

The Case Against Intellectual Monopoly

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Our Perspective

- How does innovation foster growth and prosperity?
- Economists take a broad technical view of welfare encompassing growth, prosperity and other issues

The Law

- US constitution allows copyright only in order to “promote the progress of science and the useful arts.”

“The primary objective of copyright is not to reward the labor of authors, but ‘to promote the progress of science and useful art.’ To this end, copyright assures authors the right to their original express, but encourages others to build freely upon the ideas and information conveyed by a work. This result is neither unfair nor unfortunate. It is the means by which copyright advances the progress of science and art.” Justice Sandra Day O'Conner, 1991 decision (488 US 340,349).

- producers must be compensated for their work, or creative works will not be produced
- neither the constitution nor economic theory argues that producers of intellectual property should be privileged over other producers unless there are social benefits to compensate for the costs of special treatment
- the constitution explicitly rejects the view of some artists, and the view widespread in Europe, that creators are uniquely entitled to control of their own creations

Property Rights, Downstream Licensing and Intellectual Monopoly

- right of sale – not controversial
- right to restrict the use of an idea once it is sold
 - prevent resale
 - prevent copying
 - prevent incorporation into a new product
 - limit usage

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- ◆ restricting usage is “downstream licensing”
- ◆ may be because of law or private contract (shrink wrap agreement)
- ◆ it is downstream licensing that is anti-competitive
- ◆ downstream licensing gives the owner the right not to compete with her customer
- ◆ in the ordinary world an agreement of this sort would be called “a violation of the anti-trust law”
- ◆ however, economists argue that intellectual monopoly is necessary if ideas are to be produced

Conventional Logic of Intellectual Monopoly

- ◆ information, ideas are a “public good” means zero marginal cost of distribution → increasing returns to scale
- ◆ increasing returns to scale
 - fixed cost plus
 - constant marginal cost (nothing essential about zero) plus
 - marginal cost pricing → ***the firm loses money***
- ◆ conclusion: intellectual monopoly is necessary for the production of ideas and creations

Ordinary Economics of Scarcity

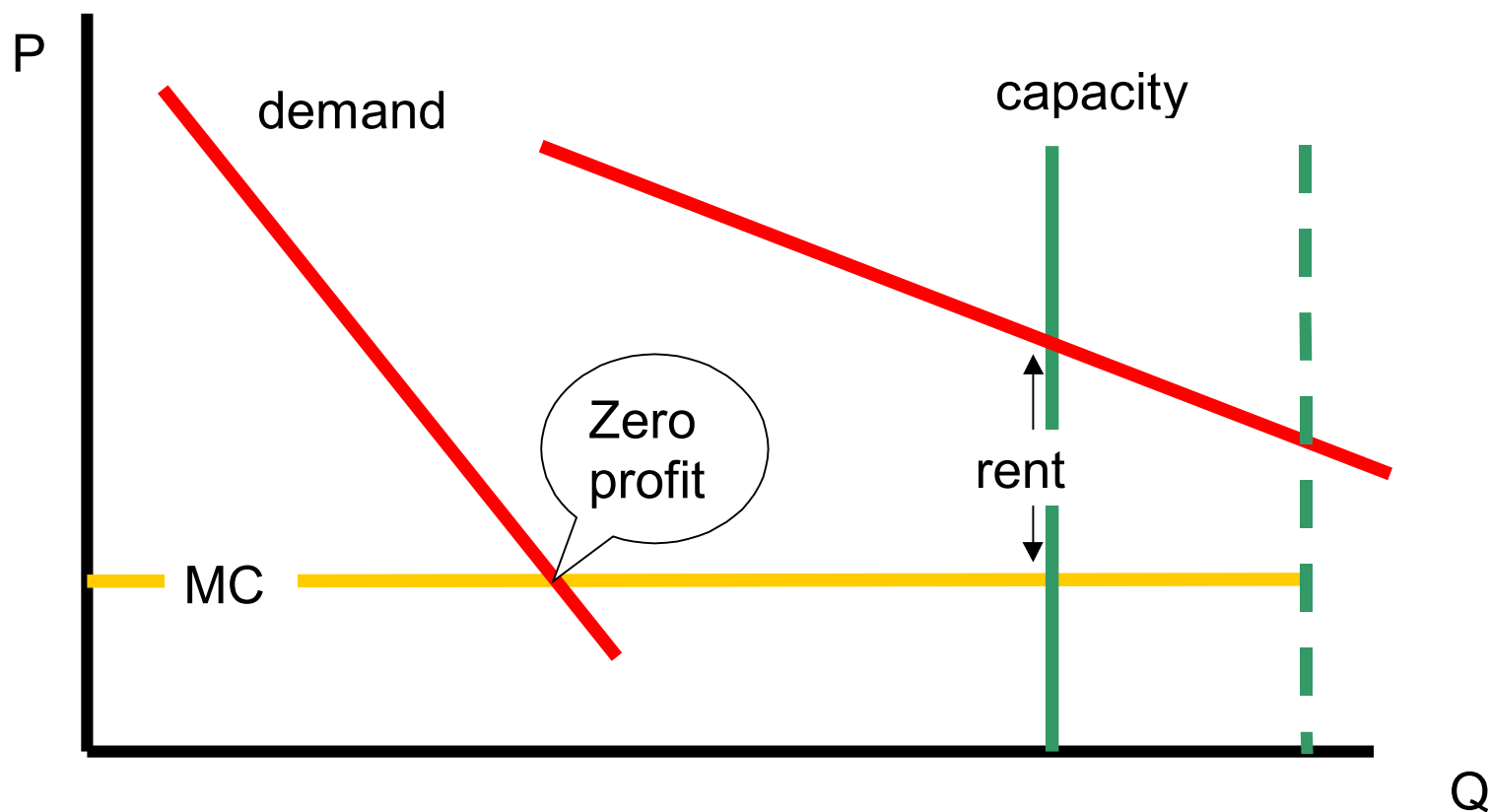
- ◆ a new drug created by a team of (12) biomedical researcher over a period of time (1 year)
- ◆ at the end of the year the knowledge is *embodied in the researchers* (and possibly some of their writing) – no one can produce the drug unless the researchers tell them how to do it
- ◆ it is socially valuable to have other people know how to produce the drug
- ◆ for example: a second team of 12 expert biomedical researchers could set up a production line in Europe, while the original team sets up production in the U.S.
- ◆ transfer of knowledge is not costless – how long would it take them to explain to a group of inexpert economists how to produce the new drug? (huge literature on the problem of technology transfer...no mystery here)

- ◆ two methods by which second team can obtain knowledge
- ◆ one: reinvent the wheel (1 year of team time)
- ◆ two: have the first team teach them (1 month of time for both teams, for example)
- ◆ second method minimizes team time (1 yr. 2 months), but production starts after 1 year 1 month
- ◆ first method: maximizes team time (2 yrs) but production starts after 1 year
- ◆ beginning production one month earlier has social value – this implies that the FIRST team can sell their knowledge into a competitive market and earns a **positive return** not zero as in the conventional story

What Went Wrong in the Conventional Story

- ◆ Build a shoe-factory, face constant mc of using it: same story; why is this not an issue?
- ◆ Shoe factories have a capacity constraint – leads to a positive return
- ◆ As we saw, transmission of ideas is similarly limited by scarcity of current set of people and/or products embodying the idea
- ◆ In the shoe factory case, capacity is chosen small enough that the competitive rent covers the cost of building the factory

Simple Diagrammatics of the Shoe Factory



- Role of indivisibility
- What happens as capacity increases? Role of elasticity

The problem of indivisibility

- ◆ Indivisibility has similar implications to fixed cost, but not the same
- ◆ In the example: no guarantee that the positive return is sufficient to compensate the research team for its time
- ◆ it may be that (say) the team would have to produce $\frac{3}{4}$ of an idea to be able to recover costs – but this is not feasible because of indivisibility
- ◆ on the other hand, the social optimum might be such that saving a month in the start of production has social value exceeding a year of team time – in this case the costs of the first team are necessarily covered by the competitive rent
- ◆ an immediate implication – growth reduces need for intellectual monopoly as it reduces the importance of the indivisibility
- ◆ so do innovations that reduce the size of the indivisibility, of course

Is the Traditional View Correct?

so we can understand the traditional case as one in which there is satiation; reproduction time is very short, and the reproduction rate is very high

for patents this limit makes exactly no sense whatsoever

for copyrights it could be argued that modern technology does have this effect

As it happens

- ◆ this has ambiguous consequences for price
- ◆ the same technological change has unambiguous consequences for the indivisibility - it is getting smaller
- ◆ and of course as a practical matter, it ignores any collateral uses of the creation that is not subject to reproduction cost reduction – paper books; live performances and so forth

What Role Intellectual Monopoly?

- ◆ We argue copyrights, downstream licensing and patents play harmful role in the innovation process
- ◆ We argue that innovation and ideas thrive in the absence of intellectual monopoly
- ◆ Evidence from media

"During the nineteenth century anyone was free in the United States to reprint a foreign publication, and yet American publishers found it profitable to make arrangements with English authors. Evidence before the 1876-8 Commission shows that English authors sometimes received more from the sale of their books by American publishers, where they had no copyright, than from their royalties in [England]" where they did have copyright.

Arnold Plant [1934] "The Economic Aspects of Copyright in Books," *Economica*, 167-195

“There is no slump in sex sites, says Robert P. Libbon of American Demographics Magazine. He cites a report from sextracker.com that the number of free adult Web sites grew from 22,100 in 1997 to 280,300 last year. Sex-for-pay sites grew from 230 to 1,100 during the same period.” [reported on Slashdot April 5, 2001]

The cost of intellectual monopoly

Forcing other industries to pay the price of enforcement

- ◆ Network providers (Napster) are already required to provide police service for media companies; efforts are underway to extend the range of providers required to provide this policing service
- ◆ The Hollings bill (CBTA, broadband bill) – mandate hardware protection on all digital devices
- ◆ The Berman bill (PPPP) – allow large media companies to hack into computers without liability for damage
- ◆ In short the large media companies would like complete control over your computer

What if they mess up?

- global music market \$36.9 billion in 2000
- annual music sales in the USA \$10.5 billion in 1999
- RIAA: value of all CD's, live presentations, music videos, dvds in 1998 \$13.72 billion
- annual sales of IBM \$88 billion in 2000
- annual sales of HP and Compaq \$90 billion estimated post merger
- annual software sales in the USA \$141.0 billion in 1998
- annual sales conducted on the internet \$26 billion in 2000
- SOI: 1998 business receipts of the computer and electronic product manufacturing including both hardware and software \$560.27 billion
– this excludes the value of data stored on computers

Reduction of innovation due to a “thicket of patents” and rent-seeking behavior

You can't innovate anymore because someone holds the patent to some part of your innovation...

from www.youmaybenext.com

"Pangea Intellectual Properties (PANIP LLC) is suing companies all across the country. They claim that if you use graphical and textural information on a video screen for purposes of making a sale, then you are infringing on their patent. US Patent No 5,576,951. And if you accept information to conduct automatic financial transactions via a telephone line & video screen, you're infringing on their patent. US Patent No. 6,289,319