

age of the drug results yields a substantial net reduction in the total cost of treating the condition.

It is sometimes suggested that, because generic drugs tend to be less expensive than branded drugs, allowing people to use only generic drugs might be an effective means of reducing health expenditure. Generic drugs tend to be much older than branded drugs. Suppose that, instead of consuming the actual mix of 60 percent branded and 40 percent generic drugs, people had to consume only generic drugs. This would increase the mean age of drugs consumed by 31 percent, from 29 years to 38 years. My estimates indicate that denying people access to branded drugs would increase total treatment costs, not reduce them, and would lead to worse outcomes.

Notes

¹One exception is “The Effect of New Drugs on HIV Mortality in the U.S., 1987-1998,” *Economics and Human Biology*, forthcoming.


²I am currently applying a similar approach to data on all OECD and some non-OECD countries.

³N.B.: All costs are in US dollars.

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The Priority of Intellectual Property Rights

by Alex Rosenberg

The ease of software piracy, and of downloading copyrighted material from the Internet, has substantially increased the challenge of intellectual property. For what reasons, and to what extent, should the state treat good, new ideas as private property? Napster may have made the problem visible, but advances in health care promised by genomic research seriously raise the moral stakes of satisfactorily addressing this question.

There is, however, a simple and cogent argument for treating intellectual property rights as untrumpable by any other considerations of human welfare. The notion that there are basic human or “natural” rights, which cannot be overridden no matter what the welfare consequences are of doing so, is a familiar objection to utilitarianism (the theory originated by John Stuart Mill according to which the morally best policy is the one that maximizes human happiness

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or welfare). But few suppose that intellectual property rights are among this privileged set, still less that there might be some rights utilitarianism will support as untrumpable. That is what makes the argument so arresting.

Broadly, utilitarianism chooses institutions on the basis of their consequences for human welfare. Utilitarianism is famously inimical to the priority of rights over welfare. Its founder, Jeremy Bentham, quipped that “rights are nonsense, and prescriptive rights nonsense upon stilts.” Thus, a utilitarian argument for the prescriptive status of intellectual property rights would be a particularly surprising one and a strong reason to entrench a property right to new ideas, independent of general arguments in political philosophy about whether they are natural rights or not.

The argument begins with something economists have long recognized. There is only a given amount of land and current capital. As more people are employed, their ability to produce more of what they want and need diminishes. In the absence of innovation, they eventually reach a limit. Malthus noticed that holding land and capital constant, population increase by itself must ensure ever-increasing immiseration owing to the increasing supply of and



diminishing returns to labour. But of course Malthus did not reckon with technological change, i.e., with the provision of ideas about how to increase the efficiency of land, labour, and capital inputs in producing output. Good, new ideas are not just the most important variable for increasing production over time; in the long run they are the *only* variables. Once resources are fixed, increases in the productivity of land, labour, and capital, both separately and together, are due to good, new ideas. Even narrowly construed, the rate of return on technological investment alone appears to be huge.¹

Moreover, the supply of good ideas is indefinitely large. Indeed, this fact about good ideas is part of an argument for intellectual property rights which must appeal strongly to proponents of Locke's account of chattel property. The "Lockian proviso" that property is morally permissible when one mixes one's labour with it, and "leaves as good and as much" for others is arguably more easily satisfied by good ideas than anything else. After all, good new ideas can only be acquired by mixing one's mental labour with them, and acquisition of one good new idea comes as close as anything can come to leaving enough and as good for others. The history of technology confirms the economist's observation: good ideas are the chief source of welfare-improvements the world over. Consider the implications of Moore's law, that the memory capacity of microchips doubles every 18 months through human ingenuity.

Besides its huge benefits, the other feature of new ideas is that they are unpredictable and multiplicative in their effects on further innovation. The sequence of unanticipated innovations from Faraday's discovery to the laptop illustrates the fact that good ideas are multiplicative and quintessentially unpredictable. A

famous jazz musician reportedly answered the question, "Where is jazz going?" by replying, "If I knew, I would be there already!" As philosophers have regretfully reported, there is no logic of discovery, nor for that matter a psychology, sociology, still less an economic theory that identifies the causal variables responsible for the appearance of good ideas. Accordingly, developmental economists traditionally described technological change as an "exogenous shock," the cause of the "residual" left-over component of the data about economic growth which they cannot explain, still less predict (following Solow, 1957).

The failure of any sort of planning—whether private or public—to provide efficiently or even at all for good new ideas is a direct consequence of their inherent unpredictability. It is rarely possible to identify, and still less to solve, a specific intellectual problem merely by throwing money at it from a central source, and it is never possible to do so efficiently. Only the individual person closest to the research frontier has both the relevant information and the incentive to recognize an opportunity to solve a problem. Only a decentralized information-processing system like the free-market price mechanism can encourage the continual flow of good, new ideas. But the market is not sufficient to insure optimal provision, owing to features which good ideas share with that other source of market failure—the public good. New ideas can be optimally consumed by one person without depriving anyone else of the benefits of consuming the good idea. Once a good idea has been produced, the marginal cost of another copy of that good idea is either zero or the price of a few sheets paper, a floppy disk, or some chemicals pressed into a tablet. The upshot is, of course, that, as with public goods, a perfectly competitive market will not provide the optimum level of good ideas.

In the case of public goods, the welfare economist's solution to the problem of provision is government coercion, such as standing armed forces that are funded by taxation. Since this will not work for good ideas, the solution is to privatize good ideas, and provide their originators with intellectual property rights. The analysis is straightforward: a market economy without patent rights will not provide the optimum level of welfare that it is capable of providing. Seeking to invent and/or discover new labour-saving or welfare-increasing ideas incurs costs, and is risky: there is no assurance of success. No one has an incentive to innovate without the promise of returns; every one has the incentive to watch others and simply copy any idea others develop that will enhance their welfare. If you expend resources to introduce, say, crop rotation, others can freely copy it if it works, and they will free ride on your efforts. No rational agent wants to take needless risks or be a sucker, so among economically rational agents, there will be a sub-optimal supply of new ideas. But the problem is worse. In a competitive economy without intellectual property rights, there is a strong incentive to keep innovations secret. What happens when the first among many seekers makes the discovery? To reveal it is to surrender the competitive advantage. If the secret is kept, the others will continue to invest in research, thus wasting the economy's scarce resources. Moreover, the discovery cannot be sold so others could make use of it to consumers' advantage, thus wasting more of the economy's resources. Further, it will usually cost the discoverer something to keep the secret, and some agents will employ resources to engage in industrial espionage to uncover good ideas that others were keeping secret. Result: still more waste of productive resources, and economic inefficiency.



Intellectual Property

The absence of intellectual property rights among economically rational persons results in serious under-investment in those ideas that are hard to keep secret, and serious over-investment in ideas that are easy to keep secret. The introduction of patents is a social welfare-increasing solution to this problem. It is not a perfect solution because a patent prevents competitors from supplying exact substitutes of the good in question, resulting in welfare losses—the so-called “dead weight loss” which pure price competition avoids. Patent rights are a so-called “second best” solution because without them, the welfare loss to the economy is greater than with them—fewer good, new ideas, and too much investment in duplicate research, hiding, and stealing results of research. But with patent rights there is still some loss by comparison to the optimum allocation of resources in the economy.

Now, consider the question that utilitarians must address: Under what conditions is it morally permissible or obligatory to sacrifice intellectual property rights to welfare? The answer may seem obvious. Surely, honouring the patent rights of “Big Pharma” in the antiretroviral AIDS drugs cannot make for greater enhancement in human welfare than abrogating those rights and making such medicines widely available to millions of AIDS victims in the third world.

But the right utilitarian answer is quite otherwise: it might never be morally permissible to sacrifice intellectual property rights to immediate human needs, no matter how pressing. The reasoning is simple: (a) once a product’s patent rights are abrogated in order to meet the needs of those who cannot pay monopoly prices for it, disincentive effects on investment in innovation set in; (b) these effects will be long lasting or even permanent, and most impor-

tant, (c) it is in the nature of scientific innovations that they are both completely unpredictable, and more consequential in their welfare-enhancing effects than any other human activity. Consequently, the medium- and long-term cost of abrogating patent rights is both impossible to predict, quantify, or measure in any detail, and very probably must be huge.²

Point (a) requires little argument. Once innovators anticipate that their property may be expropriated when relatively large short-term welfare needs require it, innovators will shift their investments and investigation to those innovations of interest only to the smaller numbers of wealthy people in the developed world who can afford to pay monopoly prices for the innovations. In the case of Big Pharma, this means a focus on diseases exclusively of the rich: baldness, impotence, wrinkles, etc. Point (b) is equally obvious: experience shows that hyperinflation, an inconsistent legal environment, expropriation, price-controls, and other sudden departures from settled expectations, always have a persistently chilling effect on participants in a market. Producers know that even after one of these sudden departures has been terminated, it may occur again. Once the genie is out of the bottle, it is hard to get him back in.

Given the truth of (c), even a slight tendency to (a) or (b) means that the abrogation of patent rights is an extremely grave matter. Point (c) rests on the recognition that no other factor is more responsible for improvements in human welfare than intellectual innovation—good ideas—and that these ideas emerge unpredictably and have huge welfare effects. Once we grant the overwhelming importance of intellectual innovations to improvements in welfare, the ramifications of any step that discourages investment in them becomes manifest.

Utilitarianism has long been subject to the objection that we cannot see very far into the future, and so it is difficult to tote up the costs and benefits of alternative courses of action and choose the welfare-maximizing one. When it comes to weighing costs and benefits for human welfare of significant disincentives to intellectual innovation, this objection has little force. Indeed, we can be confident that the very reverse of its conclusion must be the case. No matter how little we can foresee even the near-term consequences, we can be sure that the long-term benefits of protecting intellectual property must exceed the costs.

The upshot of the argument is that even people who value equal distribution of wealth, who oppose globalization and privatization, should realize that placing the slightest impediment in the way of the right to own ideas is worse than almost any other strategy of regulation, including confiscation, or taxation of wealth, income, or chattel property.

Notes

¹See Griliches for an influential early exploration of how great is the excess of benefits over costs that is produced by good ideas.

²This may be expressed as an expected value calculation: even if the probability of some good idea’s appearance is low, the product of a low probability and a huge money or welfare pay-off must itself be very large.

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