

About Intellectual Monopoly

September 28, 2005

What is Intellectual Property

Government IP

- patents
- copyrights

private contractual IP

- non-disclosure agreements
- shrink-wrap agreements

what about trademarks?

What is property and why is it a good idea?

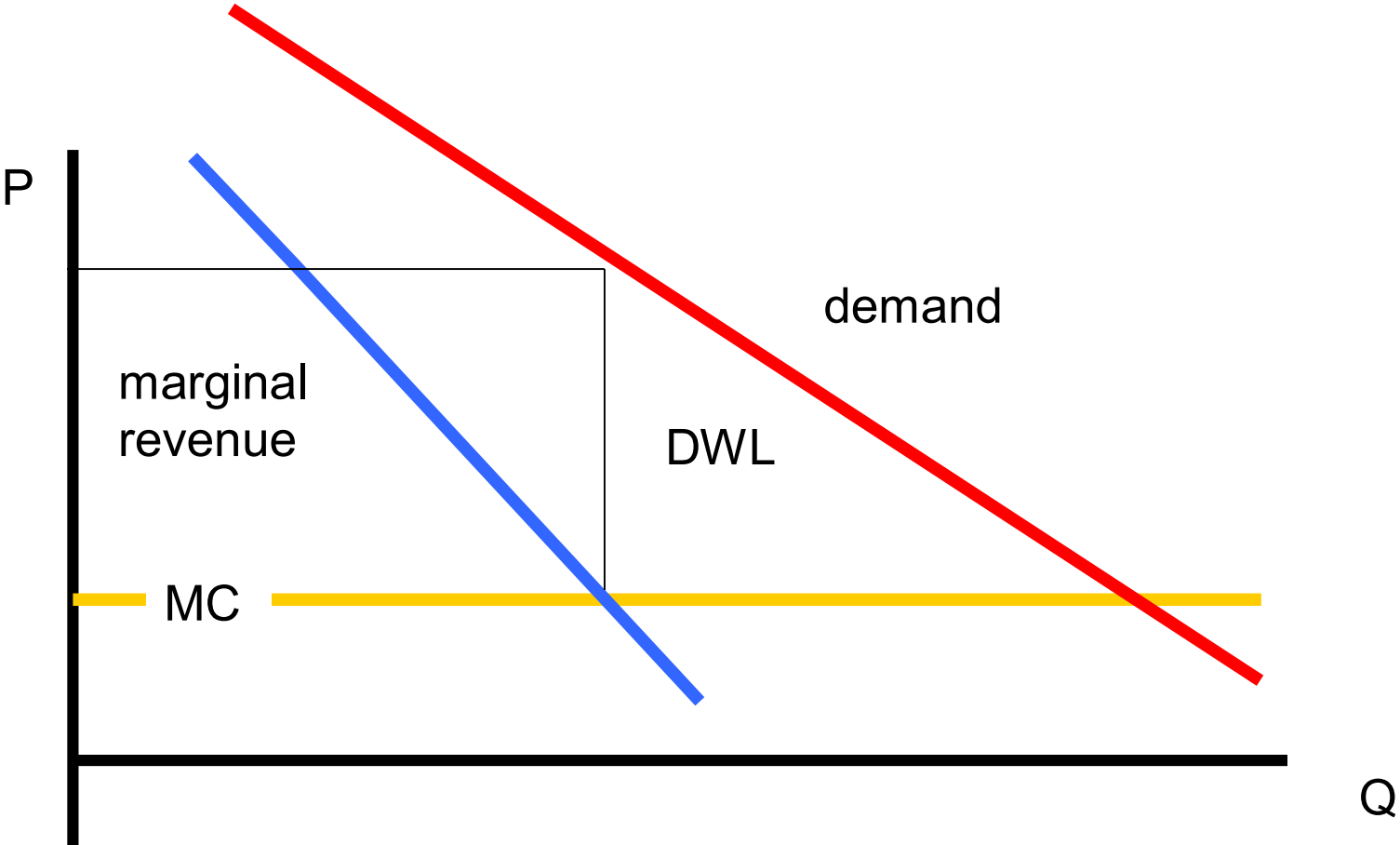
- property cannot be taken away without permission
- property can be sold
- this provides incentives to produce and trade
- consequences of seizure of farms in Zimbabwe

discuss: what is property and is it good or bad?

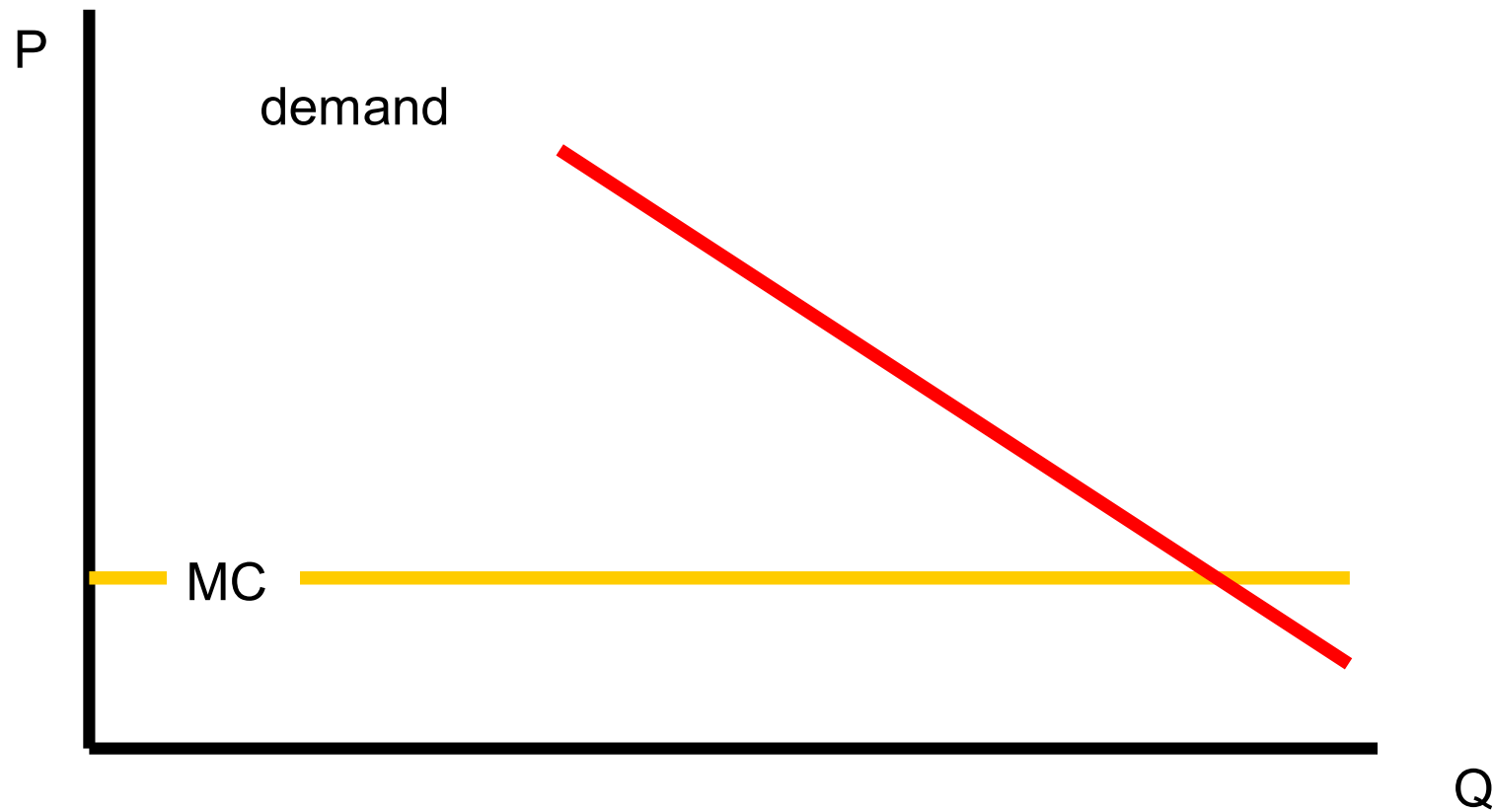
Is Intellectual Property Property?

- it is **copies** of ideas that have economic value, abstract ideas have no value
- copies of ideas are “property”; abstract ideas are not
- copies of ideas should not be taken away without permission, it should be legal to sell copies of ideas
- copies of ideas are not a public good: the fact that I can use my copy of your idea without limiting your ability to use your copy of your idea no more implies a “public good” or “externality” than the fact that I can drink from my coffee cup without limiting your ability to drink from yours
- intellectual property is about the right to control other peoples’ copies of an idea, not about the right to control your own copy of an idea
- “intellectual property” = intellectual monopoly

Monopoly Versus Competition



Fixed Cost: The Economic Argument for IP



Fixed Cost and IP

- ◆ 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***

if this were true intellectual monopoly would be necessary for the production of ideas and creations

The Conventional Wisdom

the economics literature in general acknowledges that intellectual property leads to undesirable legal "intellectual monopoly," but generally argues that this might be a good thing

Kahn (1962) "The Role of Patents"

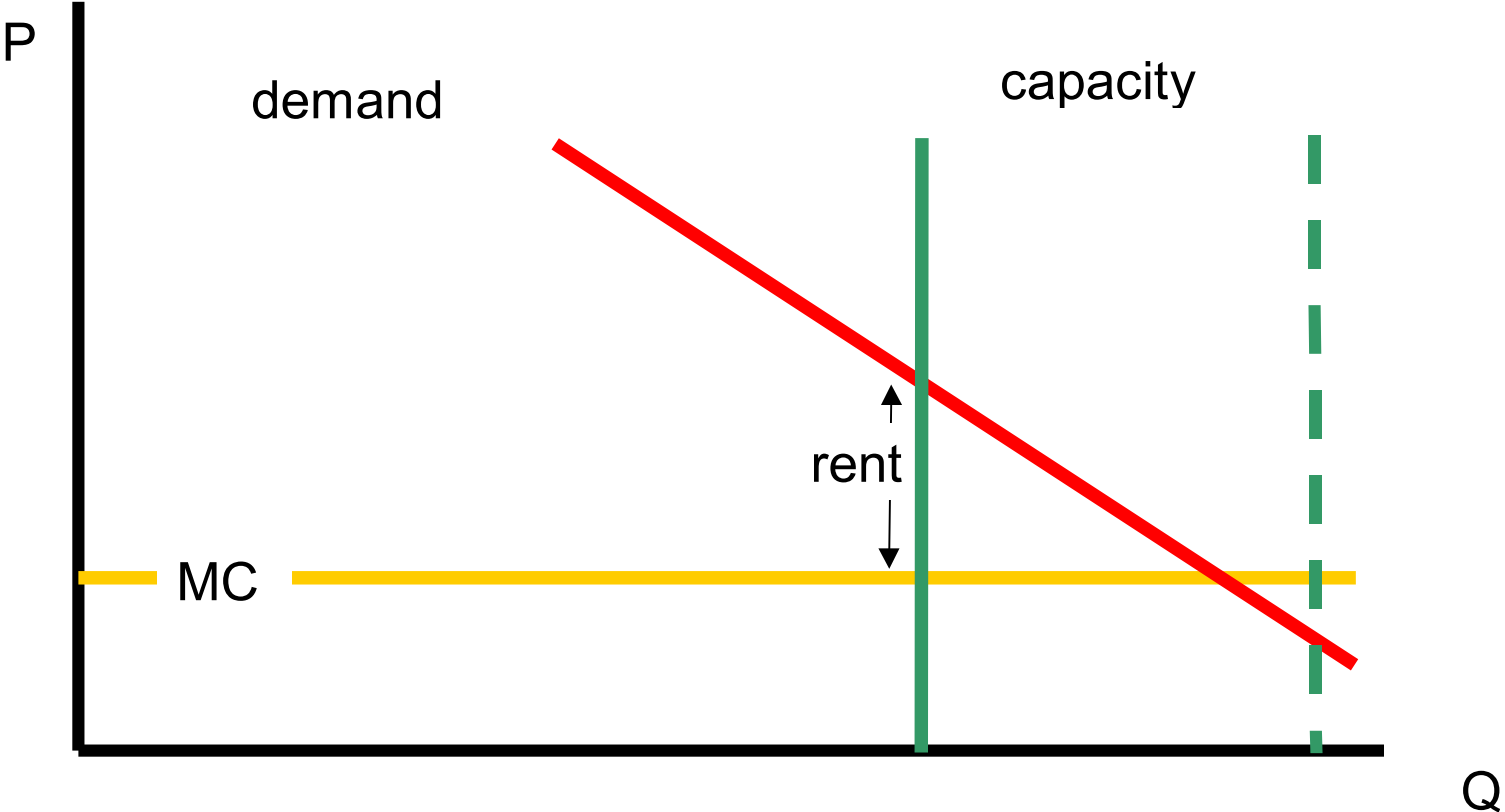
"This issue is not one of principle but of practical social engineering: how much protection...of what kind is required and worth paying for"

But is this right?

What is Wrong with This 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
- ◆ 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

Diagrammatics of Capacity Constraints



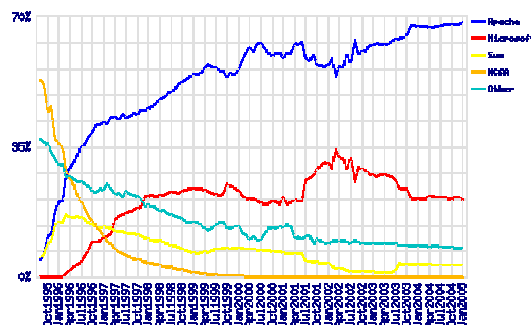
Open Source Software

- What is open source software
- Why is the market for open source software competitive?
- How important is open source software
- How innovative is open source software
- Examples: GNU/Linux, Openoffice, Apache, Bittorrent



How Does Open Source Work?

- Are these knockoffs?
- (Wordstar, Wordperfect, Word)
- (Visicalc, Lotus 123, Excel)
- does anyone make money or is this a charity?
- USA today 9/26/2005: “BitTorrent gets \$8.75M from venture-capital firm”
- google



Sources of Competitive Rents

- Not a charity
- Most significant source of competitive rents appears to be through complementary sale of expertise

July 10, 2002

buy an original Red Hat Linux for \$59.95

buy an exact copy for \$16.00

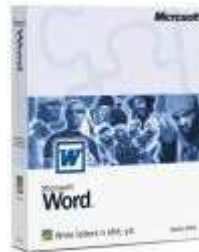
if you have a question would you prefer to call the person who wrote the software or the person who copied it?

Unlimited access to service and support: Subscriptions include ongoing service and support to guarantee your systems remain secure, reliable, and up-to-date. When you have a technical question, you'll speak to Red Hat Certified Software Engineers. Or you can access a self-serve knowledge base of technical information and updates.

Word Processing

Does invention of Microsoft Word make it easier or harder to write another word processor?

- Does not help problem of coding and debugging
- Forces expensive backwards file compatibility
- Reduces greatly size of market



The Problem of Competitive Innovation

"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

Copyright in the 19th Century U.S.

U.S. 1850 population 23.2 million, per capita GDP \$1930 (1996 \$)

U.K. 1851 population 27.5 million, per capital GDP \$2838

iteracy rates in both countries roughly 85%.

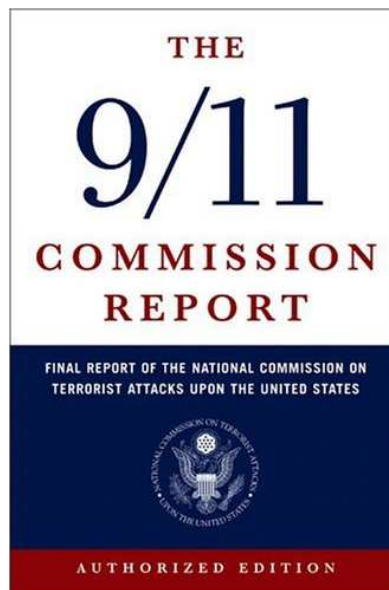
enormous price differential between sale price of books without copyright in the U.S. and with copyright in the U.K

Dickens' *A Christmas Carol* sold for six cents in US, for two dollars and fifty cents in England.

But what happens when the internet replaces the clipper ship?

9/11 Commission Report

- government document, not covered by copyright
- released to the public at noon on Thursday July 22, 2004
- freely available for downloading from a government website
- printed version published by W.W. Norton simultaneously



The 81-year-old publisher struck an unusual publishing deal with the 9/11 commission back in May: Norton agreed to issue the paperback version of the report on the day of its public release. (An indexed hardcover edition will follow.) Norton did not pay for the publishing rights, but had to foot the bill for a rush printing and shipping job; the commission did not hand over the manuscript until the last possible moment, in order to prevent leaks. The company will not reveal how much this cost, or when precisely it obtained the report. But expedited printings always cost extra, making it that much more difficult for Norton to realize a profit. In addition, the commission and Norton agreed in May on the 568-page tome's rather low cover price of \$10, making it that much harder for the publisher to recoup its costs. (Amazon.com is currently selling copies for \$8 plus shipping, while visitors to the Government Printing Office bookstore in Washington, D.C. can purchase its version of the report for \$8.50.) There is also competition from the commission's Web site, which is offering a downloadable copy of the report for free. And Norton also agreed to provide one free copy to the family of every 9/11 victim. Brendan Koerner [2004]

Norton's Royalty Free Windfall

- Norton got to publish first and to use the word “authorized” in the title
- St. Martin's Press in collaboration with the New York Times released own version about two weeks after Norton
- 6.9 million copies of the report were (legally) downloaded over the Internet.
- Norton sold about 1.1 million copies, charged between a dollar and a dollar fifty more than St. Martin's; other publishers also estimated Norton made on the order of a dollar of profit on each copy
- Norton's contract called upon them to donate their “profits” to charity
- Norton did “donate \$600,000 to support the study of emergency preparedness and terrorism prevention.”

Implications for Literature

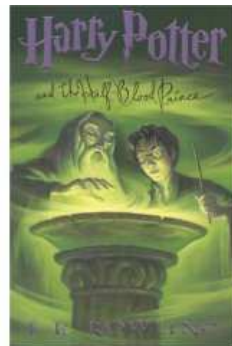
Including free downloads, about about 8 million copies of *9/11 Commision Report* in circulation

initial print run for *Harry Potter and the Half-Blood Prince* 10.8 million hardcover copies

if J. K. Rowling forced to publish her book without copyright we can expect her to earn well over a million

less than the billions she currently earns

but more than in her previous occupation as a French teacher



Reasons for Intellectual Monopoly

- fixed cost
- **unpriced** spillover externalities – the example of the wheelbarrow, travelpro



- prevention of secrecy – replacing private with public monopoly

Are there Unpriced Spillovers?

Hard to see why they should be unpriced

Employees moving from firm to firm seem the most likely culprit

(from Gary Becker's textbook) "Firms introducing innovations are alleged to be forced to share their knowledge with competitors through the bidding away of employees who are privy to their secrets. This may well be a common practice, but if employees benefit from access to salable information about secrets, they would be willing to work more cheaply than otherwise."

- Evidence scarce to say the least; motivated by observations that firms in an industry tend to locate close to each other; best evidence (Ellison and Glaeser) is weak

Unpriced spillovers or simple minimization of transaction cost? Easier to transact, move and so forth when at the same location

- Are the externalities important in practice?

Secrecy

Does patent replace trade-secrecy?

- Ideas for which the secret can be kept longer than the patent term will not be patented
- Ideas for which the secret cannot be kept anyway will be patented
- Patent applications are too vague to make much difference anyway

First Mover Advantages

- Secrecy
- Encryption (DRM)
- Reputation, customer loyalty
- Reward to anticipating stock market fluctuations (Ginger/Segway)
- Time and cost required for rivals to reverse engineer
- Complementary sales – live or theatrical performances for music and movies, paper books
- The internet and first mover advantage – example of comics
- the same technological change driving reduced distribution costs is greatly lowering the cost of production for movies and music

discuss: examples of first mover advantages

Intellectual Property and the Scale of the Market

- ◆ growth reduces need for intellectual monopoly as there are more sales to pay for the fixed cost
- ◆ expanding the scale of the market increases the incentive to innovate – the optimal policy is to reduce protection as the scale of the market expands
- ◆ world GDP has grown by a factor of nearly 100 since 1900
- ◆ WTO expands the market by nearly 50%

discuss: should IP be increasing or decreasing?

Does Intellectual Monopoly Lead to More Innovation?

- Innovations generally build on existing goods, that is on earlier innovations – it is generally recognized that intellectual property protection has an undesirable effect on future innovation – Scotchmer (1991) for example
- Holdup problem
- Intellectual monopoly increases the rewards to innovation – but also the costs
- Intellectual monopoly make strictly lower innovation
- James Watt refused for the 31 years of his monopoly to allow innovation in the steam engine
- the Wright brothers less successfully tried to do the same with the airplane

discuss: examples of IP hindering innovation

Rent-Seeking

- ◆ Sony Bono copyright extension (20 years retroactive) and Eldred Case
- ◆ impact of DMCA on academic research and free speech
- ◆ efforts to legally mandate computer hardware to reduce copying (the computer industry is roughly an order of magnitude greater in size than the media industry being protected)
- ◆ delay in the introduction of the steam engine and of the airplane
- ◆ spread of AIDs in Africa
- ◆ submarine patents and legal blackmail – recently Eolas; SCO, now microsoft

discuss: do we have to put up with all of this, because without IP there will not be any innovation?

Goals of Public Policy

- Economic theory supports the view written in the U.S. Constitution copyright only in order to “promote the progress of science and the useful arts.”
- producers must be compensated for their work, or creative works will not be produced; economic theory shows that copyright and patents are not necessary for producers to be compensated
- economic theory does not argue that producers of intellectual property should be privileged over other producers unless there are social benefits to compensate for the costs of special treatment

discuss the European view of “moral rights”: are creators are uniquely entitled to control of copies their own creations?