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INDIRECT APPROPRIABILITY 20 YEARS ON

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> The copying of other media may or may not have impacts similar to those found for photocopying. Only case-by-case empirical investigations of institutions and markets can discover the impacts of these other forms of copying. (Liebowitz, 1985, p. 956).

20 years ago, Stan Liebowitz's famous paper on indirect appropriability was published in the *Journal of Political Economy*. At the time, it would surely have been impossible to predict the impact that the paper, together with two or three others published in the same journal at around the same time (Novos and Waldman, 1984, and Johnson, 1985), would have on the fledgling area of economics that was being re-born[1] under the label of "the economics of copyright".[2]

In the intervening 20 years, the idea forwarded by Liebowitz – that the ability to copy increases the value that purchasers place on originals, thereby increasing their willingness to pay, and (under certain conditions) allowing sellers of originals to capture the value of copies when originals are priced – has been one of the most provocative, most commented and most applied ideas upon which the economics of copyright rode its way out of the shadows of economic theory. In part, this was surely due to the counter intuitive nature of the idea, something which economists in general seem to embrace with uncanny fervor. It has been said that wherever a counter intuitive result may be hiding, an economist will be lurking around close by. Such is the stuff of which many a great theoretical economics reputation has been made.

Indirect appropriability is such a powerful idea because of its simplicity. All students of undergraduate economics learn about price discrimination, under which a seller can appropriate a greater share of consumer surplus by charging different prices to different consumer groups. Price discrimination is possible, and is profitable, when different groups of consumers of a single product have different willingness' to pay. For the copying example, the differences in willingness to pay are derived from the value of downstream copying, and so if the purchasers of the original units that will serve as models for subsequent copies can be identified, then it will be profitable to charge them a higher price than what is charged to other

[1] Of course, the economics of copyright was not first concieved in the mid-1980s, but quite some time before that. Many authors point to Arnold Plant's pathbreaking work as seminal in the field (Plant, 1934), and others have even noted clear foundations in the work of Adam Smith (see Gordon, 2003). However, it is fair to say that it was in the mid-1980s, with the enormous impact of new copying technologies and environments (photocopying of written pages, analog copying of music, and even the first computer programmes), that the economics profession really sat up and took notice.

[2] Currently, Liebowitz's paper has had over 100 cites, counting several that contain misspellings of the author's name and page number errors. It is the most heavily cited paper in the, admittedly small, field of the economics of copying.

purchasers. The addition to the simple price discrimination story that was provided by Liebowitz was nothing more than the understanding that what the seller may be able to gain from discriminatory pricing would in fact correspond to the value of downstream copies, the willingness to pay of consumers of copies. It is as if the seller had been able to charge the consumers of copies themselves. A simple, but powerful idea, that also provides an appealing counter intuitive argument – the ability to copy, and the existence of a market for copies, may have certain beneficial effects for the sellers of originals. With a curriculum like that, indirect appropriability was always going to be irresistible to economic theorists.[3]

The importance of indirect appropriation seems to have grown over the years as analog copying was overtaken by digital technologies. The change in speed and quality with which originals can now be copied and distributed compared to the status quo of 20 years ago has stretched the imagination, and tested the theoretical toolkits, of those economists who insisted on continuing the relentless struggle against the general idea that copying must necessarily be harmful to the producers of originals. Indirect appropriation, together with other effects such as network effects, exposure effects and bundling, was very often put forward as a general argument in favour of the interests of the consuming public, and against the need for stringent, and costly, legal protection.

However, closer inspection of the original paper makes it clear that Liebowitz's intentions were not so far reaching. Indeed the quote taken from the paper, that appears above, is a clear invitation for future research to find out how robust the idea actually is, but the careful use of the word "may" in the phrase is indicative of an author who would like to see the idea carried further, but who is also intent upon insuring his reputation against the possibility that the idea could turn out not to be more generally applicable. Liebowitz's paper shows that indirect appropriation works for the particular case of photocopying of academic journals, and only suggests that it "may or may not" be applicable for other copying environments.

However, how often does one offer a helpful hand, only to find that the entire arm is taken. The idea of indirect appropriability was lapped up on many occasions, in many excellent subsequent papers, as a major weapon that was used to seriously undermine the more generally accepted idea that the evils of copying for sellers of originals need to be controlled for by other means, above all by legal regulation. If, by using more imaginative pricing strategies the evil goes away, so the argument goes, then the costs (both financial and otherwise) of regulatory protection are unwarranted. But is it true that indirect appropriability, and strategic pricing strategies in general, provides a magic wand that turns copying into a favourable activity for the seller of the intellectual property that is under siege? Indirect appropriability has been shown to work well enough for the very special case of publishing of academic journals, but surely it would take a rather bold man indeed to seriously suggest that it can also provide a robust form of remuneration for copyright holders when music is burned from one CD to another, when mp3 files are shared by 50 million individual internet users from their own homes world wide,

[3]Indirect appropriability is not restricted to pure copying; it has also been successfully used to explain markets in which consumers of information goods form groups among which units are shared. Again, since the unit that is shared is used to satisfy the consumption desires of more than one user, it can be sold at a higher price (see, for example, Varian, 2000).

and when bootlegged copies of Microsoft Office 2003 show up on the back streets of Bangkok.

As is clear from his paper in this symposium, Liebowitz himself is clearly a sceptic of the general robustness of indirect appropriability, and rightly so. Indirect appropriabiltiy *may* provide a reverse effect for copying, an effect that counters the "evils" that copying imposes upon copyright holders, but nowhere in the original paper does Liebowtiz argue that the opposing effect completely washes out the original unfavourable effect, except for the special case of photocopying of journals. The paper by Waldman and Johnson in this symposium is also clearly sceptical of the ability of indirect appropriability to offer an escape route by which copyright holders can benefit from copying. Waldman and Johnson's paper is complementary to both Liebowitz's paper in this symposium, and perhaps to the general idea that Liebowitz intended to make clear in the first place with the quote with which this Editorial piece began – indirect appropriability may work, and it may not, but we may be able to isolate general characteristics of markets for which it may or may not work. Waldman and Johnson's paper provides several simple examples of market situations in which the idea will probably not work, and by elimination, they also provide typologies of markets for which it is more likely to work.

That indirect appropriability may be more robust than Liebowitz suspected, was left to other authors, some of whom have also participated in this symposium (see, for example, Boldrin and Levine, 2002 and 2004). And given that the stated objective of *RERCI* is to provide a neutral forum where all sides of important debates can be voiced in an academically rigorous manner, the symposium would not be complete without something being said about how indirect appropriability may be used as a mechanism of remuneration for authors, without recourse to legal protection. William Johnson's paper in this symposium points to several particular examples of markets for which indirect appropriability, and other related pricing strategies may provide at least partial insulation from copying. Johnson points to markets for home viewing of pre-recorded movies, live concerts, and Broadway theatre. He also goes back to the original scenario of Liebowitz, the market for academic journals, by considering the case where the author pays the journal, a recent innovation designed to keep journals properly financed and yet that avoids the problems that copying implies for maintaining paid subscriptions. Finally, the symposium ends with a provocative paper by Michele Boldrin and David Levine, well known as outspoken critics of legal regimes that protect intellectual property, and staunch supporters of market based solutions that invoke, either directly or indirectly, the concept of indirect appropriability. Boldrin and Levine propose that IP law is not only unneccesary for stimulating and rewarding creative activities, but they even suggest that it is damaging for the creative process. As is made clear by comments like "That the original copy of an idea is the capital good (the tree) from which all other copies (the fruits) must originate enables innovators to appropriate the net present value of all future copies through competitive pricing" (see this journal, page 64), Boldrin and Levine's claim rests squarely on a foundation of indirect appropriability.

I sincerely hope that the symposium proves to be as interesting and informative to *RERCI* readers as it was to me personally. Our objective will certainly have been achieved if the symposium generates thought, and hopefully follow-up research. I would very much like to thank our contributors, well known names indeed, who have taken the time out to put their ideas on paper, both as a commemoration to the 20th aniversary of a paper that has shown itself to be a cornerstone in the foundation of the economics of copying and copyright, and as an exciting way to set the scene for the next generation of research.

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