entails,²⁵⁷ it is difficult to argue that the new standard would impose any significant additional such costs.

This raises the question of whether or not the CLRC's proposed reclassification into "creations" and "productions", defined in terms of whether intellectual effort was contributed or not, is welfare enhancing.

Richardson et al. argue that such a reclassification "would have the benefit of offering a technology-neutral solution to the historical and artificial categories of works and other subject matter".²⁵⁸ As noted in Chapter Seven, at least some economists argue that a technology-neutral approach will tend to mask differential incentives across products. Furthermore, the move to a technology-neutral standard appears to run counter to the more industry- and product-specific tests for originality applied in US courts.²⁵⁹

Richardson et al. also argue that there is a real concern about the desirability of offering a lower level of copyright protection to "productions" which, while not satisfying any intellectual effort standard, may entail high investment costs and serve important utilitarian purposes (eg some databases).²⁶⁰ In other words, provided an information good adds to overall social welfare, there would appear to be no good economic reason to confer a lower level of protection merely because it does not involve "significant intellectual effort".

Bowry sees the mooted CLRC reforms as consistent with long-held policy predispositions:

Copyright law common sense suggests that creative efforts give rise to the original work. The printer's skill was merely technological, and their efforts (only) related to reproduction. This "common sense" reading relies upon dichotomies familiar to romantic literary theory that separate labour/technology, creation/reproduction and the original/the copy. The second of the pair is devalued in light of the significance attributed to the first.²⁶¹

²⁵⁶ Ibid., 245.

²⁵⁷ See the comments in Copyright Law Review Committee, *Simplification of the Copyright Act 1968: Part 2: Categorisation of Subject Matter and Exclusive Rights, and Other Issues* (Canberra: AusInfo, 1999) 5-38.

²⁵⁸ Megan Richardson et al., *The Benefits and Costs of Copyright: An Economic Perspective* (Sydney: Centre for Copyright Studies, 2000) 18.

²⁵⁹ See Monica Ashton, "Originality", *Media Law & Policy Bulletin* 2, no. 1 (1993).

²⁶⁰ Megan Richardson et al., *The Benefits and Costs of Copyright: An Economic Perspective* (Sydney: Centre for Copyright Studies, 2000) 18.

²⁶¹ Kathy Bowry, "The Outer Limits of Copyright Law – Where Law Meets Philosophy and Culture", *Law and Critique* 12, no. 1 (2001).

Bowry argues that according to these policy predispositions, productions should enjoy much lesser protection on the premise that less originality is involved in their production. Whether or not this premise is sustainable is debatable. But again, it demonstrates that with broader categorisations of works and rights, it is more difficult to finetune copyright's incentives.

11: Exceptions to infringement of copyright

As a general principle, the copyright in any work (or other subject matter) is infringed when any act²⁶² which the copyright owner has the exclusive right to do is done by a person who is not the copyright owner (or their licensee). In determining whether material has been copied, the courts look at whether:

- the material is similar; and
- there is some “causal link” between the copyright material and the alleged infringing material.²⁶³

Some exceptions to this general principle exist:

- a work will not breach copyright if it is produced as the result of independent effort. That is, unlike patent law, independent production of material is not actionable under copyright law;
- the Copyright Act sets out a number of situations in which dealing with copyright material does not require permission. In a number of these situations, payment to the copyright owner is also not required. For example, a person may freely make a “fair dealing” with copyright material for the purposes of:
 - reporting the news;
 - criticism or review;
 - research or study; or
 - professional advice from a legal practitioner, patent attorney or trade marks attorney; and
- there are a number of exceptions which libraries may rely upon. These exceptions fall into two broad categories:
 - those which allow a library to copy for their own clients and for clients of other libraries who require material for research or study; and
 - those which allow a library to preserve, replace or augment material in its collection.

This chapter looks at exceptions to the infringement of copyright.

²⁶² Examples include when a work is published, reproduced or performed in public without the copyright owner’s permission.

²⁶³ See, for example, *Francis Day & Hunter Ltd v Bron* [1963] Ch 587; *Corelli v Gray* (1913) 29 TLR 570.

11.1 *Independent creation*

Independent creation does not amount to an infringement of copyright.

This principle can be seen as inconsistent with the proprietary basis that underpins copyright protection (see Chapter Four). That is, it is not feasible to contemplate a circumstance in which two parties could have claimed to originate the same physical property. As a result, the defence of independent creation is a concept that could be applied only to intellectual property.

Landes and Posner suggest two possible reasons for this deviation from the proprietary underpinnings of copyright:

- the independent creation rule reduces the costs of producing new material because it takes away the need for later authors to search existing copyright material to ensure that there is no potential for accidental duplication;²⁶⁴ and
- it does not materially undermine the incentives established by copyright protection because of a number of interrelated factors:
 - an independent author must bear the fixed costs of producing the material and hence the commercial advantage from this form of copying is likely to be negligible;
 - if the creation is independent, there are likely to be significant differences between the two works and hence both the first and subsequent authors may be able to recover the costs of expression;²⁶⁵
 - the possibility of independent recreation of a work is negligible. This point is reinforced by Friedman:

Where copying is easy to do and easily recognized and independent invention unlikely, we would expect copyright law or something similar. We would even expect to see copyright law for physical machines if the technology existed for cheaply, easily, and recognizably copying them. Where copying is expensive and hard to recognize and independent invention likely, we would expect to see something like patent protection. Where the factors leading to high cost of property protection are combined with factors leading to low benefits, we would expect to see no protection at all.²⁶⁶

The more difficult question is to explain why “duplication” through independent re-creation is not a breach of copyright. There are a number of possible explanations:

²⁶⁴ In contrast, publication of patent specifications and the process of patent examination seek to reduce the search costs for patent infringements.

²⁶⁵ William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989): 344–46.

²⁶⁶ David D Friedman, “Standards as Intellectual Property: An Economic Approach”, *University of Dayton Law Review* 19, no. 3 (1994).

- as there is no copyright register, no effort is made by any official to search copyright works before issuing a copyright, so copyright is not issued but is simply asserted by the author.²⁶⁷ Two scenarios are therefore possible:
 - where the author seeks to ensure that inadvertent copying has not taken place – to avoid accidental duplication there will be added costs to the author associated with checking countless numbers of copyright works to avoid inadvertent duplication. The costs would increase the author’s costs of expression and lower social welfare because both net welfare per work and the number of works created would fall. While the author’s gross revenues (or the amount of damages if such duplication were actionable) might rise if the reduction in the amount of accidental duplication raised the demand for copies or made that demand less elastic, since accidental duplication of copyright works is rare, the net effect of making it unlawful would be to lower social welfare; and
 - where the author risks inadvertent copying – in practice, the cost of preventing accidental duplication would be so great, and the benefits in terms of higher revenues so slight because such duplication is rare, that even if it were actionable, few authors would make much effort to avoid accidental duplication, so the increase in the cost of expression would probably be slight. But social welfare would be reduced somewhat. At best we would have a system of strict liability that had no significant allocative effect; and as explained in the literature on negligence and strict liability in tort law, the costs of enforcing such a regime are socially wasted because their only product is an occasional redistribution of wealth (here that would be from the accidental “infringer” to the first author of the material duplicated);
- it prevents free-riding on the author’s expression. Accidental duplication does not involve free-riding. Since the second work is independently created, its author incurs the full cost of expression. If the works are completely identical, competition between the two works could drive the price of copies down to marginal cost and prevent either author recovering his/her cost of creating the work. It is more likely that significant differences between the two works will remain, so that both authors may be able to earn enough to cover their respective costs of expression.²⁶⁸

The principle of independent creation is entirely consistent with an efficient and justifiable economic outcome.

²⁶⁷ In contrast to copyright, accidental infringements of patents are actionable. This distinction makes economic sense, as a patent is issued only after a search of prior patented inventions. This procedure is feasible because it is possible to describe an invention compactly and to establish relatively small classes of related inventions beyond which the searchers need not go. The procedure makes it relatively easy for an inventor to avoid accidentally duplicating an existing patent.

²⁶⁸ This assumes that neither author is the marginal author, whose gross revenues would just cover the cost of expression in the absence of accidental duplication.

11.2 *Compulsory licences*

Authors may seek to recover their investment in producing intellectual material by assigning copyright in the material, in whole or in part, or by licensing the copyright, in whole or in part, and in an exclusive or non-exclusive manner.

In its recent review, the IPCPR noted the use of compulsory licences to qualify this right:

perhaps uniquely in respect of copyright, the exclusive rights granted are often tempered or qualified by a number of exceptions. These include compulsory licensing schemes, which effectively prohibit refusal of supply, but instead, compensate the rights holder with equitable remuneration and also include defences to infringement on public policy grounds (e.g. fair use of a reasonable portion of material for study or news reporting where use is not subject to any remuneration to the rights holder).²⁶⁹

Similarly, the Commonwealth Treasury notes that:

Intellectual property is expressly excluded from the *TPA [Trade Practices Act 1974]* access regime. However, the provisions of the [*Copyright*] Act with respect to statutory and other compulsory licences ... provide a quasi access regime for copyright in a limited range of circumstances.²⁷⁰

Thus compulsory licensing occurs when third parties are allowed access to copyright works, for the purposes of productive or transformative use, without the consent of the owner and upon payment of a stipulated fee.²⁷¹

The IPCPR, however, stressed that the qualifications in the Copyright Act are actually only *like* compulsory licences:

Unlike the Patents Act, there are no explicit compulsory licensing provisions in the Copyright Act. However, the fair dealing exceptions operate to some degree to allow for uncompensated use/reproduction of reasonable portions of materials for certain policy reasons such as reporting news, or research. This is similar to a compulsory licence and is imposed to achieve public policy ends.

However, there is also a statutory licences regime. Two such regimes are contained in Part VA (copying of transmissions by educational and other institutions) and Part VB (copying of works by educational and other institutions).

These could be designated as compulsory licences, in that the parties benefiting from them (e.g. educational institutions or institutions for persons with a disability) are permitted to copy or reproduce the material (whatever the subject of the licence may be) without the permission of the copyright owner, as long as they undertake to pay equitable remuneration (usually through a collection society). In this sense, there are some analogies between statutory copyright licences and compulsory licensing under the Patents Act. However, the scope of

²⁶⁹ Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000) 40.

²⁷⁰ Commonwealth Treasury of Australia, "The Economic Role of Copyright", in *Economic Roundup* (Canberra: AGPS, Autumn 1996), 74.

²⁷¹ See T Gallagher, "Copyright, Compulsory Licensing and Incentives", in *Working Paper Series No. 2* (Oxford Intellectual Property Research Centre, 2001).

the statutory copyright licences is limited and importantly they do not apply in respect of most commercial uses. There are also several other provisions which could be construed as granting “quasi compulsory licences”. For example:

- s. 104 Copyright Act – acts done for purposes of judicial proceeding, or for receiving/giving legal advice also receive an immunity from infringement (i.e. effectively an unremunerated “compulsory licence” for this public interest purpose); and
- s. 183 also allows the Crown to “appropriate” copyright material “for the services of the Crown” on the ground that compensation is paid, and is therefore a compulsory licence of types. The “licence” is on terms to be agreed, or in the absence of an agreement being reached by the parties, as set by Copyright Tribunal.²⁷²

11.2.1 Possible rationales for compulsory licensing

Compulsory licensing can be seen as one method of combating market power in situations where it appears that the owner is getting “too much” of a reward. Thus, Ginsburg notes that “the real purpose of a compulsory license is to reduce the extent to which copyright ownership of the covered work conveys monopoly power”.²⁷³ This approach, however, bundles together two separate rationales, which are discussed in the following sections.

Market power concerns

Articles 40 (1) and (2) of TRIPs envisage restrictions on licensing arrangements for the purposes of protecting competition:

1. Members agree that some licensing practices or conditions pertaining to intellectual property rights which restrain competition may have adverse effects on trade and may impede the transfer and dissemination of technology.
2. Nothing in this Agreement shall prevent Members from specifying in their legislation licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market. As provided above, a Member may adopt, consistently with the other provisions of this Agreement, appropriate measures to prevent or control such practices, which may include for example, exclusive grant back conditions, conditions preventing challenges to validity and coercive package licensing, in the light of relevant laws and regulations of that Member.

In this regard, the Commonwealth Treasury has suggested that:

²⁷² Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000) 117. Other possible compulsory licensing arrangements relate to: the recording of musical works; the broadcasting of sound recordings or causing them to be heard in public; and the retransmission of free-to-air broadcasts.

²⁷³ Jane C Ginsburg, “Creation and Commercial Value: Copyright Protection of Works of Information”, *Columbia Law Review* 90 (1990): 1926.

It may be appropriate that the compulsory licensing system be extended to situations where access is necessary to promote competition in downstream markets (particularly where the work is used as an input for another product).²⁷⁴

As with any type of intervention in respect of market power concerns, there are costs associated with such intervention. Deciding whether or not a compulsory licensing system should be imposed in a particular situation involves an exercise of judgment over whether the benefits of introducing a system outweigh the costs. As a result, there are several principles which should be considered in determining whether or not it is appropriate to introduce a compulsory licensing system. These principles include:

- the effect on the level of competition in the downstream market (where the work is used as an input) – as the benefit arises from greater competition in the downstream market, a relevant consideration is whether there is sufficient effective competition in this market already, or whether there may be other barriers to the benefits from competition being passed on to users of the final good or service;
- the level of competition for the essential service, which in this case is the copyright ownership – this principle goes to the heart of the issue and addresses whether or not the owner of the copyright actually has market power; and
- the ability to safeguard the copyright owner's interests – this principle addresses whether or not the terms and conditions of providing access to the copyright material protect the legitimate business interests of the copyright owner. That is, does the access regime allow the copyright owner to recover costs and make a commercial return on copyright investment? This protection of the copyright owner's interests serves the additional role of minimising any adverse incentives for new investment (either by the incumbent copyright owner or by potential new copyright owners).

Compulsory licensing may be appropriate in circumstances where there is an explicit refusal to licence competition, with resulting anti-competitive implications. Following a consideration of pertinent cases and the literature, Tucker suggests that there are four circumstances where a refusal to licence intellectual property rights will constitute a misuse of market power under section 46 of the Trade Practices Act:

- the intellectual property rights themselves form a separate market – while Tucker suggests that this situation will be rare, some copyright owners of individual works may enjoy market power due to the fact that the subject matter of the work cannot be expressed in any other way. In these cases, the typical exceptions to copyright protection, such as the idea/expression dichotomy, fail to allow for the imperfect substitutes that typically alleviate the market effects of exclusive rights. Traditional ideal copyright law, in responding to cases of individual market power, either extends exclusive rights or fails to provide protection for such works. The inadequate choice between complete protection and no protection will either provide inflated rewards for owners or remove the possibility of any reward. In short, there are reasons to believe that incentives will be poorly calibrated in scenarios of restricted expression;

²⁷⁴ Commonwealth Treasury of Australia, "The Economic Role of Copyright", in *Economic Roundup* (Canberra: AGPS, Autumn 1996) 75.

- the refusal to license gives an unfair advantage to the intellectual property holder in a downstream market into which the intellectual property rights do not legitimately extend – for example, competition authorities in the UK and the US have suggested that owners who refuse to license exclusive rights to users in new technological markets are abusing the protection granted by copyright;²⁷⁵
- intellectual property rights are bound up with materials or resources whose distribution cannot be legitimately confined by reference to the intellectual property; or
- the intellectual property has not been licensed sufficiently to permit the purchaser of an article subject to intellectual property rights reasonable access to a repair facility.²⁷⁶

While these situations may themselves be problematic from a competition perspective, the establishment of a compulsory licensing arrangement in the Copyright Act could only ever be countenanced in the event that there were systemic problems and that the transaction costs associated with the enforcement of the Trade Practices Act were considered too significant.

Transaction costs

As implied above, where the costs of individual negotiation are excessive in comparison with the value of the product (ie transaction costs are significant), there is an argument that compulsory licensing may be appropriate.

Copyright balance concerns

Traditional copyright law faces problems in finding the “ideal” balance between underproduction and under-utilisation, because both owners and users are contributing value to the production and dissemination of the work. The allocation of exclusive rights to either group fails to calibrate incentives accordingly, so a compulsory licensing regime may be appropriate in some circumstances. Drawing on Gallagher’s analysis,²⁷⁷ these circumstances may include:

²⁷⁵ In the UK, abuse is found where a copyright owner is using the exclusive rights conferred by copyright to expand into markets beyond the primary market for any given copyright work – J Temple Lang, “The Principle of Essential Facilities and Its Consequences in European Community Competition Law”, in *The Political Economy of Broadcasting*, ed. A. Peacock, *Regulatory Policy Institute Essays in Regulation* (Oxford: 1996) 32. In the US, the Department of Justice stated that it is unacceptable that “The networks or other large copyright holders might withhold permission to rebroadcast programs and thereby seek to reserve the CATV (cable TV) market for themselves” – quoted in Ronald V Bettig, *Copyrighting Culture: The Political Economy of Intellectual Property, Critical Studies in Communication and in the Cultural Industries*. (Boulder CO: Westview Press, 1996) 129.

²⁷⁶ Tucker, “Refusal to License Intellectual Property Rights and Misuse of Market Power – Where Is the Line in the Sand?”, *Australian Intellectual Property Journal* 10 (1999): 90.

²⁷⁷ T Gallagher, “Copyright, Compulsory Licensing and Incentives”, in *Working Paper Series No. 2* (Oxford Intellectual Property Research Centre, 2001).

- external shocks such as new copying and distribution technologies tend to challenge copyright and result in a “user-biased” copyright balance.²⁷⁸ Gallagher argues that the typical response of copyright law to such a shock consists of either creating new exclusive rights for the owner or adapting existing rights to protect the owner’s investment in new media markets. However, if the law extends the exclusive rights of owners to include the new technologies, the development of innovative creative and productive systems may be stymied by reserving rights to owners in alien technological environments. Compulsory licensing has often been used to create an incentives/access balance between owners and users in new technological environments promoting user-biased copyright balances. Increased production by copyright owners will flow from revenues earned on third-party uses of valuable works that were previously free of charge. Users retain the ability to exploit copyright works without the consent of the owner, allowing the state to encourage producers who are solely users of copyright works, such as jukebox manufacturers and broadcasters; and
- the implicit assumption of the incentive justification of copyright law is that existing law at any time provides the ideal balance between owners, secondary users and consumers. However, at certain times owners may receive rewards greater than those provided by existing law, due to an expansion in the breadth or duration of copyright protection; this will *ex hypothesi* provide owners with overinflated rewards. In such circumstances compulsory licensing may be considered the best way to restore the appropriate copyright balance.

Discussion

There is no single economic justification for compulsory licensing; all have valid application. What is particularly interesting, however, is the difficulty of reconciling compulsory rationales with the strong property view of copyright.

Under compulsory licensing, the prices charged in all markets may well turn out to be uniform. Such pricing is not considered desirable (from the standpoint of either profits or social welfare, measured by the size of the consumer’s surplus) according to the strong property perspective. The concern is that compulsory licensing reduces profits, and the undesirable long-run effect of such licensing may be a reduction in new works (or access, because price discrimination opportunities are reduced).

11.2.2 Fair dealing

The Copyright Act includes a number of defences with respect to certain acts that would otherwise infringe copyright. These defences create certain defined circumstances in which copying can occur without:

- the permission of; or
- payment to

the copyright owner.

²⁷⁸ RP Adelstein and SI Peretz, “The Competition of Technologies in the Market for Ideas: Copyright and Fair Use in Evolutionary Perspective”, *International Review of Law and Economics* 5 (1985).

The most significant of these defences is “fair dealing” (which is similar, but not identical, to the US “fair use” doctrine – see Box 11.1).²⁷⁹ A fair dealing with a copyright work, sound recording, film or broadcast will not amount to an infringement of copyright if done for the following purposes:

- research or study;
- criticism or review;
- the reporting of news; or
- professional legal advice.

Box 11.1 The relevance of constitutional guidance in interpreting the Copyright Act

The Australian fair dealing exception is broadly equated to the US “fair use” doctrine. However, it is worth noting that there are some significant differences between the US doctrine of fair use and the Australian defence of fair dealing. These differences arise primarily because of this constitutional basis for US copyright law.

While it has been relatively easy to view the US fair uses precedents as distinctly different from fair dealing, these differences may be narrowing. For example, in what Fitzgerald describes as, “destined to become a landmark footnote”, Justice Kirby in *Grain Pool of WA v. The Commonwealth* discusses the scope of intellectual property rights:

No absolute or unlimited rule may be stated. The protection of intellectual property rights must be afforded in a constitutional setting which upholds other values of public good in a representative democracy. In the United States the relevant head of constitutional power has been viewed as containing inbuilt limitations many of which are derived from the competing constitutional objective of public access to information ... In Australia, the constitutional setting is different but the existence of competing constitutional objectives, express and implied, is undoubted.²⁸⁰

The degree to which constitutional rights will be used to interpret copyright law is still to be fully determined.

Source: Fitzgerald, “Grain Pool of WA v. The Commonwealth: (Australian) Constitutional Limits of Intellectual Property Rights”, 2001

Probably the most significant fair dealing exception relates to research or study. Whether the exercise of copyright rights amounts to a fair dealing for research or study depends on a number of factors, including:

- the purpose and character of the use;
- the nature of the work or other subject matter;
- the amount and substantiality of the portion copied;

²⁷⁹ See Anwar N Khan and Philip Hancock, “Copyright Law in Australia – Fair Dealing for Research or Study Purposes”, *Journal of Law & Education* 30, no. 3 (2001).

²⁸⁰ *Grain Pool of WA v. The Commonwealth* [2000] HCA 14 (23 March 2000), footnote 218.

- the possibility of obtaining the work within a reasonable time at an ordinary commercial price; and
- the effect on the commercial value of the work or other subject matter.²⁸¹

However, copying for the purpose of research or study is automatically regarded as fair where the dealing is with respect to a “reasonable portion” of a work. This “reasonable portion” includes:

- a single copy of a journal article;
- one chapter or ten percent of a book of ten or more pages; or
- for a work that is in electronic form, ten percent of the number of words.

The traditional reasons advanced to explain the fair dealing exception have been described in these terms:

The criticism or review exception is derived from the view that once a copyright owner has released his or her work to the world, he or she impliedly licenses reviewers and critics to quote excerpts of the work. In one case, it was noted that books are “published with an expectation, if not a desire, that they will be criticised in reviews, and ... that parts of them will be used as affording illustrations by way of quotation, or the like”.

On the other hand, the fair dealing exceptions relating to professional legal advice exist on the separate ground that people are entitled to know their legal rights and obligations ...

In the Anglo-Australian context, the research or study exceptions were first introduced into legislation in the Copyright Act 1911 (UK). Commentators have noted that the exceptions ensure research and education are not unduly hampered. Also, these provisions are particularly important where there may otherwise be a market failure (for example, where it would be unduly difficult to obtain permission for a particular, often one-off, use in circumstances where there is no market for the particular material which is required).²⁸²

There have been a number of attempts to provide an economic justification for the fair dealing and fair use exceptions to copyright infringement.²⁸³ The following sections describe possible economic rationales and explanations for fair dealing.

²⁸¹ See Anwar N Khan and Philip Hancock, “Copyright Law in Australia – Fair Dealing for Research or Study Purposes”, *Journal of Law & Education* 30, no. 3 (2001).

²⁸² Ian McDonald, *Copyright in the New Communications Environment: Balancing Protection and Access* (Sydney: Centre for Copyright Studies, 1999) 4.

²⁸³ See, for example, William W Fisher, “Reconstructing the Fair Use Doctrine”, *Harvard Law Review* 101 (1988); Wendy J Gordon, “Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors”, *Columbia Law Review* 82 (1982); Pierre Leval, “Toward a Fair Use Standard”, *Harvard Law Review* 103 (1990); Lydia Pallas Loren, “Redefining the Market Failure Approach to Fair Use in an Era of Copyright Permission Systems”, *Journal of Intellectual Property Law* 5 (1997).

Incompatibility with a strong property perspective

The strong property rights perspective, noted in detail in Chapters Five and Eight, argues that rights from copyright should be no more restricted than rights in real property. If copyright is to be treated as other forms of property, it can be assumed that copiers always act volitionally and deliberately. That is, they know they are publicly performing, or using the photocopy machine, or playing music on a piano, even if they don't know that they are copying someone else's material while doing so. Correspondingly, it seems most logical that such a volitional trespass should be treated under a formal rule, as are other non-accidental violations of property rights. The mere act of non-consensual copying is arguably like the act of stepping onto someone else's land without permission, and this should give rise to similar liability.

However, the fair dealing exception does not align with this approach. The classic article by Calabresi and Melamed tells us that intentional takings of property are *prima facie* wrongful because people should not depart from the market without a strong justification.²⁸⁴ Their article further tells us that accident law uses a "reasonableness" inquiry because in accidents such a justification is present: the participants cannot bargain with each other in advance. Before a driver chooses to drive down a residential street at 60 kilometres per hour, neither the driver nor the pedestrian with whom they are about to accidentally collide has any reason to know that they need to deal with each other. In the presence of such complete market failure, we are told, the court "mimics the market" through a negligence inquiry, trying to determine whether or not the parties behaved efficiently and imposing liability accordingly.

But in copyright the fair dealing doctrine is available regardless of whether or not the copyright owner and the copier have complete knowledge of each other's identity and are otherwise able to bargain (ie even when transaction costs are slight). In this way, it is therefore difficult to rationalise fair dealing using a property rights framework.

Transaction costs

The dominant rationale for fair dealing was first spelled out in an influential article by Gordon, where she described the US fair use doctrine in terms of "market failure".²⁸⁵ Under Gordon's definition, market failure occurs when the transaction costs of a voluntary transfer are so high that a consensual transfer is unlikely to take place spontaneously. In such a case, the US law provides users of copyright works with the statutory defence of fair use.

Consistent with Gordon's premise, other sources have also considered the non-existence of markets (eg due to excessive transactions costs), even in the absence of public good or externality problems, to be a market failure: "In short, a commodity that people would be willing to buy is not generally available on the private market, leading to an inefficient allocation of resources."²⁸⁶ The failure of the market to

²⁸⁴ See Guido Calabresi and A Douglas Melamed, "Property Rules, Liability Rules, and Inalienability: One View of the Cathedral", *Harvard Law Review* 85 (1975).

²⁸⁵ Wendy J Gordon, "Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors", *Columbia Law Review* 82 (1982).

²⁸⁶ Harvey S Rosen, *Public Finance*, 3rd ed. (Homewood: Irwin, 1992) 65–67.

achieve an efficient allocation of resources due to excessive transaction costs is therefore reasoned by Gordon and others to be a market failure.

The strength of Gordon's contribution is that she both rationalised fair use law and provided sensible limits to its application. Gordon's key insight was that fair use makes sense where no functioning market for copyright works exists. Similarly, Landes and Posner suggest that the US doctrine of fair use may improve welfare if transaction costs prevent an agreement between a user and a copyright owner, and the resulting use would benefit the user while not harming the owner.²⁸⁷

A concern with Gordon's discussion of fair use as market failure is that it is loose in its language; the existence of excessive transactions costs are not *per se* a market failure. Rather, in some cases, the existence of transaction costs can limit and undermine the market's opportunities to correct a market failure. This is because in some cases, the transaction costs of a voluntary transfer are so high that they exceed the gains of trade. Indeed, the McCain analysis presented in section 5.3 demonstrates that the non-existence of a market because of transaction costs is not necessarily inefficient.

There are a number of further limitations with this transaction cost framework. For example, as noted by Landes and Posner, a broad exception could undermine incentives for the development of market mechanisms that reduce transaction costs and make economic exchanges possible.²⁸⁸ This concern is echoed by Richardson et al, who argue that in determining whether or not fair dealing applies, the courts should "pay close attention to the availability or potential availability of individual licences, including standard licence schemes which reduce transaction costs by setting standard terms and providing for collective administration of owners' rights".²⁸⁹ Consistent with the strong property rights view of copyright, Richardson et al are generally suspicious of broad exceptions that provide free access to copyright material, and maintain that:

We have stressed ... that an ideal economic pricing model is one that captures all the benefits associated with a particular use but if even some of the benefits can be captured under a standardised licence scheme this is preferable to one under which none can be.²⁹⁰

Acknowledging these concerns, a transaction cost focus on fair dealing leads one to focus on the permanence of the licensing transaction costs.²⁹¹ In this light, the relevance of fair dealing is best judged in these terms:

²⁸⁷ William M Landes and Richard A Posner, "An Economic Analysis of Copyright Law", *Journal of Legal Studies* 18 (1989): 357. See also Wendy J Gordon, "Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors", *Columbia Law Review* 82 (1982).

²⁸⁸ William M Landes and Richard A Posner, "An Economic Analysis of Copyright Law", *Journal of Legal Studies* 18 (1989): 357.

²⁸⁹ Megan Richardson et al., *The Benefits and Costs of Copyright: An Economic Perspective* (Sydney: Centre for Copyright Studies, 2000) 20–21.

²⁹⁰ *Ibid.*, 20.

²⁹¹ Robert P Merges, "The End of Friction? Property Rights and Contract in the 'Newtonian' World of On-line Commerce", *Berkeley Technology Law Journal* 12 (1997).

- where market development is unlikely, and transaction costs associated with licensing remain significant, the fair dealing exception should be applied; but
- where a market could develop if copyrights are enforced, and transaction costs are reduced, the absence of an initial market should not automatically lead to the implementation of the fair dealing defence. In this case, finding fair dealing would be self-defeating, as the market that might otherwise have been formed would be extinguished.

This approach is implicit in the view advocated by Melaugh:

The advent of new technology has made publishing nearly costless. It has not done the same for content licensing. This means, for the time being, fair-use standards should be slackened, allowing for greater freedom in this new medium. Once transaction costs reduce over licensing, courts should allow copyright holders to charge a reasonable fee for the use of their material, but where there is not such an option, courts should continue to restrict the ability of copyright holders to resort to the protections of copyright or contract law to effect limitations on fair-use.²⁹²

To some degree the response to change has been addressed by the vague standard embodied in the US fair use principle; it is a response to the speed of technological change that has tended to characterise the copyright industries. Since copying of an intangible is often harmless, a “fair use” standard permits socially useful experimentation. And since such experimentation may be blocked by transaction costs, and these costs can change quickly, fair use allows the courts to adapt.²⁹³ The more that such a standard becomes codified, while costs associated with uncertainty may diminish, the greater the inflexibility of copyright to cope with technological change. This analysis suggests that recent Australian moves to specify a “reasonable proportion” in the digital realm may stultify efficient transactions and therefore be a less than optimal solution.

Balancing

At least in the absence of perfect price discrimination (see Chapter Eight), obtaining adequate incentives for production will necessarily involve a price that is set above marginal cost, and thus a quantity produced that is below the quantity that would be produced by a competitive market. The issue faced by copyright policy, therefore, is how legal institutions cure the imperfections caused by excludability without losing the benefits excludability brings.

Landes and Posner argue that intellectual property rights have particularly high costs that mandate limiting them in ways that other property rights are not limited.²⁹⁴ Of all the intellectual property rights, copyright is arguably subject to the greatest restrictions or “limitations” because it protects the widest spectrum of

²⁹² David Melaugh, *Of Freepers and Fair-Use: How Technology Impacts What Is Fair* (1998 [cited 28 November 2001]); available at http://cyber.law.harvard.edu/is98/final_papers/Melaugh.html.

²⁹³ Wendy J Gordon, “Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors”, *Columbia Law Review* 82 (1982): 1656–57.

²⁹⁴ William M Landes and Richard A Posner, “Trademark Law: An Economic Perspective”, *Journal of Law and Economics* 30 (1987): 267.

“information”.²⁹⁵ Because much of this information has a “public good” character (eg needs to be accessed for research and education purposes), the Act includes limits such as fair dealing. Or, one can put the same matter in non-economic normative terms. Copying is not necessarily wrongful – it is how we learn,²⁹⁶ and in some instances can be both harmless and beneficial.²⁹⁷ Therefore it would be absurd to make all copiers *prima facie* liable as infringers.

The key is to find some means to distinguish wrongful from fair copying. Some of those means are case by case (fair dealing, for example), and others are system-wide rules, such as the provisions limiting the duration of copyright.

Consistent with this approach, the IPCRC regards exceptions such as fair dealing as necessary to ensure access to copyright material:

Intellectual property rights, like other property rights, are created subject to limitations, which are imposed for a range of social, political and economic reasons. One of the factors taken into account when providing for some limitations is the economic and social desirability of promoting access to, and wide dissemination of, information.²⁹⁸

This approach is clearly influenced by the copyright balance framework.²⁹⁹

Some commentators note, however, that if this “balancing” is not carefully implemented, insufficient incentives may be provided for the production of the copyright material in the first place. The example provided by Brill relates to the US fair use doctrine and databases:

However, an analysis of the database services market casts suspicion on the traditional economic analysis. The database market is comprised of many specialized markets, each with its own data needs. Each niche market creates a demand for specialized information – a demand that cannot easily be satisfied by products from related markets. Each of these niche markets typically is served by only one database supplier, usually the first supplier to enter the market. The propensity of the information services market to be subdivided into many sole-source markets may be evidence of a cost structure in which the first market entrant can deter later entrants through price reductions. If the cost of database services is primarily in the compilation, then entering a market already served by another provider puts the second market entrant at great risk. The first could simply lower prices enough so that the second could not recover the initial costs.

The premise that the database market is comprised of many niche markets leads to the conclusion that some of these niche markets must be primarily comprised of consumers whose access to the data would traditionally be considered fair use. If this is true, then the fair use doctrine will actually harm society by depriving the researchers of the raw data needed to continue. No for-profit database compiler is likely to enter a market, especially one with large up-front costs,

²⁹⁵ Ibid.

²⁹⁶ See Benjamin Kaplan, *An Unhurried View of Copyright* (New York: Columbia University Press, 1967).

²⁹⁷ If copying is harmless, allowing copying produces a Pareto-superior result: no one is hurt and the copyist and the customers gain.

²⁹⁸ Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000).

²⁹⁹ Ibid., 96.

whose consumers can demand the product for free. Without a market, no for-profit product development will be tailored to the market. As a result, even the researchers who are willing to pay for market-specific data will not have access to it.³⁰⁰

This concern reminds us that the balancing regime provides guidance on the need for a fair dealing doctrine, but on its own provides little guidance as to the most appropriate boundaries for the doctrine.

11.2.3 *Library exceptions*

The day-to-day operation of a library may raise a number of (often related) copyright issues:

Activities in libraries which can give rise to copyright issues include:

- supplying photocopies or digital reproductions to clients;
- copying for another library under interlibrary loan, rather than sending the original;
- copying to replace material in the collection or to add to the collection; and
- making preservation or research copies of material in the collection.

Copyright issues can also be raised where a library makes any digital material (including material digitised by the library itself) available online, even temporarily, or if a library distributes digital material electronically. Therefore emailing copyright material to clients, other libraries or staff, or posting material to a web or intranet site, may raise copyright issues. Whether libraries should be legally entitled to do any of these has become contentious.³⁰¹

However, the library and archives exceptions in the Copyright Act contain exceptions to infringement that allow libraries and archives to make reproductions of copyright material for library users for the purposes of research and study, and for other libraries for certain purposes.³⁰²

Recent legislative reforms have extended the existing exceptions for library copying to the electronic reproduction and communication of copyright material.³⁰³

The economic logic of libraries

It is often presumed that the presence of renting facilities such as libraries (see Box 11.2) reduces the profit of original producers of information goods such as copyright material. However, even if the presence of libraries and rental stores may reduce the demand for the purchase of books and video pre-recorded cassettes, because there are many readers/viewers who benefit from a library's purchase of a book, or an

³⁰⁰ Charles Brill, "Legal Protection of Collections of Facts", *Computer Law Review and Technology Journal* Spring (1998): 52–53.

³⁰¹ Ian McDonald, *A Comparative Study of Library Provisions: From Photocopying to Digital Communication* (Sydney: Centre for Copyright Studies, 2001) 4–5.

³⁰² The exceptions are described in some detail in *Ibid.*

³⁰³ *Copyright Amendment (Digital Agenda) Act 2000.*

acquisition of a new movie by a video rental store, the willingness to pay by libraries or rental stores may far exceed the willingness to pay of an individual. Thus, renting could be profit enhancing.

Box 11.2 An economic definition of “library”

At its core, a library is a facility designed for renting information. Libraries can operate either:

- for profit – the most common examples are: video shops which rent movies on DVD and video; and stock libraries which license the use of photos and other media content; or
- as non-profit organisations – this is the classic “public library” model funded directly by governments, or the “academic library” funded by schools, universities or other academic institutions. These libraries tend to provide a wide variety of information goods such as journals, magazines, music recordings, computer software, newspapers, government publications, encyclopaedias, books, and so on.

Shy notes that “since libraries must always fund themselves either from direct fees imposed on the readers, or from donors and taxpayers, the use of the term *information renting* seems an appropriate description of what constitute libraries’ activities”.

However, it should be noted that the Copyright Act makes a distinction between “commercial” and other libraries.

Source: Shy, “The Economics of Network Industries”, 2001

Shy presents an analysis that suggests that selling to libraries yields a higher profit to the author than selling directly to the readers when:

- readers do not place a high value on owning the book;
- books are costly to produce; or
- there are fewer libraries relative to the number of readers.³⁰⁴

The rationale underpinning these conclusions is as follows:

- on the supply side – the main advantage that libraries yield to the author is that the author can access the same number of readers while producing a smaller number of copies. Therefore, on the supply side, the availability of libraries substantially reduces the author’s production costs; and
- on the demand side – readers are not willing to pay as much for borrowing/renting the information goods as they are willing to pay for acquiring these goods. Hence, on the demand side, the price per reader must be lower once libraries are utilised.

In a somewhat self-reinforcing conclusion, Shy’s model suggests that libraries are socially optimal whenever the monopoly author finds it profitable to sell to libraries rather than to individuals.³⁰⁵ The reason is that in Shy’s model the author always manages to extract the entire surplus from consumers whether or not they buy or

³⁰⁴ Oz Shy, *The Economics of Network Industries* (Cambridge: Cambridge University Press, 2001) 174–75.

³⁰⁵ Ibid.

borrow the book.³⁰⁶ In effect, the monopolist can price discriminate between libraries and consumers, and between different libraries.

The implication of this conclusion is that use of materials by libraries and library users, without compensation to the copyright owners, is unlikely to be efficient. Furthermore, it would be reasonable to assume that copyright holders would be required to increase the prices charged for original copies to consumers, possibly with the detrimental result that libraries' fixed budgets would therefore have reduced effective purchasing power, and library users would be exposed to a narrower range of materials. This would not seem to equate to "maintaining a balance".

Will recent electronic library exceptions provide the appropriate balance?

As noted earlier, recent legislative reforms have extended the existing exceptions for library copying to the electronic reproduction and communication of copyright material.³⁰⁷ There are, however, restrictions on the ability of libraries to make use of the exceptions. For example:

- before supplying a reasonable portion of a work, a library must ascertain that the particular portion (along with a reasonable amount of other material) is not available within a reasonable time at an ordinary commercial price; and
- a library or archive must destroy any digital copy made for the purpose of meeting a request by a user or other library or archive. The stated policy objective behind this amendment is to prevent the accumulation of a free collection of copyright material in electronic form by libraries through the inter-library "loan" system.

With these qualifications, the Attorney-General said in Parliament that "The extension of the library exceptions into the digital environment has been carefully crafted so as to prevent competition with emerging commercial markets."³⁰⁸

The IPCRC supported the approach adopted with respect to the extension of the exceptions to include electronic copies. The IPCRC maintains that the exceptions to infringement and, in particular, the extension of the library exceptions to electronic material, are unlikely to reduce incentives for the production of material, but will operate to improve access. The report also contends that greater access to copyright material has long-run dynamic benefits for the community.³⁰⁹

To some degree the public positions of the IPCRC and the Attorney-General rely on the presumptions that:

- in the physical world, copying (eg photocopying) has not significantly reduced incentives (ie the existing copyright balance is therefore correct); and

³⁰⁶ However, selling to libraries only need not be socially optimal once the cost of maintaining libraries is taken into account.

³⁰⁷ *Copyright Amendment (Digital Agenda) Act 2000*.

³⁰⁸ Hansard, 27 June 2000, P 16935.

³⁰⁹ Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation Under Competition Principles Agreement: Final Report* (Canberra: 2000) 96.

- as the physical balance is appropriate with library exceptions, similar exceptions should be duplicated with respect to electronic materials.

The validity of this argument can be assessed by looking at:

- whether or not the current balance has been optimal with respect to the physical distribution of works through libraries; and
- studies that have addressed the degree to which photocopying, largely in the domain of libraries, has or has not undermined incentives for authors.

In the first case, and as noted earlier, increased exceptions undermine efficient price discrimination and force prices up for subscribers/purchasers. Libraries have claimed that the increased costs have resulted in their being able to purchase fewer works, and a reduction in access for library patrons:

While ARL [Association of Research Libraries] libraries spent 2.7 times more money for serials in 1998–99 compared to 1985–86, they bought 6% fewer serial titles. During the past 15 years, libraries shifted expenditures from monographs to serials to meet some of the demands of increasing serial prices, reducing the number of monographs purchased by 26%. A record low median of 24,294 monographs were purchased by ARL libraries in 1998–99, while the unit cost for monographs increased by 65%. Since 1986, the average annual increase in the serial unit cost for ARL libraries has been 9.0%; that of the monograph unit cost has been 3.9%. Both increases are higher than the general inflation trends in North America during the same period.³¹⁰

These claims have not been independently tested with any analytical vigour in Australia.

In the second case, looking at the impact of exceptions (ie increased unremunerated copying) may provide some insight into the impact of electronic copying. The economics literature on reproduction from journals, books and music recordings model the market for legal subscribers and photocopying as the market for durable goods where photocopying is modelled as similar to a secondary market for used durable goods.³¹¹ This literature shows that authors may earn higher profits when unremunerated copying of originals is allowed (compared with the case where exceptions are eliminated), and that as a result, restrictions on copying may reduce total welfare. These results were generally obtained under the assumptions that:

- authors can price discriminate between individual subscribers and libraries (or other types of dealers), thereby charging the libraries higher subscription rates that take into account the number of photocopies normally made from these

³¹⁰ Martha Kyrillidou, *Journal Costs: Current Trends & Future Scenarios for 2020* (The Association of Research Libraries, 2000 [cited 1 December 2001]); available at <http://www.arl.org/newsltr/210/costs.html>.

³¹¹ Examples include Stanley M Besen, "Private Copying, Reproduction Costs, and the Supply of Intellectual Property", *Information Economics and Policy* 2 (1986); Stanley M Besen and Sheila Nataraj Kirby, "Private Copying, Appropriability, and Optimal Copyright Royalties", *Journal of Law and Economics* 32 (1989); William R Johnson, "The Economics of Copying", *Journal of Political Economy* 93, no. 1 (1985); Stan J Liebowitz, "Copying and Indirect Appropriability: Photocopying of Journals", *Journal of Political Economy* 93, no. 5 (1985); Ian E Novos and Michael Waldman, "The Effects of Increased Copyright Protection: An Analytical Approach", *Journal of Political Economy* 92, no. 2 (1984).

journals. The trouble is that as noted above, perfect copying between libraries may reduce the ability of the supplier to effectively price discriminate between libraries; and

- a library's willingness to pay for journals should increase when copying is done on the premises because the availability of copying causes the users of a libraries' journals to value them more highly, and library funding will increase as a result. This is a highly problematic assumption.

Clearly, both these assumptions rest on shaky ground, and suggest that the balance will not necessarily be appropriate if exceptions are carried over to electronic copies.

There are some further observations regarding the extension of the library exceptions to cover electronic copies:

- the Australian approach is out of step with overseas developments □ for example, this concession to libraries was not the approach in the US in the Digital Millennium Copyright Act.³¹² Instead, they opted not to give such broad exemptions to libraries and archives until more experience is gained in respect of copyright material on the Internet. This approach, according to McDonald, is the preferred approach, given that the Internet and the use of copyright material is in its infancy;³¹³ and
- there is a suspicion that government and bureaucratic moves to quarantine libraries from compensating property rights owners is based, at least to some degree, on ensuring that costs for libraries are not increased and hence there are not calls for greater public funding for them.³¹⁴ This suspicion is not unreasonable given the government's refusal to lift a price cap for the Australian Broadcasting Corporation's (ABC's) use of copyright material on similar grounds,³¹⁵ despite its clear inappropriateness.³¹⁶

In total, the economic rationales for supporting or opposing exceptions for libraries are somewhat weak. This is an area where economic models support both positions, but rest on somewhat doubtful assumptions. Qualitative analysis of actual Australian behaviour and outcomes would assist in clarifying whether or not the current physical and digital exceptions are justified.

³¹² See Ian McDonald, *A Comparative Study of Library Provisions: From Photocopying to Digital Communication* (Sydney: Centre for Copyright Studies, 2001).

³¹³ Ian McDonald, "Proposed Changes to Australian Copyright Law" (paper presented at the APPA/CAL Conference, 3 June 1999).

³¹⁴ See House of Representatives Standing Committee on Legal and Constitutional Affairs, *Advisory Report on Copyright Amendment (Digital Agenda) Bill 1999* (Canberra: Parliament of Australia, 1999) 15.

³¹⁵ Commonwealth Government, "Government Response to Intellectual Property and Competition Review Recommendations" (Canberra: 2001).

³¹⁶ See Intellectual Property and Competition Review Committee, *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report* (Canberra: 2000) 114–16; The Allen Consulting Group, *The Regulation of Copyright Fees for Broadcasters' Use of Sound Recordings: Report Prepared for the Phonographic Performance Company of Australia (PPCA) and the Australian Record Industry Association (ARIA)* (Sydney: 1999).

12: Collecting societies

Copyright collecting societies are non-government organisations that administer the rights of copyright owners. The members of a copyright collecting society license their copyright to the society, which in turn licenses the copyright material, and collects and distributes royalties, on behalf of the copyright owners. Societies also take legal action against those who infringe the copyrights to which they hold title.

Societies may either:

- be voluntarily formed with no special role in administration and enforcement of copyright; or
- have specified roles under the various compulsory licensing schemes. Royalty payments in compulsory licensing schemes are set by negotiation between licensees and a copyright collecting society, or by the Copyright Tribunal. Royalty payments are collected by collecting societies.

12.1 The economic role of collecting societies

The problem of non-excludability associated with many copyright works gives rise to a number of specific problems:

- copyright owners may find it difficult to identify and promote their work among potential users;
- potential licensees of a given work may find it hard to identify and locate the copyright owner who can authorise use; and
- due to the ephemeral nature of public performances and the non-excludable nature of copyright works, it is often difficult for individuals to control access to works and to subsequently detect unauthorised performances.

These problems can be described in transaction cost terms:

- identification costs – potential licensees of a given copyright work may find it difficult to identify and locate the copyright owners who can authorise uses such as public performances. These difficulties are magnified because most users wish to license performance rights from many copyright owners. As a result, many such users (especially small businesses) may decide that the costs associated with obtaining a licence outweigh the benefits to be gained from the transaction;
- information costs – without a collecting society, individual negotiations for use of copyright works would be complicated by the expense and difficulty of obtaining the information necessary to negotiate a price for a given use (eg a performance right for music). Because the value of performance rights is largely a function of the performance itself (and therefore varies according to audience size, type of use and number of performances rendered), the parties must have access to such information in order to negotiate prices. However, as most licences are negotiated before a performance, users are forced to estimate the price and value of their

performance rights. These estimates are based upon little more than: generalised information concerning a licensee's use of copyright works; the parties' subjective notions of a work's value; and premature indications of its popularity. Clearly, there is a significant error margin associated with such a process. The existence of this error margin is likely to substantially add to the costs of individual licensing transactions. Even if the parties were to base their negotiations on prices charged for similar performances, information costs would still be generated as such prices would vary according to the popularity of a particular piece;³¹⁷ and

- transaction time costs – in addition to eliminating the costs of separate licensing negotiations, blanket licensing eliminates the transaction costs associated with the time consumed by such negotiations or comparable licensing processes. For example, in the case of performance rights for music, many users do not know in advance which copyright works are to be performed. These users cannot rely upon prior authorisation from individual copyright owners to preclude possible infringements, but instead require the access to entire catalogues that blanket licences provide. Furthermore, a blanket licence grants instant access to new (and probably popular) works that enter a society's catalogue over the term of the licence, thereby doing away with the need for time-consuming licensing transactions. Many users place substantial economic value on the ability to perform any work in the society's repertory at a moment's notice and on the avoidance of the time-lag inherent in licensing negotiations.

For most individual copyright owners these costs are likely to be high in relation to the value of their works. Left to the individual copyright owner, it is therefore unlikely that it would be feasible to effectively enforce the copyright owners' copyright.³¹⁸

However, a collecting society can overcome this difficulty by providing centralised administration, which lowers collection costs by:

- taking advantage of economies of scale in establishing a large network to locate and match up potential users with copyright owners; and
- reducing unnecessary duplication – the administrative apparatus of a collecting society consolidates the otherwise duplicated efforts of individual copyright owners, each monitoring the same user, into one effort that polices the use of all the works in its repertoire.³¹⁹
- significantly reducing average cost of enforcement – this can be explained by a series of interconnected factors:
 - as a large litigant, collecting societies are perceived to have deep pockets to fund test cases and call the bluff of defendants;

³¹⁷ In contrast, blanket licensing avoids these difficulties and expenses because it provides an efficient system for determining the value and price of music performance rights, based upon the benefit actually conferred by the licensed music.

³¹⁸ Stanley M Besen, Sheila N Kirby and Steven C Salop, "An Economic Analysis of Copyright Collectives", *Virginia Law Review* 78 (1992).

³¹⁹ JM Fujitani, "Controlling the Market Power of Performing Rights Societies: An Administrative Substitute for Antitrust Regulation", *California Law Review* 72 (1984): 110.

- enabling collecting societies to signal to prospective parties that they are serious; and hence
- strengthening deterrence and allowing the collecting societies to shift resources to new investigations and education campaigns.

The administration of copyright involves a significant investment in information collection and processing. Although collecting societies, by acting on behalf of all copyright owners, are able to economise on enforcement costs, many of the aspects of copyright enforcement contain a high proportion of fixed costs. These fixed costs relate to the establishment of the systems for monitoring users and registering works. By contrast, once these systems are in place, the incremental cost of accepting another copyright owner, or new work, into the system is insignificant. If these fixed costs are high enough over the relevant output range, then the average costs of enforcement will also be declining and the lowest costs are incurred by society being served by a single collecting society. The characteristics of costs define the conditions for a natural monopoly.³²⁰

As a result of this generalised cost structure, a standard assumption made in Australian cases has been that collecting societies are natural monopolies.³²¹ Indeed, economists generally tend to assume that most collecting societies are natural monopolies.³²² This need not be the case, however, as demonstrated in the US.

In effect, collecting societies – by their size, coverage, and the natural monopoly nature of their operations – provide cost-effective enforcement of property rights, and are able to feasibly enforce individual copyright owner’s rights:

It is an inherent feature of the system of copyright that it is based on the principle of granting exclusive rights to individual creators. For individual owners, it is often difficult to maximise the economic value of their rights and to protect those rights. The cost of doing so is often greater than the potential gain. Similarly, third parties who wish to use those rights must incur the trouble and expense of finding the appropriate rights owners, negotiating individual deals and administering and accounting to a plethora of such rights owners ... the collective administration of copyright is often the most effective method of managing the rights, both for the owners of the rights and those who need access to them. Quite simply, collective administration is in the public interest.³²³

³²⁰ A natural monopoly is a firm that can produce a given level of output at lower cost than two separate firms could produce that output. This is called subadditivity and is represented mathematically as: $C(Y) < C_1(X) + C_2(Z)$. The left side of the inequality represents the cost to the natural monopolist of producing a given output, Y. The right side of the inequality represents the cost of two separate firms producing that same output, where $X + Z = Y$. In such a case it is most efficient for one firm to produce this product.

³²¹ *Re Applications by Australasian Performing Right Association* [1999] ACompT 3.

³²² See Ruth Towse, “The Monopolies and Mergers Commission’s Investigation of the U.K. Music Market”, *Journal of Cultural Economics* 21, no. 2 (1997): 149.

³²³ Shane Simpson, *Review of Australian Copyright Collecting Societies: A Report to the Minister for Communications and the Arts and the Minister for Justice* (Department of Communications and the Arts, 1995 [cited 7 August 2001]); available at http://www.dcita.gov.au/nsapi-text/?Mlval=dca_dispdoc &pathid=%2Fpubs%2Fsimpson%2Fsimpson1.htm.

12.2 *Some observations about particular features of collecting societies and their operations*

A major concern with respect to collecting societies is that they employ actually or potentially anti-competitive means to achieve their objectives. That is, collecting societies bring together parties who would normally be competitors, thus discouraging users from purchasing other material (tying) and jointly determining prices for the copyright material (price-fixing).³²⁴ The potential for competition (ie antitrust) concerns is acknowledged by a collecting society's solicitor:

It is not surprising that collecting societies have the potential to interfere with competition policy. Collecting societies, by virtue of their importance to copyright owners, and the volume of rights they may control, will almost certainly dominate their respective markets. For example, they are usually the only relevant body from which users can obtain rights for different copyright owners.³²⁵

In particular, there are a number of characteristics commonly found in collecting societies that raise *prima facie* concerns with competition authorities and commentators. In general, these concerns can be classified as focusing on either:

- inputs – the arrangements between producers of copyright works and the collecting societies; or
- outputs – the relationship between collecting societies and users (eg prices, quantities, terms and conditions, etc).

As a result of such concerns, collecting societies have often been the target of antitrust actions in Australia, the US and Europe.³²⁶ These concerns will be addressed in turn, in terms of their effects on the costs of effective enforcement.

12.2.1 *Input arrangements*

The major input arrangements relate to the collecting society's exclusivity of control of the copyright works.

Generally, in order to become a member of a collecting society, an author (licensor) is required to grant an exclusive or sole licence over their present and future work to the collecting society (licensee). The term "exclusive" is usually defined to mean that the licensor will neither license any other person to exercise the intellectual property

³²⁴ Commonwealth Treasury of Australia, "The Economic Role of Copyright", in *Economic Roundup* (Canberra: AGPS, Autumn 1996).

³²⁵ Peter Brudenall, "The Collective Administration of Copyright and Competition Policy: Tension in the Digital Age", *Australian Intellectual Property Journal* 8 (1997): 125–26.

³²⁶ See, for example, *Ibid.*; John Cirace, "CBS v. ASCAP: An Economic Analysis of a Political Problem", *Fordham Law Review* 47, no. 3 (1978); GA Clark, "Blanket Licensing: The Clash between Copyright Protection and the Sherman Act", *The Notre-Dame Lawyer* 55 (1980); Connie C Davis, "Copyright and Antitrust: The Effects of the Digital Performance Rights in Sound Recordings Act of 1995 in Foreign Markets", *Federal Communications Law Journal* 52, no. 2 (2000); Reinhold Kreile and Jürgen Becker, *Collecting Societies in the Information Society: Economic and Legal Aspects* (1997 [cited 7 August 2001]); available at <http://www.gema.de/eng/public/jahr97/index.html>; Organisation for Economic Co-operation and Development, *Competition Policy in OECD Countries: 1994–1995* (Paris: OECD, 1997).

rights nor itself exercise the intellectual property rights in the specified licensed territory.³²⁷

Critics maintain that exclusive licensing may stifle competition in the availability and form of licensing arrangements. It is argued that the inability of authors to license to a collecting society on a work-by-work basis restricts their ability to engage in competitive direct licensing with users.

However, the exclusive copyright access a collecting society has over a copyright owners' works is an important element in ensuring the cost-effective enforcement of copyright. This relates to:

- the initial licensing exercise – the assignment of non-exclusive rights creates:
 - practical difficulties in obtaining proof of copyright;
 - substantially greater legal costs; and
 - unavoidable delays.
- This may result in copyright collecting societies being more selective in which sources of copyright they choose to enforce, and opens the door to widespread infringement of copyright;
- operating non-exclusive licensing arrangements – such costs may include:
 - costs associated with differentiating between licensed and unlicensed works, and the associated costs involved in detecting unauthorised use;
 - additional costs borne by (most) users in ensuring their full compliance with licensing requirements; and
 - costs associated with fragmentation of ownership rights and therefore a diminution of incentive to pursue breaches of copyright.

In many respects, the grant of an exclusive licence to a collecting society is analogous to an assignment of property rights originally vested in the author. The copyright owner has assigned the exclusive rights of exploitation of the product to the licensee. If a collecting society does not have an exclusive undertaking, it may be deterred from accepting the risk of enforcing the copyright of an intellectual work.

However, not all collecting societies operate on the basis of exclusivity. For example, in Australia exclusive licensing is not a feature of the Copyright Agency Limited (CAL) or Screenrights.³²⁸

³²⁷ Trade Practices Commission, *Application of the Trade Practices Act to Intellectual Property* (Canberra: Commonwealth of Australia, 1991) 21.

³²⁸ Jill Walker, "Collecting Societies: Efficiency, Monopoly, Competition and Regulation" (paper presented at the Intellectual Property, Competition Policy's Next Frontier Conference, Sydney, 23 March 2001) 2.

Indeed, the degree to which exclusivity is required was a key issue in the authorisation of Australasian Performing Right Association Limited's (APRA's) operation under the Trade Practices Act.

The ACCC was prepared to authorise APRA's arrangements subject to certain modifications to facilitate this source licensing, through opting out for commissioned works and more generally through a licence-back arrangement for individual works and users. This would leave the APRA repertoire intact for other users but facilitate the development of competition where it might be feasible.³²⁹ This was considered unacceptable by APRA, and authorisation was not granted.

APRA subsequently applied to the Australian Competition Tribunal (ACT) for a review of the ACCC's decision. In its decision, the ACT stressed the importance of exclusivity for the operations of a natural monopoly collecting society:

Unless the collecting society is able to obtain and retain the ability to license a comprehensive repertoire of works, the many benefits which have maintained the viability of collecting societies will be lessened. Licensees will not simply obtain comprehensive protection against infringement, transaction costs for licensees will increase, administration costs of the society in respect of recording input information, monitoring use, and effecting distribution will increase significantly, and monitoring and enforcement of copyright by the society will become difficult. Those who attempt self-administration are likely to face an imbalance of bargaining power when dealing with producers and large users of music, and to encounter considerable difficulty in policing their copyright, particularly in respect of overseas performances, and will be at risk of losing royalties. It is understandable that suggested modifications to the requirement of exclusive assignments have been approached with great caution, and we think this Tribunal should proceed in the same way.³³⁰

The ACT took the view that the APRA system was essentially a natural monopoly, but to the extent that modifications could be made to inject competition without undermining the entire system, considered that this should occur:

We have concluded that the introduction of an opt-out system on a work by work basis, which permits a member either to withhold a commissioned work, or to obtain a reassignment of a work already within APRA's repertoire, should not be required as a condition of authorisation. We think the risk of harm to the essential structure of APRA if works are withheld or withdrawn from the repertoire is too great. On the other hand, an opt-out system under which a member could obtain from APRA a non-exclusive licence for a specific work or works would carry fewer risks. In particular a non-exclusive licence would not create a hole in APRA's repertoire, and in the interests of the member, would leave in place a structure under which royalties would be collected for local use by other licence holders, and for overseas use. We have concluded that the introduction of a non-exclusive licence-back scheme containing the features

³²⁹ For this to be effective, some modification to the output arrangements would be required (eg blanket licence fees adjusted according to the use made of APRA's repertoire); otherwise, users would have no incentive to engage in direct licensing.

³³⁰ *Re Applications by Australasian Performing Right Association* [1999] ACompT 3 (16 June 1999) para. 350.

suggested by ACCC, including two of the variants to that proposal could be introduced without damaging essential features of the APRA system.³³¹

The ACT's approach (ie a non-exclusive licence is provided to the member) is to be preferred to that of the ACCC (ie the member retains an exclusive licence) for a number of interrelated reasons:

- if there is scope for effective direct licensing and enforcement then it is likely that the enforcement with respect to that work does not necessarily have the natural monopoly characteristics attributed to collecting societies as a whole (ie they have to be large and cover the field to ensure practical enforcement); and
- it would seem to be in the best interests of consumers to ensure that there is competition in the provision of that work; this is done by giving both the member and the society opportunities to provide the work. Otherwise, all that is being done is a transfer of the monopoly for that work from the collecting society to the member.

12.2.2 Output arrangements

There are a number of output arrangements which cause some *prima facie* concern with competition authorities.

Monopoly output and pricing

Considerable concern has been expressed regarding the view that moves towards collective enforcement of copyright may be a means by which the market power provided by copyright laws can be aggregated in an anti-competitive manner.³³² In particular, copyright collecting societies may be seen as anti-competitive because they are directed to concerted actions by parties who would normally be competitors. Having a single retailer of copyright works means there are likely to be uniform pricing arrangements (ie it is implicit price-fixing as it circumvents price competition among copyright owners). Indeed, the Commonwealth Treasury notes that:

A number of producers of intellectual property may combine to grant separate non-exclusive licences to a separate entity (possibly a collecting society) which in turn may grant sub-licences to users of the intellectual property. This may allow collusion on licensing fees and terms, and may therefore prevent effective competition.³³³

A collecting society with natural monopoly characteristics and exclusive copyrights will provide benefits in the form of lowering the overall costs of enforcement, and passing these lower costs back to rights holders in the form of larger revenue shares.

³³¹ *Re Applications by Australasian Performing Right Association* [1999] ACompT 3 (16 June 1999) para. 20 of "Summary Statement".

³³² Peter Brudenall, "The Collective Administration of Copyright and Competition Policy: Tension in the Digital Age", *Australian Intellectual Property Journal* 8 (1997).

³³³ Commonwealth Treasury of Australia, "The Economic Role of Copyright", in *Economic Roundup* (Canberra: AGPS, Autumn 1996).

However, there are likely to be costs associated with being a natural monopoly (eg the tendency to be inefficient due to the lack of external competition), but the degree to which costs are borne by the community is debated, with two general schools of thought:

- the strong monopoly view – this approach assumes that natural monopoly collecting societies will behave as most other monopolists do; and
- the price discriminating monopolist view – this approach assumes that collecting societies use their monopoly power to price discriminate.

These different views are discussed in the following sections.

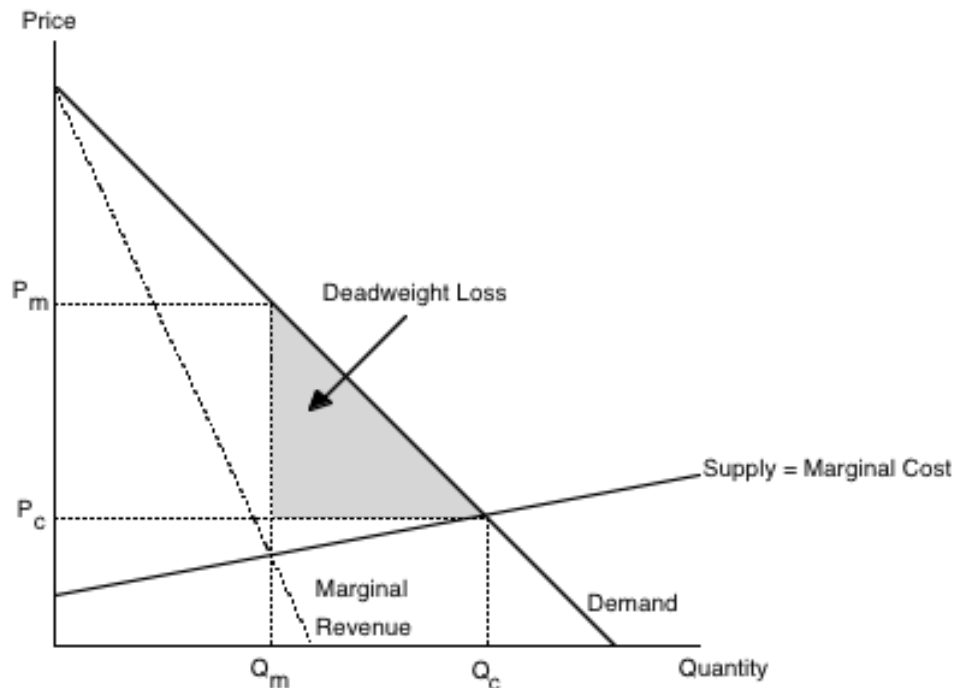
The strong monopoly view

This school of thought holds that the market power that collecting societies have enables them to restrict supply of copyright works and hence raise the price of the works above that which would otherwise be charged.³³⁴ This restriction of supply need not be explicit. In practice it is likely to arise from a number of factors, such as restrictive membership criteria or licensing conditions.

Since in a pure natural monopoly it is most efficient for one firm to produce the output, society is faced with a dilemma. It is feared that a natural monopolist, as any other monopolist, will produce a monopoly quantity and charge a monopoly price. This entails setting the quantity supplied so that marginal revenue equals marginal cost. The resulting price is higher than in the perfectly competitive case (where price is set equal to marginal cost and deadweight loss to society is minimised) since the monopolist is not a price taker and can set its output where marginal revenue equals marginal cost. The natural monopolist's average cost lies above marginal cost and subsequently the firm produces at a loss if it prices at marginal cost. This results in a deadweight loss to society equal to the shaded region in Figure 12.1.

³³⁴ An exception may be those collecting societies that administer statutory licensing schemes and are obliged to make available their collection of copyrighted material at a fee externally set (ie by the Copyright Tribunal).

Figure 12.1 Natural monopoly



Note: Q_m is the quantity the monopolist produces. Q_c is the amount at which a perfectly competitive industry would supply. P_m is the price the monopolist charges.

Under this view the consequence of collective licensing is an increase in price and, as a corollary, a decrease in use. Despite the emphasis that is currently placed on the creation of material, that material only has value to the community to the extent to which it is used. The broader diffusion and use of intellectual property adds value without adding extra cost.

The price-discriminating monopolist view

A standard concern of monopolies relates to potential efficiency losses associated with constraining output (and hence monopoly prices exceeding market prices). However, in the case of monopoly collecting societies, there is no attempt to restrict entry, or to limit composition activity. Rather, the collecting societies maximise available revenue by acting as a price-discriminating monopolist – establishing different prices (licence fees for different users).

The question is, what form of price discrimination do collecting societies engage in?³³⁵ The broad nature of societies' licensing arrangements (ie the blanket licences) indicates that collecting societies do not engage in first-degree price discrimination. Instead, the blanket licences are most appropriately seen as a form of third-degree price discrimination. Third-degree price discrimination increases welfare when it encourages a sufficiently large increase in output as it facilitates use of copyright

³³⁵ This question is all too easily overlooked, with the resultant errors associated with assuming that first-degree price discrimination is possible. See, for example, Philip Williams, *APRA's Authorisation Application to the Act – Witness Statement: Philip Williams* (Melbourne: London Economics, 1998).

works by niche markets that would not otherwise be served under a uniform pricing policy. However, if output doesn't increase, total welfare will fall.³³⁶

It is reasonable to assume that output will increase under collecting societies' operations because:

- with respect to statutory compulsory licensing arrangements there is no scope for societies to refuse to license the copyright material; and
- with respect to other collecting societies, they have shown an eagerness to extend licensing by offering a broader range of licence categories.

Under this view the Copyright Tribunal (and other price-setting bodies) should not hinder the ability of the societies to price discriminate, and should instead focus on non-price matters.

Blanket licensing

The type of licence offered by a collecting society (licensor) has a significant impact on the level of transaction costs involved in copyright administration. The dominant form of licensing arrangement practised by collecting societies around the world is blanket licensing.

The Copyright Tribunal has described a blanket licence in the context of music licensing as follows:

It is a licence, which, in practical terms, authorises the broadcasting of all music, which is the subject of copyright ... In effect it means that the licensee (user) may confidently use all music available in the world, secure in the knowledge that in doing so, it will not infringe copyright.³³⁷

The nature of copyright encourages the adoption of blanket licensing, in order to lower the cost of administration of copyright owners' rights. From the point of view of enforcement, blanket licences overcome the need to closely monitor individual users' use of individual works; the focus of enforcement falls on identifying the users who are licensed, and those who are not.

These features can provide a number of efficiencies in relation to transaction and enforcement costs:

- a blanket licence reduces costs to users involved in searching for copyright owners;
- making the whole catalogue of works available to users imposes no more cost to the collective than licensing only a part of it, but yields benefits to users in terms of ensuring complete coverage of works,³³⁸

³³⁶ See Frederic M Scherer and David Ross, *Industrial Market Structure and Economic Performance*, 3rd ed. (Boston: Houghton Mifflin Company, 1990) 496.

³³⁷ *Re Australian Broadcasting Commission* (1985) 5 IPR 449 at 454.

³³⁸ Abraham Hollander, "Market Structure and Performance in Intellectual Property: The Case of Copyright Collectives", *International Journal of Industrial Organization* 2 (1984): 203.

- it is easier and less costly for copyright owners to identify users than it is for a society to monitor use. In particular, the society can be confident that users without a licence do not have a licence from another source; they need to focus only on the presence or absence of a licence rather than on whether or not individual works have been licensed; and
- the blanket licence offers particular advantages for users with unpredictable requirements, such as live performers, telecommunications carriers and retailers, providing advance access to a comprehensive repertoire of musical works. The blanket licence also encourages the efficient use of the existing repertoire, where the marginal cost of such use is zero.³³⁹

Liebowitz also notes the broader efficiency benefits:

Blanket licenses have some very useful economic characteristics. First, since the cost of using another copyrighted item in the repertoire is zero, consumers who purchase the license use the optimal amount of these public goods. From an economic efficiency vantage, this is much better than selling the individual items in the repertoire one at a time (unless the seller were a perfect price discriminator). The blanket license provides copyright owners with revenues to help pay for the fixed costs of creation, although the revenues may not be as perfectly related to willingness to pay as would be the case for a perfect price discriminator.³⁴⁰

There are some possible inefficiencies associated with blanket licensing, but the characteristics of the industries that rely most on such licences suggests that such potential inefficiencies are small:³⁴¹

It is possible that some users may not purchase the blanket license, so there may be an inefficiency on the consumption side anyway, although in the case of television and radio, all stations have purchased such licenses and the artificial restriction on the number of stations by regulators tends to ensure that the blanket license fee doesn't reduce the number of stations. Also, since the price itself is related to willingness to pay (i.e., approaches perfect price discrimination) the system would appear to have excellent efficiency characteristics given that the products are public goods.³⁴²

In contrast, licences that are tailored to individual users increase transaction costs. This mainly arises due to the fact that the collecting society no longer has exclusive copyright control over their members' work. This affects transaction costs in the following ways:

- diminished certainty – without blanket licensing, users can no longer be certain that their use does not infringe copyright. With direct licensing, users will be forced to identify and obtain licences from all possible sources of copyright

³³⁹ Jill Walker, "Collecting Societies: Efficiency, Monopoly, Competition and Regulation" (paper presented at the Intellectual Property, Competition Policy's Next Frontier Conference, Sydney, 23 March 2001), 2.

³⁴⁰ Stan J Liebowitz, *Copyright, Piracy and Fair Use in the Networked Age* (2001 [cited 2 August 2001]).

³⁴¹ See John Cirace, "CBS v. ASCAP: An Economic Analysis of a Political Problem", *Fordham Law Review* 47, no. 3 (1978).

³⁴² Stan J Liebowitz, *Copyright, Piracy and Fair Use in the Networked Age* (2001 [cited 2 August 2001]).

ownership and commit additional resources to determine which works they are licensed to use; and

- inefficiencies in the costs of enforcing copyright – as the holder of a non-exclusive licence is unable to bring infringement proceedings, proceedings would have to be bought by the copyright owner. The copyright owner may not be in Australia, or may be difficult to identify. Further, the copyright owner may not be in a financial position to commence proceedings. The damages for infringement of a single work may not justify the commencement of legal proceedings by an individual owner. If the rights in a number of works are in the hands of more than one owner and an infringement occurs, all owners may wish to bring proceedings, resulting in unnecessary duplicative litigation costs.

This analysis suggests that blanket licences are an appropriate licensing approach for copyright collecting societies.

Diversity and quality of works

Again, there are two views as to the impact of collecting societies on the diversity and quality of works.

A particular difficulty with price fixing of copyright material is its failure to recognise the differing quality and value of works. In all the present Australian collective licensing societies, all works are considered equal and interchangeable.

It can be shown that product competition is not enough to create a smooth and more realistic transition between low-quality/low-reward and high-quality/high-reward works. Because of this distorted transition, the price-fixing effect of the collecting societies might be one factor causing the creative industry to have a few elites who earn considerably more than the majority of artists, who appear to get substantially less than the value of the work they create.³⁴³

Some collective licensing practices (blanket licences) discourage direct commissioning of works. In Australia, most creative commissions are given to Australians. Collective licensed material, on the other hand, is mostly foreign (American). Thus blanket licences might discourage use of Australian work, which would generally be considered a negative outcome by policy-makers.

In addition to the primary costs of the market power held by collecting societies, it is likely that there will also be secondary costs associated with quality. For example, the collecting societies' restriction on the diffusion and use of intellectual property (ie by requiring a blanket licence when all that is required is a licence to a single work) may go some way towards explaining why low-quality material ("elevator music" or "muzak") is used in locations where use of original material may be preferred.³⁴⁴

³⁴³ The superstar effect – Sherwin Rosen, "The Economics of Superstars", *American Economic Review* 71 (1981). An alternative view is that the revenue from the elites substantially covers the administration costs of collecting societies, and hence facilitates the collection of funds for non-elites.

³⁴⁴ Peter Lupton and Peter Drahos, *Copyright Collecting Societies: Towards a Regulatory Balance of Public and Private Interests – a Response to the Simpson Report* (Canberra: Australian National University, 1996).

An alternative view is that the role of collecting societies is to coordinate price and fee collection, and not to set the range of works that users might “purchase”. Supporters of this view hold that a collecting society’s price coordination role results in net public benefits because copyright owners must still compete with one another on non-pricing dimensions. Therefore, given user choice, competition among copyright owners results in maximum incentives to generate quality products designed for user tastes. That is, copyright owners still have the maximum incentive to compete on these dimensions for they receive more income from their work if users decide to use it rather than other copyright owners’ works.

The degree to which collecting societies affect diversity and quality is an issue which is yet to be resolved.

Part E: Implications of the “new communications environment”

This Part considers the implications of technological change, including new communications and information technologies, for an economic understanding of copyright law.

13: Copyright and the “new communications environment”

13.1 Characteristics of the “new communications environment”

While there is much talk of the “new communications environment” (NCE), the “Internet economy”, the “digital economy” and so on, there is often some uncertainty as to precisely what this means. This chapter sets out some of the key features of the NCE,³⁴⁵ which are then considered in a copyright context.

13.1.1 Digitisation

Digitisation is the underlying feature of the NCE. There are a number of benefits and features of digitisation which have contributed to the change in dynamics from the old communications economy. These include:

- ease of reproduction – one of the main differences between mechanisation and digitisation is the ease with which copies can be made. Perfect copying is able to be conducted at very low cost;
- non-exclusivity – viewing of a copy by one user often does not exclude others viewing and copying it simultaneously;
- low-cost transmission – unlike old-economy goods which were often time-consuming and costly to transport, digital goods are able to be transmitted at extremely low cost and often almost instantaneously to anywhere on a digital network;
- reduced ability to discriminate by geographical location – since digitisation has fundamentally changed the way in which consumers are identified – from

³⁴⁵ There are, of course, a range of features additional to those listed here – see Jon Putnam, “Copyright in the Digital Age” (paper presented at the Intellectual Property & Innovation in the Knowledge-Based Economy Conference, Toronto, 2001).

geographical location (country/state/postcode) to local area network – it is often more difficult to differentiate between users on a locational basis,³⁴⁶

- low storage costs – unlike the old communications environment, which was characterised by physical storage systems, digitisation allows electronic storage of most files, documents and databases, considerably reducing stresses on physical space;
- ease of aggregation/disaggregation – another user-friendly characteristic of digitisation is the ease with which electronic documents are able to be broken up, pieced together or extracted from; and
- increased ability to search – another powerful tool of digitisation is the ability to search, either internally (within a document or file) or externally (within a database, library, the Internet and so on).

Associated with digitisation, a concept that underpins much of the economics of new communication technologies, is the process of disintermediation.³⁴⁷ Disintermediation is the removal of intermediary services from the supply chain. In the chain of activity between the producer and the final consumer, intermediaries perform many services, including transportation, wholesaling and retailing – these activities are known as margins because their costs form a margin between buyers' and sellers' prices. In most OECD countries, margins typically add about 33 percent to the final price of goods.³⁴⁸ With the advent of digitisation, disintermediation can be significant in some copyright-intensive industries – see Box 13.1.

13.1.2 A changing relationship between producers and consumers

In the NCE, the traditional role of consumers and producers is changing – the line between the two is blurring.

Consumption of an old-economy good requires a different technology from that required for production of the good. For example, an old-economy consumer would read a book or watch a movie. In each case, producers and consumers had distinct roles. In the NCE, however, consumption of a digital work often requires the production (or transitory copying) of a digital copy. In this way, a consumer of the good is often required to be a producer in order to “consume” the final product.

The NCE is also characterised by an increased reliance upon licensing rather than sale. Copyright goods (eg software, music) are licensed to users rather than sold, allowing the licensor to impose conditions on the licensee. This facilitates ongoing monitoring of users and inhibits the resale of the copyright good.

³⁴⁶ This does not mean that producers will not attempt to make geographical distinctions (eg regional encoding of DVDs).

³⁴⁷ See The Allen Consulting Group, *E-Commerce Beyond 2000* (Canberra: National Office of the Information Economy, 2000).

³⁴⁸ Organisation for Economic Co-operation and Development, *The Economic and Social Impact of Electronic Commerce: Preliminary Findings and Research Agenda* (Paris: OECD, 1999) 64.

Box 13.1 Possible disintermediation in the record industry

The music industry is an example of an industry in which digitisation has had a major impact on reducing (or at least, potentially reducing) intermediary costs. These costs are predominantly associated with manufacturing and distribution (ie links in the industry's value chain not directly associated with production of the master copies of the music).

The following analysis highlights the costs threatened by digital production of a CD in US Dollars (US\$):

- while CDs are currently pressed in bulk in large factories, manufacturing costs can be significantly decreased in a digital environment where music can be conveyed over the Internet directly to consumers or to stores for on-demand burning. This reduces the need for a centralised manufacturing sector.
Up to US\$1.00 is disintermediated.
- costs of distribution are also significantly reduced with the ability to convey music over the Internet. Physical distribution is no longer required and the only distribution cost is for bandwidth, which totals a few cents.
Up to US\$1.40 is disintermediated.
- cost of promotional material is also significantly reduced with access to music on the Internet. Audiences can be targeted better so there are fewer dollars spent on general store advertising. In addition, it is possible to conduct research more easily and efficiently in a digital medium.
Up to US\$2.25 is disintermediated.
- the reduction in the number of CDs being pressed means that there will be fewer CD retailers with their associated costs (overheads, marketing, inventory).
Redistribute up to US\$4.00 of the retailer mark-up.

Consequently, of the original US\$15 retail cost of a CD, up to US\$9 may be disintermediated due to the digital nature of the product and digital distribution technologies.

Source: Derived from May and Singer, "Unchained Melody", 2001

13.1.3 Network effects and standardisation

As described in some detail in section 7.2.7, network effects arise when the value of a product increases with the number of users of the product. In practice, network effects are closely related to the processes of formal and informal standards formation.

The need for standards is of increased importance in the NCE. In the old communications environment, a book could be printed and published in any format and bought and read by any end user. The digital environment is less able to cope with the demands of infinite underlying formats – without standards to ensure compatibility, the network fails to function properly.

Furthermore, increased network effects in the NCE are changing perceptions as to the importance and role of standards. The traditional view was that there were basically two classes of standards:

- those that create economies of scale – these economies arise from the increase in the extent of the market that results from reduced variety; and

- those that lower transaction costs – in the second class of standards, benefits arise because the standards help reduce the transaction costs of coordination and monitoring.³⁴⁹

The evolving view is that this traditional view is not necessarily correct in the NCE, principally because of increased network effects: “What economies of scale meant for production in an industrial society are now network economies for the information society.”³⁵⁰ The existence of network effects means that the dominant factors are:

- positive feedback – one obvious effect of a network is that it gains value from its users. That is, its value is enhanced by the number of its users (ie the bigger the network, the more attractive it becomes, as growth induces further growth). The value of a network product does not only depend on actual developments in the number of users; it is also influenced by user-members’ expectations regarding future developments (ie positive expectations become self-fulfilling). Where there are strong positive feedback effects, economists regard the market as being “tippy”. This means that once a critical threshold is reached, the market may “tip” strongly in favour of one product or producer.³⁵¹ At the extreme, “tippy” markets may result in “winner-take-all” competition, where all competitors to the dominant product are eliminated. Network externalities may therefore be a source of market power; and
- lock-in effects – in market phases where there are no standards that have yet gained general acceptance, consumers are faced with a high level of uncertainty in purchasing. They risk deciding on a standard that does not catch on in the market. On the other hand, they might already be locked in by a certain standard, and the cost of switching to another one is greater than the value gained from the switch.

These factors combine to reinforce the overriding importance of standards and network externalities in the NCE.

13.2 Implications of the NCE for the economics of copyright law

In a highly prescient 1986 report, the US Office of Technology Assessment (OTA) justified its focus on copyright when looking at the imminent communications revolution:

First, since copyright is concerned primarily with the use and flow of information and information-based products and services, it is the area of intellectual property law that will be most affected by advances in communication and information technologies. Second, it is to copyright rather than to other provisions that the creators, developers, producers, and distributors of new

³⁴⁹ CP Kindleberger, “Standards as Public, Collective and Private Goods”, *Kyklos* 36, no. 3 (1983).

³⁵⁰ Christine Schatzl, “The Role of Standards in the Information Society” (paper presented at the IEEE Conference on Standards and Innovation in IT: Standardisation and Innovation in Information Technology, Aachen, Germany, 15–17 September 1999).

³⁵¹ ML Katz and Carl Shapiro, “Antitrust in Software Markets” (paper presented at the Competition, Convergence and the Microsoft Monopoly Conference, 5 February 1998) 5.

information technologies are looking in their efforts to gain legislative protection for their works.³⁵²

The OTA's 1986 observations have been reaffirmed by the emergence of the Internet and other new communications technologies:

- the development of new and improved digital communications and information technologies has significantly reduced the costs of accessing, copying and redistributing copyright material. This has made it more difficult to detect copyright infringements;
- significant effort is being devoted to the development of reliable tracking, access-protection and copy-protection technologies so as to make it easier for producers to recoup the costs of the development and distribution of their intellectual material, irrespective of whether or not such material is protected by copyright;
- demand for intellectual property protection – and specifically copyright protection – has increased as new forms of expression and communication have developed, and as increasing value has been associated with information-based products. For example, Ergas notes that:

the recent period has been characterised by the dramatic expansion in that share of knowledge which is codified [can easily be understood and replicated] relative to that which is not ... This has obvious implications for IP ... [I]ntellectual property rights have historically been most important in areas where knowledge is codified ... The trend to codification consequently brings even greater parts of the knowledge base knocking on the doors of the statutory mechanisms for intellectual property protection.³⁵³

In this dynamic environment the role of copyright has increasingly been seen to be in a state of flux:

We can summarise arguments made concerning copyright law in cyberspace into three main camps.

- (1) Authors in the first camp advocate an overhaul of existing copyright principles. This can be achieved by creating separate laws for the internet; a kind of Lex Internet where copying is actively encouraged and software is freely available.
- (2) Those in the second camp claim that very little change is needed at all. Existing copyright principles are, by and large, adequate for the digital age, though minor adjustments are required.
- (3) Authors in the third camp claim that copyright principles will need to be revised but not totally overhauled. Regulation of copyright will continue to

³⁵² Office of Technology Assessment, *Intellectual Property Rights in an Age of Electronics and Information* (Washington: US Government Printing Office, 1986) 25.

³⁵³ Henry Ergas, "Changes in the Science and Technology System and Some of Their Implications for the Protection of Intellectual Property", *IP Forum* 39 (1999): 28–29.

be demanded but its implementation is more likely to be realised with the use of technology in conjunction with legislation or other measures.³⁵⁴

It is easy to get carried away in the cut and thrust of such a debate, and to forget that “Technology changes. Economic laws do not.”³⁵⁵ Thus the questions become how, and to what extent, do the changes flagged in section 13.1 affect the incentives for people to:

- create copyright works; and
- free-ride in the consumption of copyright works?

While previous chapters addressed in passing some consequences of the NCE, the following sections address some particularly important NCE-related issues in some detail.

13.2.1 *Increasing reliance upon price discrimination*

As noted earlier, given that marginal cost pricing is not an appropriate standard to apply for goods with the cost structure of information, price discrimination has commonly been used as a means of overcoming the free-rider problem.

Price discrimination addresses the underproduction of information goods such as copyright material by segmenting the market according to the willingness of consumers to pay for the information, with those willing to pay more being charged a higher price than those prepared to pay less. If this kind of price discrimination is possible, the producer has an incentive to offer an additional unit of a good provided there are consumers willing to pay more than marginal cost.³⁵⁶

The degree to which new communication technologies enhance the producer’s ability to determine the marginal willingness of consumers to pay and to prevent the resale of an information good among consumers varies in the NCE.

In some cases the NCE undermines the ability of parties to price discriminate. This tends to apply to discrimination with respect to traditional copyright products which are highly substitutable for electronic versions of the same products (eg music, software, databases, etc). In such cases price discrimination is increasingly difficult because of piracy and increased access to arbitrage across categories of buyers.

³⁵⁴ Andrew Stranieri and John Zeleznikow, “Copyright Regulation with Augmentation Agents”, *Information & Communications Technology Law* 10, no. 1 (2001): 110.

³⁵⁵ Carl Shapiro and Hal R Varian, *Information Rules: A Strategic Guide to the Network Economy* (Boston MA: Harvard Business School Press, 1999) 1–2. This approach may be compared with that of proponents of “new growth theory”, who argue that the economic role of “ideas” (many of which will be embedded in copyright works) in advanced economies challenges much of neoclassical economic analysis: see, for example, Paul M Romer, “Why, Indeed, in America? Theory, History, and the Origins of Modern Economic Growth”, *American Economic Review* 86 (1996). As a further example, Langlois argues that information reuse may actually replace traditional concepts of scale and scope – Richard N Langlois, “Scale, Scope, and the Reuse of Knowledge” (paper presented at the Conference in Honor of Brian J Loasby, Stirling, Scotland, 26–28 August 1997).

³⁵⁶ Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 2.

In other cases, technological developments may enhance the ability of a person to price discriminate. Indeed, this has been expressed as a particular “problem” that may need to be addressed in the future:

It appears increasingly likely that technological advances such as digital watermarks will allow each copy of a digital data set, be it a program or a poem, to be uniquely identified; coupled with appropriate legal sanctions for unlicensed copying, a large measure of excludability can be restored to the market.

Policy makers will need to be particularly alert to three dangers. First, technologies that permit excludability risk introducing socially unjustified costs if the methods of policing excludability are themselves costly. Second, as the example of broadcast television demonstrates, imperfect substitutes for excludability themselves can have bad consequences that sometimes are difficult to anticipate. Third, over-perfect forms of excludability raise the spectre that traditional limits on excludability of information such as fair use might be changed by technical means without the political and social debate that should precede such a shift.³⁵⁷

A number of observations need to be made here:

- if there is an ability to reduce free-riding through technological means then the rationale for copyright protection being applied is reduced;
- for such exclusion to be welfare enhancing it must be part of a process of price discrimination (ie better matching the price of products with people’s willingness to pay) that actually expands use. That is, excluding use for the purpose of monopoly pricing will not be welfare enhancing; and
- the key element in such an environment is likely to be contract law rather than copyright law.³⁵⁸

Whether or not price discrimination opportunities will actually expand in the NCE is currently being debated. If they do, the third analytical framework described in Chapter Eight will grow in relevance.

13.2.2 *Network effects, standards and copyright*

The introduction of any type of network effects in a market for information goods where copying is possible may change the basic trade-off for policy-makers in setting the copyright regime.

As noted in Chapter Seven, the introduction of network externalities implies that the size of the market positively influences the willingness of individual consumers to pay for an information good.³⁵⁹ In this type of market, authors take account of the fact

³⁵⁷ J Bradford De Long and A Michael Froomkin, “The Next Economy?” (paper presented at the Internet Publishing and Beyond: The Economics of Digital Information and Intellectual Property Conference, Cambridge MA, 23–25 January 1997).

³⁵⁸ This makes the CLRC’s current review particularly important – Copyright Law Review Committee, *Copyright and Contract, Issues Paper* (Canberra: AusInfo, 2001).

³⁵⁹ See Oz Shy and Jacques-Francois Thisse, “A Strategic Approach to Software Protection”, *Journal of Economics and Management Strategy* 8, no. 2 (1999); Lisa N Takeyama, “The Welfare Implications

that creating a large market shortly after the introduction of a new good creates a higher willingness to pay for the product in the following periods. As a result, authors use aggressive strategies to obtain a higher market share.

The optimal degree of copyright in the presence of network externalities

The implication of network effects can be illustrated by considering the impact of reducing copyright protection in markets characterised by network externalities. Reducing copyright protection will result in more (illegal) copying. However, if the network effects are strong enough to substantially increase the valuation of consumers when copyright is reduced and enough unauthorised copiers start using authorised copies, a decrease in copyright protection can cause price and profits for the copyright owner to rise. The exact nature of the result will therefore depend on the relationship between:

- the size of the market and the willingness to pay of consumers;
- the degree of quality difference between originals and copies; and
- the number of high-valuation consumers versus low-valuation consumers.

This analysis suggests that the optimal level of copyright protection is typically lower in markets with network effects than in other markets. Reducing copyright protection might enhance profit and welfare under certain conditions.³⁶⁰ A too-high level and scope of copyright protection based on the traditional model might therefore hurt welfare.

Competition-related concerns created by copyright in the presence of network externalities and standards

This view is strengthened when consideration is given to the fact that the combination of positive network externalities and intellectual property protection may give rise to concerns for competition policy.³⁶¹ For example, in an industry characterised by rapid technological progress and strong network externalities, the strong get stronger and the weak get weaker □ the end result in a world of increasing returns may be the leading products becoming dominant; the tendency of the market

of Unauthorized Reproduction of Intellectual Property in the Presence of Demand Network Externalities”, *Journal of Industrial Economics* 17 (1994).

³⁶⁰ Lisa N Takeyama, “The Welfare Implications of Unauthorized Reproduction of Intellectual Property in the Presence of Demand Network Externalities”, *Journal of Industrial Economics* 17 (1994).

³⁶¹ See C Fazio and S Stern, “Innovation Incentives, Compatibility, and Expropriation as an Antitrust Remedy: The Legacy of the Borland/Ashton-Tate Consent Decree”, *Antitrust Bulletin* (2000). To some degree this explains why network effects arguments in intellectual property prove most successful when used in competition cases, where they alter the way the competition investigators analyse market structure – see Mark A Lemley and David McGowan, “Legal Implications of Network Economic Effects”, *California Law Review* 86 (1998): 537; David McGowan, “Network and Intention in Antitrust and Intellectual Property”, *Journal of Corporate Law* 24 (1999): 485.

may then be towards monopolisation.³⁶² This phenomenon is commonly called “tipping”:

Because they can lead to tipping to monopoly, network effects are important to antitrust analysis ... Markets with large production and demand-side economies of scale are prone to tipping. Dominance, once achieved, may be very hard to unwind. Doing so would either require the coordinated movement of lots of consumers – with the possibility that they would have to incur significant switching costs – or forcing open a network, which we have seen poses its own substantial set of problems.³⁶³

Given these competition concerns, it would be convenient to suggest that it should not matter how copyright policy is formulated so long as the competition laws are there to protect the competitive process. This view is misguided:

Antitrust cannot cure, except indirectly and at the margins, the problem of the improvidently granted, too generously interpreted patent or copyright. Only informed, sensible patent and copyright laws, policies and examiners can do that.³⁶⁴

Additionally, there are concerns when copyright provides a mechanism of control over a formal or informal standard.³⁶⁵ If the specifications and technology that embody a standard are the copyright of one party, then it can unilaterally block other suppliers from producing compatible products (ie copyright protection may allow the possibility of leveraging the monopoly into complementary hardware and software).³⁶⁶ In these circumstances, the allocation of intellectual property rights to

³⁶² Neil Gandal, “Compatibility Standards and Network Externalities in the PC Software Market”, *Review of Economics and Statistics* 77 (1995); Mark A Lemley, “Antitrust and the Internet Standardization Problem”, *Connecticut Law Review* 28 (1996); G B Richardson, “Economic Analysis, Public Policy and the Software Industry”, in *DRUID Working Paper No. 97-4* (1997); Willow Ann Sheremata, “Barriers to Innovation: A Monopoly, Network Externalities, and the Speed of Innovation”, *Antitrust Bulletin* 42 (1997).

³⁶³ ML Katz and Carl Shapiro, “Antitrust in Software Markets” (paper presented at the Competition, Convergence and the Microsoft Monopoly Conference, 5 February 1998), 40.

³⁶⁴ James B Kobak, *Intellectual Property, Competition Law and Hidden Choices between Original and Sequential Innovation* (1998 [cited 27 May 2002]); available at http://vjolt.student.virginia.edu/graphics/vol3/home_art6.html.

³⁶⁵ The role of copyright in facilitating or hindering standardisation, which is closely related to the previous discussion on network effects, has received considerable comment since the early 1990s. See, for example, David R Barrett, “EC Policy on Intellectual Property and Standardization – the Impact on the Computer and Telecommunications Industries”, *Computer Law and Practice* 9, no. 2 (1993); Joseph Farrell, “Arguments for Weaker Intellectual Property Protection in Network Industries”, in *Working Paper No. 94-11* (Centre for the Study of Law and Society, University of California: 1994); Joseph Farrell, “Standardization and Intellectual Property”, *Jurimetrics Journal* 30 (1989); Joseph Farrell and Garth Saloner, “Converters, Compatibility and the Control of Interfaces”, *Journal of Industrial Economics* 40, no. 1 (1992); Diana Good, “How Far Should IP Rights Have to Give Way to Standardization: The Policy Positions of ETSI and the EC”, *European Intellectual Property Review* 14, no. 9 (1992); Gerald J Lewis, “Broad Copyright Protection for User Interfaces Ignores the Software Industry’s Trend toward Standardization”, *University of Pittsburgh Law Review* 52, no. 3 (1991); Christian H Nadan, “Standardization and Interoperability Become Key Factors in Copyright Law”, *Computer Lawyer* 10, no. 4 (1993); Frederick Warren-Boulton, Kenneth Baseman and Glenn Woroch, *The Economics of Intellectual Property Protection for Software: The Proper Role for Copyright* (1995 [cited 21 August 2001]); available at <http://elsa.Berkeley.EDU/~woroch/softcopy.pdf>.

³⁶⁶ Joseph Farrell and Garth Saloner, “Converters, Compatibility and the Control of Interfaces”, *Journal of Industrial Economics* 40, no. 1 (1992).

first-generation producers may inhibit the ability of second-generation innovators to compete effectively.³⁶⁷

The issue of standardisation tends to have a link to network externalities, with the dominant theme being that copyright can retard the attainment of network effects and standardisation, and hence may be excessive. This view has been forcefully and consistently put by Farrell:

From an economic point of view, the goal of intellectual-property policy in an industry with important network effects should be (i) to encourage useful innovations, while at the same time (ii) making it likely that network benefits will be fully realized. In the case of software, this presumably means that *useful* innovations should have some degree of protection (subject to the useful tradeoff between rewards to innovators and the desire for efficient dissemination), but the user interface, the format for data storage and transmission, and other relatively arbitrary aspects that must be standardized in order to achieve compatibility benefits, should be unprotected, so that other software developers are encouraged to achieve standardization.

Copyright law, by contrast, tends to protect the “arbitrary” or “expressive” aspects of a work, and specifically does not protect the useful “idea.” Indeed, since copyright protection is broadest where the expression is most arbitrary, useful innovations may go unprotected while arbitrary choices of a user interface, for instance, may be held to be protected and may generate large rents if they become *de facto* market standards.

In the case of traditional creative works such as novels, protection of an arbitrary creation does not constrain later innovators. If the first innovator’s choice of expression is “arbitrary,” she could equally well have made any number of other choices, and it might seem to follow logically that a later innovator’s options are not unduly constrained; he need only avoid consciously doing the same as the first innovator, and this might not seem unduly burdensome. Indeed, in a traditional “decreasing-returns” economy, he will prefer to avoid direct competition with the first innovator, and would have no motive to imitate except for the wish to save costs by slavishly copying rather than performing independent work.

But this argument fails to hold in a market characterised by dynamic increasing returns, such as network externalities. Then, the mere fact that a previous innovator used a certain arbitrary expression, and customers have grown used to it, makes that arbitrary expression an important and no longer arbitrary aspect of design ...

Might it nevertheless be socially desirable to protect these commercially valuable but (*ex ante*) arbitrary elements of design, as an indirect means of protecting the useful ideas packaged with them? Possibly it might, but we should be suspicious of such back-door protection. We have no reason to expect the size of the commercial rents from a property right in an initially arbitrary interface to bear any relationship to the social value of the useful product on which it was applied. Such a policy would be rough-and-ready in the extreme.³⁶⁸

³⁶⁷ As Fazio and Stern point out, “in an environment subject to network externalities, the allocation of IP among generations of technology should be designed to maximize incentives to innovate across each generation” – C Fazio and S Stern, “Innovation Incentives, Compatibility, and Expropriation as an Antitrust Remedy: The Legacy of the Borland/Ashton-Tate Consent Decree”, *Antitrust Bulletin* (2000): 63–64.

³⁶⁸ Joseph Farrell, “Standardization and Intellectual Property”, *Jurimetrics Journal* 30 (1989): 47–48.

In the abstract, Picker suggests that a similar conclusion can be reached using game theory. Picker has shown that there might be less need for copyright when there is a simultaneous coordination (ie standardisation) game.³⁶⁹ In such a situation, the existence of a Prisoner's Dilemma (a justification for copyright – see Chapter Four) may actually facilitate the choice of a standard.

“Copyright races”

In effect, the presence of network externalities converts the “weak monopoly” of copyright into something akin to the “strong monopoly” of patent protection. That is, the prospect of “winner-take-all” competition may result in “over-investment” in creative activity (ie rent-seeking akin to a “patent race”), as producers invest in the hope of obtaining control of a technology.³⁷⁰ This over-investment can, however, be beneficial in some respects:

competition may be displaced from imitation into wholly new directions that would presumably be socially useful. That is, instead of devoting their creative abilities to producing marginal improvements on someone else's existing product, entrepreneurs might seek the next entirely different application and try to be the first to develop that. Such product-design competition is potentially very valuable.³⁷¹

13.2.3 Compulsory licences

One area where the NCE has the potential to have a significant impact is with respect to compulsory licences – see section 11.2 for a discussion of existing compulsory licensing arrangements.

The precise nature of the impact of the NCE upon compulsory licensing policies is uncertain at this point in time.

What is unclear is the degree to which the NCE will actually increase or decrease transaction costs. Whether transaction costs will increase or decrease will depend on the actual costs associated with:

- establishing the technology-based tracking and bargaining systems currently being talked about (ie the fixed costs). It may be that the capital required to put in place such systems may be excessive to all but a few parties; and
- the variable costs associated with:
 - tracking copyright material and any copies made; and

³⁶⁹ Randal C Picker, “An Introduction to Game Theory and the Law”, in *Chicago Working Paper in Law & Economics (No.22)* (Chicago: University of Chicago, 1994).

³⁷⁰ In this respect, Gans et al. note that: “This pre-emption motive for creation is a purely strategic motive and, in some environments, may more than make up for any other shortfalls in creation incentives. The end result may actually be over-investment in creative activity. In particular, this may arise when there are network externalities present” Joshua Gans, Philip Williams and David Briggs, *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition* (Melbourne: Frontier Economics, 2000) 15.

³⁷¹ Joseph Farrell, “Standardization and Intellectual Property”, *Jurimetrics Journal* 30 (1989): 48.

- negotiating access to, and use of, the copyright material.

While the NCE may facilitate reduced variable costs (eg through automated bargaining systems, systems that automatically track and bill for copying, etc), the fixed costs of such systems may be so significant that total transaction costs may actually increase for copyright owners unless they have sufficient scale – in terms of requests for access/use – for the costs per transaction to fall.

There are a number of possible implications of these circumstances:

- to the degree that the NCE reduces total transaction costs, and that compulsory licensing is justified on transaction cost (ie not market power) grounds, the rationale for compulsory arrangements such as fair dealing is diminished because the potential for consensual bargaining exists;³⁷² and
- there is a strong possibility that we will see (greater) competition between collecting societies. In a digital environment, except possibly with respect to performance rights, it does not really matter what the copyright material is. As such, if societies develop expensive technology-based tracking and billing systems, they will have a greater incentive to apply such systems to all forms of copyright.

13.2.4 Discussion

The NCE has been an external shock to the copyright system. While it is tempting to suggest that this shock is no greater than when other copying technologies developed (eg the printing process, the photocopier, the video recorder, etc) such a view ignores the fact that digitisation is ubiquitous, which means that transformation of works is almost unlimited.

While there is much thought given to analysing the NCE's actual impact on copyright policy, we are at too early a stage in the NCE to make firm assessments. Only now are the major record companies moving to online fee-based services; new technological protection devices are being released every other day, and new copying technologies also keep appearing. This suggests that caution should be exercised before changing copyright protection.³⁷³ While it is tempting to jump on the bandwagon and support technology-neutral copyright, this runs counter to the economic approach embodied directly in Chapter Seven and indirectly in Chapter Six. Until the NCE settles down there is a real risk that changes to copyright policy are being made without any real knowledge of the actual degree of market failure associated with copyright products.

³⁷² See Ian McDonald, "The Economics of Copyright and Fair Use in the Digital Environment: Report of Presentation to Copyright Society of Australia by Professor Wendy Gordon", *Copyright Reporter* 19, no. 1 (2001); Megan Richardson, "The Economics of Copyright and Fair Use in the Digital Environment", *Copyright Reporter* 19, no. 1 (2001).

³⁷³ Office of Regulation Review, *An Economic Analysis of Copyright Reform, Submission to Copyright Law Review Committee's Review of the Copyright Act 1968 (Cth)* (Canberra: 1995) 26–27; Jeremy Thorpe and Stephen Rimmer, "An Economic Approach to Copyright Reform", *Australian Intellectual Property Law Bulletin* 8, no. 10 (1995).

Part F: Conclusion

This Part provides a synthesis of the discussion set out in Parts A to D and identifies issues for further consideration.

14: Finding common ground and moving forward

Some commentators look at copyright usage and note its apparent small influence in stimulating innovation (see “Copyrighted material” in Table 14.1) and hence question why so much consideration is given to copyright – and indeed, intellectual property – policy.

Table 14.1 Sources of information for innovation (percent reporting use of each source)

Sources of information	High-technology firms	Medium/low-technology firms
Affiliates	71%	100%
Trade shows and conferences	70%	56%
Literature	68%	46%
Discussions with other firms	32%	26%
Reverse engineering	8%	1%
Copyrighted material	3%	7%
Industrial designs	3%	7%
Plant breeder’s rights	3%	1%
Patents	2%	13%
Integrated circuit designs	2%	3%

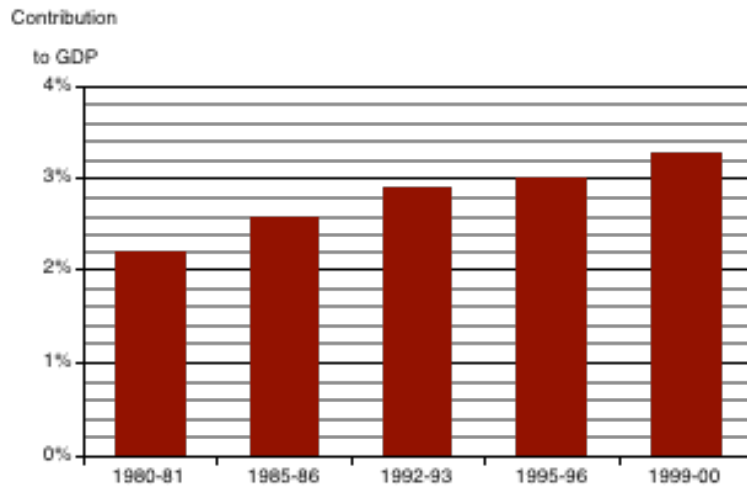
Source: McFetridge, “Science and Technology: Perspectives for Public Policy”, 1995

This simple analysis ignores the fundamental role that copyright has in stimulating the generation and diffusion of information. Consider, for example, whether or not the range of “Literature” referred to in Table 14.1 would exist in the absence of copyright.

The importance of copyright is reinforced by looking at the degree to which it underpins certain sectors of the economy. For example, over the past twenty years the relative economic importance of Australian industries that rely on copyright protection has grown by about 50 percent – see Figure 14.1.³⁷⁴

³⁷⁴ It is likely that this estimate understates the growing importance of copyright industries for a number of reasons – see The Allen Consulting Group, *The Economic Contribution of Australia’s Copyright Industries* (Sydney: Australian Copyright Council & Centre for Copyright Studies, 2001) ii.

Figure 14.1 Value-added to the Australian economy by copyright industries



Source: The Allen Consulting Group, “The Economic Contribution of Australia’s Copyright Industries”, 2001

In this context, it is easy to see why increased attention has been directed at copyright policy by economic analysts. However, economic analysis has only really been systematically applied to copyright over the past twenty or so years, and only since the mid-1990s has it featured consistently in Australian debates about the proper role and scope of copyright.

Interestingly, recent copyright policy debates in Australia and overseas reveal a lack of consensus among economists in relation to some fundamental questions concerning the general economic understanding of copyright protection. This study has classified these analytical approaches into three main frameworks:

- the dominant school of thought argues that property rights create institutional frameworks for markets, whether in physical or intellectual objects. All the costs and benefits enumerated here have their equivalents in the sphere of intellectual objects. These economists view copyright as balancing incentives and access, and are likely to be more comfortable with legal rules that facilitate access to copyright goods, such as exceptions to infringement, than with market-based solutions;
- strong institutional support exists for the view that property rights are merely one form of possible intervention – both public and private – to correct for market failure. These economists see property rights as an important, but complementary, response to the problem of underproduction; and
- the third approach is that copyright performs essentially the same “incentive” function as other forms of property rights and, in general terms, that there should be no greater limitations on intellectual property than on other forms of property. On this view, concerns relating to the costs of copyright are not significantly greater than concerns relating to the costs of other forms of property. Economists who support more complete property rights in information goods such as copyright material tend to believe either that the costs associated with intellectual property are overstated, or that they are best dealt with by market-based

solutions such as price discrimination. This approach tends to see copyright's role as to facilitate such price discrimination.

The lack of a single analytical framework is understandable given that there is no single approach to the application of economics to the law: "Law and Economics is not a homogeneous movement; it reflects several traditions, sometimes competing and sometimes complementary."³⁷⁵ Indeed, it would be surprising if there were a single framework:

- as Oddi points out with respect to the more thoroughly analysed patent system, no theorist has even attempted to similarly fragment economic approaches to its analysis;³⁷⁶ and
- competition policy (antitrust) economics has a significantly longer heritage, and yet it includes any number of competing economic approaches and schools of thought.³⁷⁷

This study suggests that:

- the first and second approaches are complementary theoretical frameworks, and together represent the dominant government-endorsed framework for analysis. The effectiveness of these joint approaches has been limited because of inadequate quantitative support and application; and
- the third approach is less applicable to the analysis of copyright law because individual copyrights fail to provide the monopoly power (or at least strong market power) that is necessary to facilitate welfare-maximising price discrimination. However, a price discrimination approach is likely to be more appropriate:
 - when analysing the pricing behaviour of collecting societies or other organisations which have a significant market power because of their breadth of copyright holdings; and
 - as technological improvements facilitate pricing regimes that are tailored to reflect people's willingness to pay.

Given the increased economic focus, it is reasonable to expect development of the economic understanding to evolve and improve (and possibly even harmonise).

However, even some law and economics scholars doubt the usefulness of economics in analysing intellectual property:

³⁷⁵ Nicholas Mercuro and Steven G Medema, *Economics and the Law: From Posner to Post-Modernism* (Princeton: Princeton University Press, 1997) ix.

³⁷⁶ See A Samuel Oddi, "Un-Unified Economic Theories of Patents – the Not-Quite-Holy Grail", *Notre Dame Law Review* 71 (1996).

³⁷⁷ For example, Harris and Sullivan identified three intellectual traditions: the mainstream antitrust tradition; the revisionist approach; and the statist – Harris and Sullivan, "Horizontal Merger Policy: Promoting Competition and American Competitiveness", *Antitrust Bulletin* 31 (1986): 874–85. More recently, it has been common to refer to the "Chicago School" and the "Post-Chicago School" – Ronald A Cass and Keith N Hylton, "Preserving Competition: Economic Analysis, Legal Standards and Microsoft", *George Mason Law Review* 8, no. 1 (1999).

Of course, economic analysis is no more likely to resolve the question of the appropriate scope of substantive criminal law. But the difference between these fields is that there is much greater social consensus ... There is no literature ... addressing whether the prohibition of murder or rape are likely to enhance or diminish the social welfare. There is disagreement, of course, over the details of criminal punishment – the capital punishment debate is an example. But neither those opposing nor, certainly, those favoring capital punishment question whether the prohibition of murder itself is worth the effort. Yet, the analogous question is the principal focus of the debate ... over intellectual property. Personally, I believe there is little hope that economic analysis can resolve the question of the appropriate scope of the protection of intellectual property ... the influence of the economist on the law of intellectual property will always be limited. The lawyer must look for other sources of guidance.³⁷⁸

Alternatively, some law and economics scholars argue that the economic analysis of intellectual property has evolved in recent years and is increasingly sophisticated and practical. For example, in a 1995 overview of the economics of intellectual property (which is clearly applicable to the economics of copyright) Merges argued that:

in many ways there has been a revolution in the treatment of these issues by economists. The older literature was concerned primarily with what I call the “Grand Question” viz., whether patent or copyright should exist at all in light of economic theory. Recently, I have discerned the beginnings of a rigorous *empirical* branch of the Grand Question literature, whose main findings are that IP rights (IPRs) do have a positive, if modest, economic impact. But by and large the Grand Question literature has been not so much extended as superseded. Apart from large empirical studies, the contemporary literature has shown much greater interest in details and specifics: it is focused much more on individual doctrines and practices, as opposed to the Grand Question. The contemporary literature is also much more savvy about placing IPRs in their economic, and even cultural, context ... The upshot is that, in my view, we have moved from a fascination with market failure to market details.³⁷⁹

There is a great deal to support the view that the Grand Question has been superseded as the increased global standardisation of copyright renders any discussion of unwinding copyright superfluous. Indeed, even the Productivity Commission appears to accept that the Grand Question is now answered:

evidently, copyright is an indispensable tool in modern societies to maintain proper business practices in areas where some intellectual effort is involved, even if the output is more for entertainment than for a better understanding of the world. In fact, copyright protection has a more important role in preventing market disorganisation than patents, given the vulnerability of most copyright material to easy duplication.³⁸⁰

While economics has now resolved the Grand Question, there are still those who are critical of the application of economics to copyright law and policy. For example, under the heading “The limitations of economic analysis”, McKeough and Stewart note that:

³⁷⁸ George Priest, “What Economists Can Tell Lawyers About Intellectual Property: Comment on Cheung”, *Research in Law and Economics* 8 (1986): 24.

³⁷⁹ Robert P Merges, “The Economic Impact of Intellectual Property Rights: An Overview and Guide”, *Journal of Cultural Economics* 19 (1995): 104.

³⁸⁰ John Revesz, *Trade-Related Aspects of Intellectual Property Rights, Staff Research Paper* (Canberra: AGPS, 1999) 35.

It is easy enough to identify the fundamental policy issue as being whether the conferral of property rights will work as an incentive or disincentive to appropriate forms of investment in creativity. It is quite another matter to answer that question with any confidence.³⁸¹

Maybe this criticism expects too much of economics. For example, Koboldt argues that:

Of course, economic analysis cannot claim to give clear cut prescriptions for how a copyright system should look. However, economic analysis can show that there is something like an optimal, i.e., welfare maximising intensity of copyright protection. It can also indicate on which factors this optimal intensity depends. Furthermore, it can show that neither complete absence of copyright protection nor complete absence of potentially profitable copying are likely to be the optimal solution.³⁸²

Even Merges' view of a revolution is overly optimistic as to the use of economic analysis in terms of:

- doctrinal analysis – economic analysis appears to have taken root in the consideration of some overseas doctrines (particularly fair use and resale royalty rights), but to date there has been little substantive doctrinally based economic analysis of Australian copyright law; and
- industry focused analysis – as noted by the US Committee on Intellectual Property Rights and the Emerging Information Infrastructure, this is the area most lacking in policy formation in the US; it is arguably more so in Australia:

The work of Griliches, Mansfield, Scherer, Schmookler, and Williamson was especially notable in establishing the role of patents in fostering innovation and economic development. Their work also examined how various institutional arrangements and industrial structures affected the rates of innovation and patenting ... No comparable body of work exists with respect to the importance of copyright in fostering information creation and use.³⁸³

Quoting and commenting upon Crick's discussion of the importance of experimental evidence,³⁸⁴ Coase noted that:

The basic trouble is that nature is so complex that many quite different theories can go some way to explaining the results ... [W]hat constraints can be used as a guide through the jungle of possible theories? It seems to me that the only useful constraints are contained in the experimental evidence." What this comes down

³⁸¹ Jill McKeough and Andrew Stewart, *Intellectual Property in Australia*, 2nd ed. (Sydney: Butterworths, 1997) 20.

³⁸² Christian Koboldt, "Intellectual Property and Optimal Copyright Protection", *Journal of Cultural Economics* 19, no. 2 (1995): 149.

³⁸³ Committee on Intellectual Property Rights and the Emerging Information Infrastructure, *The Digital Dilemma: Intellectual Property in the Information Age* (2000 [cited 7 August 2001]); available at <http://www.nap.edu/books/0309064996/html/>.

³⁸⁴ Francis Crick, *What Mad Pursuit: A Personal View of Scientific Discovery* (New York: Basic Books, 1988) 150. Crick is the co-discoverer of the structure of DNA.

to in economics is that our choice of theories will only be fruitful if guided by empirical work.³⁸⁵

This lament regarding the lack of empirical data is far from new. Indeed, the OTA's 1986 observations in respect of copyright appear equally valid in Australia and elsewhere today:

Policymakers currently have little objective, quantitative data with which to make policy judgements about information markets. The data problem stems, in part, from the rapid changes in information markets attributable to technological change. As well, data collection in this area of the economy is not yet institutionalised in government. Often, the available data are fragmentary and are supplied by stakeholders in policy debates. As a result, policymakers face a high level of uncertainty about the impact of decisions on the cost and availability of specific varieties of information.³⁸⁶

There are, however, examples of some copyright studies which draw on statistical evidence. For example, Maurer has recently undertaken a number of preliminary studies regarding the introduction of new database-related copyright laws in North America and Europe,³⁸⁷ and WIPO too is now looking at the economic impact of database protection.³⁸⁸

Some particular areas in which there is clear scope for further economic analysis are:

- the incentives that copyright actually has in stimulating production across various sectors of the Australian economy, particularly in comparison with other non-proprietary incentives. While such work is relatively routine with respect to patent studies, it is sadly neglected in a copyright context;
- societal norms (ie both personal and corporate) with respect to copying and intellectual property – this is vital for gaining a better understanding of a range of factors, including the degree to which copyright laws reinforce or are opposed to societal norms. That is, copyright protection may have to be stronger in the event that norms supporting unauthorised copying are stronger than expected, and *vice versa*. Similarly, understanding societal norms may affect the level of penalties in setting the optimal level of deterrence;³⁸⁹ and
- the role that recent amendments with respect to the digital agenda, particularly the library provisions, will have on incentives.

³⁸⁵ Ronald Coase, "The Task of the Society" (paper presented at the International Society of New Institutional Economics Annual Conference, 17 September 1999).

³⁸⁶ Office of Technology Assessment, *Intellectual Property Rights in an Age of Electronics and Information* (Washington: US Government Printing Office, 1986) 157.

³⁸⁷ Stephen M Maurer, "Across Two Worlds: Database Protection in the US and Europe" (paper presented at the Intellectual Property and Innovation in the Knowledge-Based Economy Conference, Toronto, Canada, 2001); Stephen M Maurer, P Bernt Hugenholtz and Harlan J Onsrud, "Europe's Database Experiment", *Science* 294 (2001).

³⁸⁸ See World Intellectual Property Organization, "Standing Committee on Copyright and Related Rights (Seventh Session)" (Geneva: 13–17 May 2002).

³⁸⁹ Gary S Becker, "Nobel Lecture: The Economic Way of Looking at Behavior", *Journal of Political Economy* 101, no. 3 (1993); Jeremy Thorpe, "Determining the Appropriate Role for Charge Bargaining in Pt IV of the Trade Practices Act", *Competition and Consumer Law Journal* 4 (1996).

Looking forward, it is difficult to discern precisely what role economics will have in the shaping of copyright law. That said, the growing economic importance of copyright in developed countries, and the increasing use of economics in shaping US laws, suggests that economics will continue to play a significant role in copyright's development. As a pointer to what economics' role in copyright law may be in fifty years' time, it is instructive to look at the development of economics' role in antitrust law in the US:

Economists have made two major contributions to the U.S. antitrust regime. The first is to make the case for competition as the superior mechanism for governing the economy ... The second significant contribution of economists has been to guide the formation of antitrust policy. Economic learning has exerted an increasing impact on antitrust enforcement. In the first half of the 20th century, one finds little direct impact of economic research on the major court cases. The influence increases in the century's second half, but usually with a lag. Today, the links between economics and law have been institutionalized with increasing presence of an economic perspective in law schools, extensive and explicit judicial reliance on economic theory, and with the substantial presence of economists in the government antitrust agencies. The availability of new data sources like electronic point-of-purchase data, the refinement of flexible game-theoretic models, and the new emphasis on innovation assures that robust arguments over the proper content of competition policy will flourish into the 21st century.³⁹⁰

This evolution of economics' use in competition law draws a map for economics' continued and increased use with respect to copyright law over the next fifty years.

³⁹⁰ William E Kovacic and Carl Shapiro, "Antitrust Policy: A Century of Economic and Legal Thinking", *Journal of Economic Perspectives* 14, no. 1 (2000): 58–59.

Part G: Appendices

Appendix A: Copyright models

While the Landes and Posner model (discussed in Chapter Six) is undoubtedly the most cited model relevant to the analysis of copyright protection, Appendix Table A.1 shows a range of other models related to copying and copyright.

In considering the models used to discuss copyright policy, Landes and Posner make a distinction between:

- the economics of copying – this considers the impact of the availability of copies on the demand for originals, the profits of the author and social welfare in various settings; and
- and the economics of copyright – the economics of copyright considers the impact of copyright protection and the costs of enforcement on the trade-off between limiting access to the original and providing incentives to produce new work.³⁹¹

However, this distinction is often blurred.

Appendix Table A.1 Overview of studies that address copyright and copying

Study	Substitu- tability of copies	Cost of copies	Welfare effects	Remarks
Novos and Waldman, “The Effects of Increased Copyright Protection: An Analytical Approach”, 1984	Perfect	Varies across consumers	Underproduction is reduced but no support is given for under-utilisation.	Producer decides quality.
Johnson, “The Economics of Copying”, 1985	Perfect	Varies across consumers	In the short run the consumer surplus increases and profits decrease unambiguously by copying. But lower profits prevent the production of new information goods.	Product differentiation explicitly modelled.
Pethig, “Copyrights and Copying Costs: A New Price Theoretic Approach”, 1988	Imperfect	Below those of the original copies	Welfare effects are ambiguous.	
Landes and Posner, “An Economic Analysis of Copyright Law”, 1989	Perfect	Increasing	Welfare per work is increased but profits decrease. So the long-run welfare effects are ambiguous.	

³⁹¹ William M Landes and Richard A Posner, “An Economic Analysis of Copyright Law”, *Journal of Legal Studies* 18 (1989).

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Study	Substitutability of copies	Cost of copies	Welfare effects	Remarks
Besen and Kirby, "Private Copying, Appropriability, and Optimal Copyright Royalties", 1989	Perfect or imperfect	Constant or increasing	With constant marginal cost, copyright reduces the consumer surplus and increases profits. The total welfare effect is undetermined. When marginal cost of copies is increasing, welfare effects depend on relative costs. Generally the producer is able to appropriate some surplus of copies from consumers. Long-run effects not considered.	Copies are shared. Deals primarily with the short run.
Oniki, "Mathematical Appendix", 1992	Imperfect	Increasing	With increasing marginal costs, welfare depends on the cost of imitating or copying information, the cost of preventing information from being copied, and the cost of operating and maintaining institutions for protecting intellectual property rights. Hence the socially optimal degree of copyright protection lies between two extremes: complete protection and no protection.	
Koboldt, "Intellectual Property and Optimal Copyright Protection", 1995	Imperfect	Constant and above those of the original copies	Copyright will increase profits and lower the consumers' surplus in the short run. Up to a certain level of copyright, protection enhances total welfare, but after this level has been reached welfare decreases. A minimum and maximum level of protection can be found, between which the optimum is located.	For some levels of copyright protection the producer uses "limit pricing".
Takeyama, "The Intertemporal Consequences of Unauthorized Reproduction of Intellectual Property", 1997	Imperfect	Constant; may or may not be equal to that of the original copies		
Bakos et al., "Shared Information Goods", 1999	Perfect or imperfect	All marginal costs are equal to zero		Copies are shared among consumers. The number of users that share an o-copy is determined exogenously.
Watt, "Copyright and Economic Theory: Fiends or Foes?", 2000	Perfect	Increasing	The copyright holder is worse off under socially optimal copyright protection, but society as a whole will be better off.	This model is explicitly based on copyright piracy.

Source: Derived from CPB Netherlands Bureau for Economic Policy Analysis, "Copyright Protection: Not More but Different", 2000

Appendix B: Sources

- Abbott, Frederick. "First Report (Final) to the Committee on International Trade Law of the International Law Association on the Subject of Parallel Importation." *Journal of International Economic Law* 1, no. 4 (1998).
- Adelstein, RP and Peretz, SI. "The Competition of Technologies in the Market for Ideas: Copyright and Fair Use in Evolutionary Perspective." *International Review of Law and Economics* 5 (1985): 209–38.
- Adler, Moshe. "Stardom and Talent." *American Economic Review* 75 (1985): 208–12.
- Agarwal, Rajshree and Gort, Michael. "First-Mover Advantage and the Speed of Competitive Entry, 1887–1986." *Journal of Law and Economics* 44, no. 1 (2001): 161–77.
- Andersen, Birgitte and Howells, Jeremy. "Innovation Dynamics in Services: Intellectual Property Rights as Indicators and Shaping Systems in Innovation." In *CRIC Discussion Paper No. 8*, edited by Centre for Research on Innovation and Competition. Manchester: University of Manchester, 1998.
- Arrow, Kenneth J. "Economic Welfare and the Allocation of Resources for Invention." In *The Rate and Direction of Inventive Activity*, edited by Kenneth J Arrow, 609–25. Princeton: Princeton University Press, 1962.
- Arundel, A. "Patent – the Viagra of Innovation Policy?" In Internal Report to the Expert Group in the Project "Innovation Policy in a Knowledge-based Economy". Maastricht: MERIT, 2000.
- Ashton, Monica. "Originality." *Media Law & Policy Bulletin* 2, no. 1 (1993).
- Asplund, Marcus, Eriksson, Rickard and Strand, Niklas. "Price Discrimination in Oligopoly: Evidence from Swedish Newspapers." In *SSE/EI Working Paper Series in Economics and Finance No. 468*.
- Baird, Douglas, Gertner, Robert and Picker, Randal. *Game Theory and the Law*. Cambridge MA: Harvard University Press, 1994.
- Baker, C Edwin. "Starting Points in Economic Analysis of Law." *Hofstra Law Review* 8 (1980): 939.
- Bakos, Y, Brynjolfsson, E and Lichtman, D. "Shared Information Goods." *Journal of Law and Economics* 42, no. 1 (1999): 117–55.
- Bannister, Judith. "Originality and Access; Copyright Protection of Compilations and Databases." *Journal of Law and Information Science* 10, no. 2 (1999): 227–45.
- Barlow, John Perry. Selling Wine without Bottles: The Economy of Mind on the Global Net 1994 [cited 26 November 2001]. Available at http://www.eff.org/pub/Intellectual_property/idea_economy.article.
- Barrett, David R. "EC Policy on Intellectual Property and Standardization – the Impact on the Computer and Telecommunications Industries." *Computer Law and Practice* 9, no. 2 (1993): 46–49.
- Becker, Gary S. "Nobel Lecture: The Economic Way of Looking at Behavior." *Journal of Political Economy* 101, no. 3 (1993): 385–409.
- . "A Note on Restaurant Pricing and Other Examples of Social Influences on Price." *Journal of Political Economy* 99, no. 5 (1991): 1109–16.
- Benkler, Yochai. "An Unhurried View of Private Ordering in Information Transactions." *Vanderbilt Law Review* 53, no. 6 (2000): 2063–80.
- Bensaid, Bernard and Lesne, Jean-Philippe. "Dynamic Monopoly Pricing with Network Externalities." *International Journal of Industrial Organization* 14, no. 6 (1996): 837.
- Berolzheimer, Fritz. *The World's Legal Philosophies*. Boston: Boston Book Company, 1912.
- Besen, Stanley M. "Private Copying, Reproduction Costs, and the Supply of Intellectual Property." *Information Economics and Policy* 2 (1986): 5–22.
- Besen, Stanley M, Kirby, Sheila N and Salop, Steven C. "An Economic Analysis of Copyright Collectives." *Virginia Law Review* 78 (1992): 383–411.
- Besen, Stanley M and Kirby, Sheila Nataraj. "Private Copying, Appropriability, and Optimal Copyright Royalties." *Journal of Law and Economics* 32 (1989): 225–80.

- Bettig, Ronald V. *Copyrighting Culture: The Political Economy of Intellectual Property, Critical Studies in Communication and in the Cultural Industries*. Boulder CO: Westview Press, 1996.
- Björn, Frank. "Optimal Timing of Movie Releases in Ancillary Markets; the Case of Video Releases." *Journal of Cultural Economics* 18, no. 2 (1994): 125–33.
- Bowry, Kathy. "The Outer Limits of Copyright Law – Where Law Meets Philosophy and Culture." *Law and Critique* 12, no. 1 (2001): 1–24.
- Boyle, James. "Cruel, Mean or Lavish?; Economic Analysis, Price Discrimination and Digital Intellectual Property." *Vanderbilt Law Review* 53 (2000): 2007.
- . *Shamans, Software, and Spleens: Law and the Construction of the Information Society*. Cambridge MA: Harvard University Press, 1996.
- Brennan, Timothy J. "Copyright, Property and the Right to Deny." *Chicago-Kent Law Review* 68 (1993): 675.
- Breyer, Stephen. "Copyright: A Rejoinder." *UCLA Law Review* 20 (1972): 75–83.
- . "The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs." *Harvard Law Review* 84 (1970): 281–351.
- Brill, Charles. "Legal Protection of Collections of Facts." *Computer Law Review and Technology Journal* Spring (1998).
- Brown, CV and Jackson, PM. *Public Sector Economics*. 2nd ed. Oxford: Blackwell, 1990.
- Brudenell, Peter. "The Collective Administration of Copyright and Competition Policy: Tension in the Digital Age." *Australian Intellectual Property Journal* 8 (1997): 121–33.
- Burke, Andrew E. "How Effective Are International Copyright Conventions in the Music Industry?" *Journal of Cultural Economics* 20 (1996): 51–66.
- Calabresi, Guido and Melamed, A Douglas. "Property Rules, Liability Rules, and Inalienability: One View of the Cathedral." *Harvard Law Review* 85 (1975): 1089–128.
- Cass, Ronald A and Hylton, Keith N. "Preserving Competition: Economic Analysis, Legal Standards and Microsoft." *George Mason Law Review* 8, no. 1 (1999): 1–40.
- Centre for International Economics. *Guidelines for NCP Legislation Reviews: Prepared for the National Competition Council*. Canberra: National Competition Council, 1999.
- Cheung, SNS. "The Structure of a Contract and the Theory of a Non-Exclusive Resource." *Journal of Law and Economics* 13, no. 1 (1970): 49–70.
- Cirace, John. "CBS v. ASCAP: An Economic Analysis of a Political Problem." *Fordham Law Review* 47, no. 3 (1978): 277–306.
- Clark, GA. "Blanket Licensing: The Clash between Copyright Protection and the Sherman Act." *The Notre-Dame Lawyer* 55 (1980): 729–50.
- Coase, Ronald. "The Task of the Society." Paper presented at the International Society of New Institutional Economics Annual Conference, 17 September 1999.
- Coase, Ronald H. "The Problem of Social Cost." *Journal of Law and Economics* 3 (1960): 1–44.
- Cohen, Julie E. "Copyright and the Jurisprudence of Self-Help." *Berkeley Technology Law Journal* 13 (1998): 1089.
- . "Copyright and the Perfect Curve." *Vanderbilt Law Review* 53 (2000): 1799.
- Colonna, Carl M and Colonna, Carol G. "An Economic and Legal Assessment of Recent Visual Artists' Reversion Rights Agreements in the United States." *Journal of Cultural Economics* 6 (1982): 77–85.
- Committee on Intellectual Property Rights and the Emerging Information Infrastructure. *The Digital Dilemma: Intellectual Property in the Information Age* 2000 [cited 7 August 2001]. Available at <http://www.nap.edu/books/0309064996/html>.
- Commonwealth Government. "Government Response to Intellectual Property and Competition Review Recommendations." Canberra, 2001.
- Commonwealth Treasury of Australia. "The Economic Role of Copyright." In *Economic Roundup*, 55–75. Canberra: AGPS, Autumn 1996.
- Conner, KR and Rumelt, RP. "Software Piracy: An Analysis of Protection Strategies." *Management Science* 37, no. 2 (1991): 125–39.
- Contractor, Farok J. *International Technology Licensing*. Massachusetts: Lexington Books, 1981.
- Cooter, Robert. "Expressive Law and Economics." *Journal of Legal Studies* 27 (1998): 585.

- Cooter, Robert D. "Decentralized Law for a Complex Economy: The Structural Approach to Adjudicating the New Law Merchant." *University of Pennsylvania Law Review* 144 (1996): 1643–57.
- Cooter, Robert and Ulen, Thomas. *Law and Economics*. Glenview IL: Scott Foresman, 1988.
- Copyright Law Review Committee. *Copyright and Contract*, Canberra: AusInfo, 2002.
- . Simplification of the Copyright Act 1968: Part 2: Categorisation of Subject Matter and Exclusive Rights, and Other Issues. Canberra: AusInfo, 1999.
- Cornes, Richard and Sandler, Todd. *The Theory of Externalities, Public Goods and Club Goods*. Cambridge: Cambridge University Press, 1986.
- Correa, Carlos M. "Methodologies for Evaluating the Economic Importance of Copyright and Neighbouring Rights in Latin America." *Copyright Bulletin* 24, no. 2 (2000): 5–25.
- Council of Australian Governments. Report of Task Force on Other Issues in the Reform of Government Trading Enterprises, Released as Part of the First COAG Communiqué. Canberra, 1991.
- Cowan, Robin and Harison, Elad. "Intellectual Property Rights in a Knowledge-Based Economy." In *MERIT-Infonomics Research Memorandum 2001–027*. Maastricht: MERIT, 2001.
- CPB Netherlands Bureau for Economic Policy Analysis. "Copyright Protection: Not More but Different." In *CPB Working Paper No. 122*. The Hague: CPB Netherlands Bureau for Economic Policy Analysis, 2000.
- . "Tackling the Journal Crisis: When Authors Pay with Money Instead of Copyrights." In *Working Paper No. 121*. The Hague: CPB Netherlands Bureau for Economic Policy Analysis, 2000.
- Crick, Francis. *What Mad Pursuit: A Personal View of Scientific Discovery*. New York: Basic Books, 1988.
- Croskery, Patrick. "Institutional Utilitarianism and Intellectual Property." *Chicago-Kent Law Review* 68 (1993): 631.
- Dam, Kenneth W. "Some Economic Considerations in the Intellectual Property Protection of Software." *Journal of Legal Studies* 24 (1995): 321–77.
- Davis, Connie C. "Copyright and Antitrust: The Effects of the Digital Performance Rights in Sound Recordings Act of 1995 in Foreign Markets." *Federal Communications Law Journal* 52, no. 2 (2000): 411–27.
- Davis, Otto A and Whinston, Andrew B. "On the Distinction Between Public and Private Goods." *American Economic Review Papers and Proceedings* 57 (1967): 360–73.
- De Long, J Bradford and Froomkin, A Michael. "The Next Economy?" Paper presented at the Internet Publishing and Beyond: The Economics of Digital Information and Intellectual Property Conference, Cambridge MA, 23–25 January 1997.
- Deakin, Simon. "Law and Economics." In *Legal Frontiers*, edited by Philip A Thomas, 66–105. Dartmouth: Aldershot, 1996.
- Demsetz, Harold. "Information and Efficiency: Another Viewpoint." *Journal of Law and Economics* 12 (1969): 1–22.
- . "The Private Production of Public Goods." *Journal of Law and Economics* 13 (1970): 293–306.
- . "Towards a Theory of Property Rights." *American Economic Review* 57 (1967): 347–59.
- Deneckere, RJ and McAfee, RP. "Damaged Goods." *Journal of Economics and Management Science* 5 (1996): 149–74.
- Dnes, Antony. *The Economics of Law*. London: International Thomson Business Press, 1996.
- Dworkin, Ronald. "Is Wealth a Value?" *Journal of Legal Studies* 9 (1980): 191.
- Easterbrook, Frank H. "Intellectual Property Is Still Property." *Harvard Journal of Law and Public Policy* 13 (1990): 108–18.
- Economides. "The Economics of Networks." *International Journal of Industrial Organization* 14, no. 2 (1996): 673–99.
- Elkin-Koren, Niva. "Copyright in Cyberspace – Rights without Laws?" *Chicago-Kent Law Review* 73 (1998): 1155.
- . "Copyright Policy and the Limits of Freedom of Contract." *Berkeley Technology Law Journal* 12 (1997): 93.
- Ellickson, Robert C. "Law and Economics Discovers Social Norms." *Journal of Legal Studies* 29, no. 2 (1998): 537.

- Epstein, Richard A. "Intellectual Property: Old Boundaries and New Frontiers." *Indiana Law Journal* 76, no. 4 (2001): 803–27.
- . *Takings: Private Property and the Power of Eminent Domain*. Cambridge MA: Harvard University Press, 1985.
- Ergas, Henry. "Changes in the Science and Technology System and Some of Their Implications for the Protection of Intellectual Property." *IP Forum* 39 (1999): 28.
- Farrell, Joseph. "Arguments for Weaker Intellectual Property Protection in Network Industries." In *Working Paper No. 94-11*, 1–14. Centre for the Study of Law and Society, University of California, 1994.
- . "Standardization and Intellectual Property." *Jurimetrics Journal* 30 (1989): 35–50.
- Farrell, Joseph and Saloner, Garth. "Converters, Compatibility and the Control of Interfaces." *Journal of Industrial Economics* 40, no. 1 (1992): 9–35.
- Fazio, C and Stern, S. "Innovation Incentives, Compatibility, and Expropriation as an Antitrust Remedy: The Legacy of the Borland/Ashton-Tate Consent Decree." *Antitrust Bulletin* (2000).
- Fels, Allan and Walker, Jill. "The Market for Books and the Importation Provisions of the Copyright Act 1968." *Melbourne University Law Review* 17 (1990): 566.
- Filer, Randal K. "A Theoretical Analysis of the Economic Impact of Artists' Resale Royalties Legislation." *Journal of Cultural Economics* 8 (1984): 1–28.
- Financial Systems Inquiry. *Discussion Paper*. Canberra: AGPS, 1996.
- Fisher, William W. "Property and Contract on the Internet." *Chicago-Kent Law Review* 73 (1998): 1203.
- . "Reconstructing the Fair Use Doctrine." *Harvard Law Review* 101 (1988): 1659–795.
- Fitzgerald, Brian. "Grain Pool of WA v. The Commonwealth: (Australian) Constitutional Limits of Intellectual Property Rights." *European Intellectual Property Review* 2 (2001): 103–07.
- Frank, Björn. "On Art without Copyright." *Kyklos* 49, no. 1 (1996): 3–15.
- Friedman, David D. *Law's Order: What Economics Has to Do with Law and Why It Matters*. Princeton: Princeton University Press, 2000.
- . "Standards as Intellectual Property: An Economic Approach." *University of Dayton Law Review* 19, no. 3 (1994): 1109–29.
- Fujitani, JM. "Controlling the Market Power of Performing Rights Societies: An Administrative Substitute for Antitrust Regulation." *California Law Review* 72 (1984): 103–37.
- Gallagher, T. "Copyright, Compulsory Licensing and Incentives." In *Working Paper Series No. 2*. Oxford Intellectual Property Research Centre, 2001.
- Galloway, Terrel and Kinnear, Douglas. "Unchained Melody: A Price Discrimination-Based Policy Proposal for Addressing the MP3 Revolution." *Journal of Economic Issues* 35, no. 2 (2001): 279–87.
- Gandal, Neil. "Compatibility Standards and Network Externalities in the PC Software Market." *Review of Economics and Statistics* 77 (1995): 599–608.
- Gans, Joshua, Williams, Philip and Briggs, David. *Clarifying the Relationship between Intellectual Property Rights and Competition: Report Prepared for Submission to the Review of Intellectual Property and Competition*. Melbourne: Frontier Economics, 2000.
- Gera, Surendra and Weir, Tony. *Policies for a Knowledge-Based Economy: Some Relevant Studies, ISR New Economy Issues Paper No. 4*. Canberra: Department of Industry, Science and Resources, 2001.
- Ginsburg, Jane C. "Creation and Commercial Value: Copyright Protection of Works of Information." *Columbia Law Review* 90 (1990): 1865–938.
- Goldstein, Paul. *Copyright's Highway: From Gutenberg to the Celestial Jukebox*. New York: Hill and Wang, 1994.
- Good, Diana. "How Far Should IP Rights Have to Give Way to Standardization: The Policy Positions of ETSI and the EC." *European Intellectual Property Review* 14, no. 9 (1992): 295–97.
- Gordon, Wendy J. "Asymmetric Market Failure and Prisoner's Dilemma in Intellectual Property." *University of Dayton Law Review* 17, no. 3 (1992): 853–81.
- . "Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors." *Columbia Law Review* 82 (1982): 1600–57.

- . “An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent, and Encouragement.” *Stanford Law Review* 41 (1989): 1343–469.
- . “Intellectual Property as Price Discrimination: Implications for Contract.” *Chicago-Kent Law Review* 73 (1998): 1367.
- . *The Intellectual Property Genesis Tale: Some Revisions*. University of Toronto Centre for Innovation Law and Policy, 2000 [cited 5 June 2001]. Available at <http://www.innovationlaw.org/lawforum/pages/2publications.htm>.
- Gordon, Wendy J and Bone, Robert G. “Copyright.” In *Encyclopedia of Law and Economics*, edited by Boudewijn Bouckaert and Gerrit De Geest, 189–215. Cheltenham UK: Edward Elgar, 2000.
- Guidi, Marco EL. “Bentham’s Economics of Legislation.” In *Department of Social Studies Working Paper STO 2–00*, edited by University of Brescia, 2000.
- Guldberg, Hans Hoegh. *Copyright: An Economic Perspective*. Sydney: Australian Copyright Council, 1994.
- Hadfield, Gillian K. “The Economics of Copyright: An Historical Perspective.” In *Copyright Law Symposium*, edited by American Society of Composers Authors and Publishers, 1–46. New York: Columbia University Press, 1992.
- Hamlen, William A. “Superstardom in Popular Music: Empirical Evidence.” *Review of Economics and Statistics* 73 (1991): 729–33.
- Harris, Robert and Sullivan, Lawrence. “Horizontal Merger Policy: Promoting Competition and American Competitiveness.” *Antitrust Bulletin* 31 (1986): 871.
- Hausman, JA and MacKie-Mason, JK. “Price Discrimination and Patent Policy.” *RAND Journal of Economics* 19 (1988): 253–65.
- Hollander, Abraham. “Market Structure and Performance in Intellectual Property: The Case of Copyright Collectives.” *International Journal of Industrial Organization* 2 (1984): 199–216.
- House of Representatives Standing Committee on Legal and Constitutional Affairs. *Advisory Report on Copyright Amendment (Digital Agenda) Bill 1999*. Canberra: Parliament of Australia, 1999.
- Hovenkamp, Herbert. “Law and Economics in the United States: A Brief Historical Overview.” *Cambridge Journal of Economics* 19 (1995): 331–52.
- Hurt, Robert M, and Schuchman, Robert M. “The Economic Rationale of Copyright.” *American Economic Review Papers and Proceedings* 56 (1966): 421–32.
- Industry Commission. *Book Printing*. Canberra: AGPS, 1996.
- Intellectual Property and Competition Review Committee. *Review of Intellectual Property Legislation under Competition Principles Agreement: Final Report*. Canberra, 2000.
- Jacob, A and Ben-Shahar, D. “A Preach for a Breach: Promoting Copyright Infringements as an Optimal Monopolistic Behavior.” Herzliya (Israel): Working Paper, Radziner School of Law, Interdisciplinary Center, 2000.
- Jensen, Mary Brandt. *Compulsory Licenses and Electronic Material 1993* [cited 2 December 2001]. Available at <http://www.cni.org/Hforums/cni-copyright/1993-03/0307.html>.
- Johnson, William R. “The Economics of Copying.” *Journal of Political Economy* 93, no. 1 (1985): 158–74.
- Kaldor, Nicholas. “Welfare Propositions in Economics and Interpersonal Comparisons of Utility.” *Economic Journal* 69 (1939): 549–52.
- Kaplan, Benjamin. *An Unhurried View of Copyright*. New York: Columbia University Press, 1967.
- Karni, Edi and Schmeidler, David. “Fixed Preferences and Changing Tastes (in the Formation of Economic Values).” *American Economic Review* 80, no. 2 (1990): 262–67.
- Karp, Larry and Jeffrey Perloff. “Legal Requirements That Artists Receive Resale Royalties.” *International Review of Law and Economics* 13 (1993): 163–77.
- Katz, ML and Shapiro, Carl. “Antitrust in Software Markets.” Paper presented at the Competition, Convergence and the Microsoft Monopoly Conference, 5 February 1998.
- Kennedy, Duncan. “Cost-Benefit Analysis of Entitlement Problems: A Critique.” *Stanford Law Review* 33 (1981): 387.
- Kerkmeester, Heico. “Methodology: General.” In *Encyclopedia of Law and Economics, Volume I. The History and Methodology of Law and Economics*, edited by Boudewijn Bouckaert and Gerrit De Geest, 383–401. Cheltenham UK: Edward Elgar, 2000.

- Khan, Anwar N and Hancock, Philip. "Copyright Law in Australia – Fair Dealing for Research or Study Purposes." *Journal of Law & Education* 30, no. 3 (2001): 505–23.
- Kindleberger, CP. "Standards as Public, Collective and Private Goods." *Kyklos* 36, no. 3 (1983): 377–96.
- Kobak, James B. *Intellectual Property, Competition Law and Hidden Choices between Original and Sequential Innovation* 1998 [cited 27 May 2002]. Available at http://vjolt.student.virginia.edu/graphics/vol3/home_aty6.html.
- Kobayashi, Bruce and Burtis, Michelle. "Intellectual Property and Limitations on Contract: Antitrust, Preemption, and the First Sale Doctrine." In *Dynamic Competition and Public Policy*, J Ellig (ed). Cambridge University Press, 2001, pp 229–263.
- Koboldt, Christian. "Intellectual Property and Optimal Copyright Protection." *Journal of Cultural Economics* 19, no. 2 (1995): 131–55.
- Kovacic, William E and Shapiro, Carl. "Antitrust Policy: A Century of Economic and Legal Thinking." *Journal of Economic Perspectives* 14, no. 1 (2000): 43–60.
- Krauss, Michael I. "Property, Monopoly and Intellectual Rights." *Hamline Law Review* 12 (1989): 305–20.
- Kreile, Reinhold and Jürgen Becker. *Collecting Societies in the Information Society: Economic and Legal Aspects* 1997 [cited 7 August 2001]. Available at <http://www.gema.de/eng/public/jahr97/index.html>.
- Kuhn, Steven T. *Prisoner's Dilemma* Stanford Encyclopedia of Philosophy, 2001 [cited 25 October 2001]. Available at <http://plato.stanford.edu/entries/prisoner-dilemma/>.
- Kyrillidou, Martha. *Journal Costs: Current Trends & Future Scenarios for 2020*. The Association of Research Libraries, 2000 [cited 1 December 2001]. Available at <http://www.arl.org/newsltr/210/costs.html>.
- Landes, William M, and Posner, Richard A. "An Economic Analysis of Copyright Law." *Journal of Legal Studies* 18 (1989): 325–63.
- . "Trademark Law: An Economic Perspective." *Journal of Law and Economics* 30 (1987): 265.
- Lang, J Temple. "The Principle of Essential Facilities and Its Consequences in European Community Competition Law." In *The Political Economy of Broadcasting*, edited by A. Peacock, Regulatory Policy Institute, Oxford, 1996.
- Langlois, Richard N. "Scale, Scope, and the Reuse of Knowledge." Paper presented at the Conference in Honor of Brian J. Loasby, Stirling, Scotland, 26–28 August 1997.
- Lemley, Mark A. "Antitrust and the Internet Standardization Problem." *Connecticut Law Review* 28 (1996): 1041–94.
- . "Beyond Preemption: The Law and Policy of Intellectual Property Licensing." *California Law Review* 87 (1999): 111–72.
- . "Intellectual Property and Shrinkwrap Licenses." *Southern California Law Review* 85 (1995): 1239–94.
- Lemley, Mark A and McGowan, David. "Legal Implications of Network Economic Effects." *California Law Review* 86 (1998): 479–610.
- Lessig, Lawrence. *Expert Report of Professor Lawrence Lessig Pursuant to Federal Rule of Civil Procedure 26(a)(2)(B)* 2000 [cited 21 August 2001]. Available at <http://www.napster.com/pressroom/legal.html>.
- Leval, Pierre. "Toward a Fair Use Standard." *Harvard Law Review* 103 (1990): 1105.
- Lewis, Gerald J. "Broad Copyright Protection for User Interfaces Ignores the Software Industry's Trend toward Standardization." *University of Pittsburgh Law Review* 52, no. 3 (1991): 689–722.
- Liebowitz, Stan J. "Copying and Indirect Appropriability: Photocopying of Journals." *Journal of Political Economy* 93, no. 5 (1985): 945–57.
- . *Copyright Law, Photocopying, and Price Discrimination* 1986 [cited 2 August 2001]. Available at http://wwwpub.utdallas.edu/~liebowit/knowledge_goods/rle/rle1986.html.
- . *Copyright, Piracy and Fair Use in the Networked Age* 2001 [cited 2 August 2001].
- . *The Impact of Reprography on the Copyright System*. Copyright Revision Studies. Ottawa: Bureau Of Corporate Affairs, 1981.
- Liebowitz, Stan J and Margolis, Stephen E. "Network Effects and Externalities." In *The New Palgrave's Dictionary of Economics and the Law*, London, Macmillan, 1998.

- Liebowitz, Stan J and Margolis, Stephen E. "Are Network Externalities a New Source of Market Failure?" *Research in Law and Economics* 17 (1995): 1.
- Lindsay, David. Proposed Study of Economic Analysis of Copyright Law: Executive Summary and Scoping Document. Sydney: Centre for Copyright Studies, 2001.
- Loren, Lydia Pallas. "Redefining the Market Failure Approach to Fair Use in an Era of Copyright Permission Systems." *Journal of Intellectual Property Law* 5 (1997): 1–58.
- Lunney, Glynn S. "Reexamining Copyright's Incentives–Access Paradigm." *Vanderbilt Law Review* 49 (1996): 483–630.
- Lupton, Peter and Drahos, Peter. Copyright Collecting Societies: Towards a Regulatory Balance of Public and Private Interests – a Response to the Simpson Report. Canberra: Australian National University, 1996.
- Macaulay, Thomas Babington. *A Speech Delivered in the House of Commons on the 5th of February 1841* [cited 2 December 2001]. Available at <http://yarchive.net/macaulay/copyright.html>.
- MacDonald, Glenn M. "The Economics of Rising Stars." *American Economic Review* 78 (1988): 155–67.
- Malueg, D and Schwartz, M. "Parallel Imports, Demand Dispersion, and International Price Discrimination." *Journal of International Economics* 37 (1994): 167–95.
- Mandeville, TD, Lamberton, DM and Bishop, EJ. Economic Effects of the Australian Patent System: A Commissioned Report to the Industrial Property Advisory Committee. Canberra: AGPS, 1982.
- Marron, Donald B and Steel, David G. "Which Countries Protect Intellectual Property? The Case of Software Piracy." *Economic Inquiry* 38, no. 2 (2000): 159–74.
- Maskus, Keith E and Chen, Yongmin. Vertical Price Control and Parallel Imports, Policy Research Working Paper 2461. Washington DC: The World Bank, 2000.
- Mason, Sir Anthony. "Developments in the Law of Copyright and Public Access to Information." *European Intellectual Property Review* 11 (1997): 636.
- . "Public-Interest Objectives and the Law of Copyright." *Journal of Law and Information Science* 9, no. 1 (1998): 7–21.
- . *Reading the Future* [The Inaugural Australian Library and Information Association Library Week Oration]. 1 May 1996 [cited 7 August 2001 2001]. Available at <http://www.nla.gov.au/nla/staffpaper/mason.html>.
- Maurer, Stephen M. "Across Two Worlds: Database Protection in the US and Europe." Paper presented at the Intellectual Property and Innovation in the Knowledge-Based Economy Conference, Toronto, Canada 2001.
- Maurer, Stephen M, Hugenholtz, P Bernt and Onsrud, Harlan J. "Europe's Database Experiment." *Science* 294 (2001): 789–80.
- May, Brett and Singer, Marc. "Unchained Melody." *McKinsey Quarterly*, no. 1 (2001): 128–37.
- McAdams, Richard. "The Origin, Development, and Regulation of Norms." *Michigan Law Review* 96 (1997): 338.
- McCain, Roger A. *The Case for Minimal Protection of Intellectual Property Rights: Game Theoretic and Cost of Transaction Perspectives* [cited 11 October 2001]. Available at <http://william-king.www.drexel.edu/top/personal/wkpaps/property-toc.html>.
- . "Information as Property and as a Public Good." *Library Quarterly* 58, no. 3 (1988): 265–82.
- McDonald, Ian. A Comparative Study of Library Provisions: From Photocopying to Digital Communication. Sydney: Centre for Copyright Studies, 2001.
- . Copyright in the New Communications Environment: Balancing Protection and Access. Sydney: Centre for Copyright Studies, 1999.
- . "The Economics of Copyright and Fair Use in the Digital Environment: Report of Presentation to Copyright Society of Australia by Professor Wendy Gordon." *Copyright Reporter* 19, no. 1 (2001): 20–22.
- . "Proposed Changes to Australian Copyright Law." Paper presented at the APPA/CAL Conference, 3 June 1999.
- McFetridge, DG. "Science and Technology: Perspectives for Public Policy." In *Occasional Paper No. 9*. Ontario: Industry Canada, 1995.
- McGowan, David. "Network and Intention in Antitrust and Intellectual Property." *Journal of Corporate Law* 24 (1999): 485.

- McKeough, Jill and Andrew Stewart. *Intellectual Property in Australia*. 2nd ed. Sydney: Butterworths, 1997.
- Melaugh, David. *Of Freepers and Fair-Use: How Technology Impacts What Is Fair* 1998 [cited 28 November 2001]. Available at http://cyber.law.harvard.edu/is98/final_papers/Melaugh.html.
- Menell, Peter S. "Intellectual Properties: General Theories." In *Encyclopedia of Law and Economics: Volume II (Civil Law and Economics)*, edited by Boudewijn Bouckaert and Gerrit De Geest, 129–88. Cheltenham UK: Edward Elgar, 2000.
- Mercuro, Nicholas, and Medema, Steven G. *Economics and the Law: From Posner to Post-Modernism*. Princeton: Princeton University Press, 1997.
- Merges, Robert P. "Are You Making Fun of Me?: Notes on Market Failure and the Parody Defense in Copyright." *American Intellectual Property Law Association Quarterly Journal* 21 (1993): 305.
- . "The Economic Impact of Intellectual Property Rights: An Overview and Guide." *Journal of Cultural Economics* 19 (1995): 103–17.
- . "The End of Friction? Property Rights and Contract in the 'Newtonian' World of On-line Commerce." *Berkeley Technology Law Journal* 12 (1997): 115.
- . "Intellectual Property Rights and the New Institutional Economics." *Vanderbilt Law Review* 53, no. 6 (2000): 1857–77.
- Metaxas-Maranghidis, G, ed. *Intellectual Property Laws of Europe*. New York: Chancery Law Publishing, 1995.
- Meurer, Michael J. "Price Discrimination, Personal Use and Piracy: Copyright Protection of Digital Works." *Buffalo Law Review* 45 (1997): 845–98.
- Nadan, Christian H. "Standardization and Interoperability Become Key Factors in Copyright Law." *Computer Lawyer* 10, no. 4 (1993): 12–17.
- Napster. *Legal Documents* [cited 12 July 2001]. Available at <http://www.napster.com/pressroom/legal.html>.
- Nascimento, F and Vanhonacker, WR. "Optimal Strategic Pricing of Reproducible Consumer Products." *Management Science* 34, no. 8 (1988): 921–37.
- National Competition Council. Review of Sections 51(2) and 51(3) of the Trade Practices Act 1974: Final Report. Melbourne, 1999.
- Netanel, Neil. "Copyright in a Democratic Civil Society." *Yale Law Journal* 106 (1996): 283.
- Novos, Ian E and Waldman, Michael. "The Effects of Increased Copyright Protection: An Analytical Approach." *Journal of Political Economy* 92, no. 2 (1984): 236–46.
- O'Hare, Michael. "Copyright and the Protection of Economic Rights." *Journal of Cultural Economics* 6, no. 1 (1982): 33–48.
- . "Copyright: When Is Monopoly Efficient?" *Journal of Policy Analysis and Management* 4, no. 5 (1985): 407–18.
- Oddi, A Samuel. "Un-Unified Economic Theories of Patents – the Not-Quite-Holy Grail." *Notre Dame Law Review* 71 (1996): 267.
- Office of Regulation Review. An Economic Analysis of Copyright Reform, Submission to Copyright Law Review Committee's Review of the Copyright Act 1968 (Cth). Canberra, 1995.
- Office of Technology Assessment. *Intellectual Property Rights in an Age of Electronics and Information*. Washington DC: US Government Printing Office, 1986.
- Oniki, Hajime. "Mathematical Appendix." In *The Economics of Intellectual Property in a World without Frontiers: A Study of Computer Software*, edited by Meheroo Jussawalla, 115–36. New York: Greenwood Press, 1992.
- Organisation for Economic Co-operation and Development. *Competition Policy in OECD Countries: 1994–1995*. Paris: OECD, 1997.
- . The Economic and Social Impact of Electronic Commerce: Preliminary Findings and Research Agenda. Paris: OECD, 1999.
- Palmer, T. "Intellectual Property: A Non-Posnerian Law and Economics Approach." *Hamline Law Review* 12 (1989): 261–304.
- Papadopoulos, Theo. "Copyright, Parallel Imports and National Welfare: The Australian Market for Sound Recordings." *Australian Economic Review* 33, no. 4 (2000): 337–48.
- Patterson, L Ray. "Copyright in the New Millenium: Resolving the Conflict between Property Rights and Political Rights." *Ohio State Law Journal* 62, no. 2 (2001): 703–32.

- Pejovich, S. "Towards an Economic Theory of the Creation and Specification of Property Rights." In *Readings in the Economics of Law and Regulation*, edited by AI Ogus and CG Veljanovski, 53–63. Oxford: Clarendon Press, 1984.
- Pethig, Rudiger. "Copyrights and Copying Costs: A New Price Theoretic Approach." *Journal of Institutional and Theoretical Economics* 144, no. 3 (1988): 462–95.
- Peyton, David. "A New View of Copyright." *Journal of Policy Analysis and Management* 6, no. 1 (1986): 92–98.
- Picker, Randal C. "An Introduction to Game Theory and the Law." In *Chicago Working Paper in Law & Economics (No. 22)*. Chicago: University of Chicago, 1994.
- Pigou, Arthur Cecil. *The Economics of Welfare*. London: Macmillan, 1920.
- Plant, Arnold. "The Economic Aspects of Copyright in Books." *Economica* 1 (1934): 167–95.
- . "The Economic Theory Concerning Patents for Inventions." *Economica* 1 (1934): 30.
- Posner, Eric A. "Law Economics, and Inefficient Norms." *University of Pennsylvania Law Review* 144 (1996): 1697.
- Posner, Richard A. "The Decline of Law as an Autonomous Discipline: 1962–1987." *Harvard Law Review* 100 (1987): 761–80.
- . *Economic Analysis of Law*. 5th ed. New York: Aspen Law & Business, 1998.
- Prices Surveillance Authority. *Inquiry into Book Prices and Parallel Imports*. Melbourne: AGPS, 1995.
- Priest, George. "What Economists Can Tell Lawyers About Intellectual Property: Comment on Cheung." *Research in Law and Economics* 8 (1986): 19.
- Productivity Commission. *Cost Recovery: Draft Report*. Canberra: AusInfo, 2001.
- Putnam, Jon. "Copyright in the Digital Age." Paper presented at the Intellectual Property & Innovation in the Knowledge-Based Economy Conference, Toronto 2001.
- Ramonbordes, Christiane. "Economic Impact of the European Directive in the Artist's Resale Right or Droit De Suite." *Copyright Bulletin* 34, no. 2 (2000): 25–32.
- Revesz, John. Trade-Related Aspects of Intellectual Property Rights, Staff Research Paper. Canberra: AGPS, 1999.
- Richardson, GB. "Economic Analysis, Public Policy and the Software Industry." In *DRUID Working Paper No. 97-4*, 1997.
- Richardson, Megan. "The Economics of Copyright and Fair Use in the Digital Environment." *Copyright Reporter* 19, no. 1 (2001): 23–24.
- Richardson, Megan, Gans, Joshua, Hanks, Frances and Williams, Philip. *The Benefits and Costs of Copyright: An Economic Perspective*. Sydney: Centre for Copyright Studies, 2000.
- Richardson, Megan, and Hadfield, Gillian, eds. *The Second Wave of Law and Economics*. Sydney: Federation Press, 1999.
- Robinson, Joan. *The Economics of Imperfect Competition*. London: Macmillan, 1934.
- Romer, Paul M. "Why, Indeed, in America? Theory, History, and the Origins of Modern Economic Growth." *American Economic Review* 86 (1996): 202.
- Rosen, Harvey S. *Public Finance*. 3rd ed. Homewood, Chicago: Irwin, 1992.
- Rosen, Sherwin. "The Economics of Superstars." *American Economic Review* 71 (1981): 845–58.
- Salanié, Bernard. *The Microeconomics of Market Failures*. Cambridge MA: MIT Press, 2000.
- Samuelson, Paul A. *Economics*. New York: McGraw-Hill, 1976.
- Schatzl, Christine. "The Role of Standards in the Information Society." Paper presented at the IEEE Conference on Standards and Innovation in IT: Standardisation and Innovation in Information Technology, Aachen, Germany, 15–17 September 1999.
- Scherer, Frederic M and Ross, David. *Industrial Market Structure and Economic Performance*. 3rd ed. Boston: Houghton Mifflin Company, 1990.
- Schmalensee, R. "Output and Welfare Implications of Monopolistic Third-Degree Price Discrimination." *American Economic Review* 71 (1981): 242–47.
- Schwartz, M. "Third-Degree Price Discrimination and Output: Generalizing a Welfare Result." *American Economic Review* 80 (1990): 1259–62.
- Scotchmer, Suzanne. "The Political Economy of Intellectual Property Treaties." In *Working Paper No. CPC 01-24*, edited by Competition Policy Center: University of California, Berkeley, 2001.

- Scott, Brendan. *Copyright in a Frictionless World: Toward a Rhetoric of Responsibility* First Monday, 2001 [cited 30 November 2001]. Available at http://www.firstmonday.dk/issues/issue6_9/scott/.
- Shapiro, Carl and Hal R Varian. *Information Rules: A Strategic Guide to the Network Economy*. Boston: Harvard Business School Press, 1999.
- Shavell, Steven and van Ypersele, Tanguy. "Rewards Versus Intellectual Property Rights." *Journal of Law and Economics* 44, no. 2 (2001): 525–48.
- Sheremata, Willow Ann. "Barriers to Innovation: A Monopoly, Network Externalities, and the Speed of Innovation." *Antitrust Bulletin* 42 (1997): 937–72.
- Sherman, Brad and Bently, Lionel. *The Making of Modern Intellectual Property Law*. Cambridge MA: Cambridge University Press, 1999.
- Shy, Oz. *The Economics of Network Industries*. Cambridge: Cambridge University Press, 2001.
- Shy, Oz, and Jacques-Francois Thisse. "A Strategic Approach to Software Protection." *Journal of Economics and Management Strategy* 8, no. 2 (1999): 163–90.
- Siebrasse, Norman. An Economic Analysis of Copyright in Facts and the Idea/Expression Dichotomy, WPS-42, Law and Economics Working Paper Series. Canadian Law & Economics Association, 1995.
- Siebrasse, Norman, and John D. McLaughlin. *Contested Markets and the Optimal Breadth of Copyright Protection: The Example of Surveyors' Plans of Survey* [cited 2 August 2001]. Available at <http://www.spatial.maine.edu/tempe/siebrasse.html>.
- Simpson, Shane. Review of Australian Copyright Collecting Societies: A Report to the Minister for Communications and the Arts and the Minister for Justice Department of Communications and the Arts, 1995 [cited 7 August 2001]. Available at http://www.dcitau.gov.au/nasapi-ext/?MIval=dca_dispoc&pathid=%2Fpubs%2Fsimpson&2Fsimpson1.htm.
- Solow, John L. "An Economic Analysis of the Droit De Suite." *Journal of Cultural Economics* 22, no. 4 (1998): 209–26.
- Soon, Jason. "An Economic Perspective on Intellectual Property: The Case of Copyright." *Policy* Autumn (1999): 38–41.
- Stranieri, Andrew and John Zeleznikow. "Copyright Regulation with Augmentation Agents." *Information & Communications Technology Law* 10, no. 1 (2001): 109–23.
- Sunstein, Cass R. *After the Rights Revolution: Reconceiving the Regulatory State*. Cambridge MA: Harvard University Press, 1990.
- . "On the Expressive Function of Law." *University of Pennsylvania Law Review* 144 (1996): 2021.
- . "Social Norms and Social Roles." *Columbia Law Review* 96 (1996): 903.
- Takeyama, Lisa N. "The Intertemporal Consequences of Unauthorized Reproduction of Intellectual Property." *Journal of Law and Economics* 40, no. 2 (1997): 511–22.
- . "The Welfare Implications of Unauthorized Reproduction of Intellectual Property in the Presence of Demand Network Externalities." *Journal of Industrial Economics* 17 (1994): 155–66.
- Teece, David J. "Profiting from Technological Innovation." In *The Competitive Challenge: Strategies for Industrial Innovation and Renewal*, edited by David J Teece, 185–219. Cambridge MA: Ballinger, 1987.
- The Allen Consulting Group. *E-Commerce Beyond 2000*. Canberra: National Office of the Information Economy, 2000.
- . *The Economic Contribution of Australia's Copyright Industries*. Sydney: Australian Copyright Council & Centre for Copyright Studies, 2001.
- . *The Regulation of Copyright Fees for Broadcasters' Use of Sound Recordings: Report Prepared for the Phonographic Performance Company of Australia (PPCA) and the Australian Record Industry Association (ARIA)*. Sydney, 1999.
- The Independent Committee of Inquiry. *National Competition Policy*. Canberra: AGPS, 1993.
- Thorpe, Jeremy. "Determining the Appropriate Role for Charge Bargaining in Pt IV of the Trade Practices Act." *Competition and Consumer Law Journal* 4 (1996): 69.
- . "In Defence of Intellectual Property Tie-Ins." *Corporate and Business Law Journal* 8, no. 1 (1995): 81–92.
- . "Reform Options for Collective Licensing of Copyright." *Agenda* 5, no. 5 (1998): 213–24.

- . "Regulating the Collective Exploitation of Copyright." *Prometheus* 16, no. 3 (1998): 317-29.
- Thorpe, Jeremy and Rimmer, Stephen. "An Economic Approach to Copyright Reform." *Australian Intellectual Property Law Bulletin* 8, no. 10 (1995): 36.
- Throsby, David, and Thompson, P. *What Do You Do for a Living?: A New Economic Study of Australian Artists*. Australia Council, 1994.
- Tirole, Jean. *The Theory of Industrial Organization*. Cambridge MA: MIT Press, 1988.
- Tollison, Robert D. "Rent-Seeking: A Survey." *Kyklos* 34 (1982): 4.
- Tom, Willard K. "The 1975 Xerox Consent Decree: Ancient Artefacts and Current Tensions." *Antitrust Law Journal* 68 (2001): 967.
- Towse, Ruth. "Copyright and Economic Incentives: An Application to Performers' Rights in the Music Industry." Working Paper, University of Exeter, Department of Economics, 1999.
- . "The Monopolies and Mergers Commission's Investigation of the U.K. Music Market." *Journal of Cultural Economics* 21, no. 2 (1997): 147-51.
- . "Partly for the Money: Rewards and Incentives to Artists." *Kyklos* 54, no. 2/3 (2001).
- Trade Practices Commission. *Application of the Trade Practices Act to Intellectual Property*. Canberra: Commonwealth of Australia, 1991.
- Tucker, P. "Refusal to License Intellectual Property Rights and Misuse of Market Power - Where Is the Line in the Sand?" *Australian Intellectual Property Journal* 10 (1999): 78.
- Tyerman, Barry W. "The Economic Rationale for Copyright Protection for Published Books: A Reply to Professor Breyer." *UCLA Law Review* 18 (1971): 1100-25.
- Tyler, Tom R. *Why People Obey the Law*. New Haven: Yale University Press, 1990.
- Varian, Hal R. "Buying, Sharing, and Renting Information Goods." *Journal of Industrial Economics* 48, no. 4 (2000): 473-88.
- . *Differential Pricing and Efficiency* First Monday, 1996 [cited 21 November 2001]. Available at <http://www.firstmonday.dk/issues/issue2/different/>.
- . *Microeconomic Analysis*. New York: Norton, 1992.
- . "Price Discrimination and Social Welfare." *American Economic Review* 75 (1985): 870-75.
- Walker, Jill. "Collecting Societies: Efficiency, Monopoly, Competition and Regulation." Paper presented at the Intellectual Property, Competition Policy's Next Frontier Conference, Sydney, 23 March 2001.
- . "The Interface between Intellectual Property Rights and Competition Law and Policy: An Australian Perspective." *Prometheus* 16, no. 3 (1998): 383.
- Warren-Boulton, Frederick, Baseman, Kenneth and Woroch, Glenn. *The Economics of Intellectual Property Protection for Software: The Proper Role for Copyright* 1995 [cited 21 August 2001]. Available at <http://elsa.Berkeley.EDU/~woroch.softcopy.pdf>.
- Watt, Richard. *Copyright and Economic Theory: Fiends or Foes?* Cheltenham UK: Edward Elgar, 2000.
- Weimer, David L and Vining, Aidan R. *Policy Analysis: Concepts and Practice*. 2nd ed. Englewood Cliffs: Prentice Hall, 1992.
- Williams, Philip. APRA's Authorisation Application to the Act - Witness Statement: Philip Williams. Melbourne: London Economics, 1998.
- Woodhead, Robert. *Tipping - a Method for Optimizing Compensation for Intellectual Property* 2000 [cited 21 August 2001]. Available at <http://tipping.selfpromotion.com>.
- World Intellectual Property Organization. "Standing Committee on Copyright and Related Rights (Seventh Session)." Geneva, 13-17 May 2002.
- Y'barbo, Douglas. "The Heart of the Matter: The Property Right Conferred by Copyright." *Mercer Law Review* 49 (1998): 643.
- Zerbe, Richard O, and McCurdy, Howard. "The End of Market Failure." *Regulation* 23, no. 2 (2000): 10-14.