

# The Case Against Intellectual Monopoly

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## ***What is Intellectual Property***

Government IP

- patents
- copyrights

private contractual IP

- non-disclosure agreements
- shrink-wrap agreements

what about trademarks?



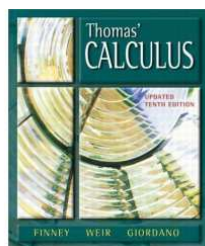
## ***What is property and why is it a good idea?***

- 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

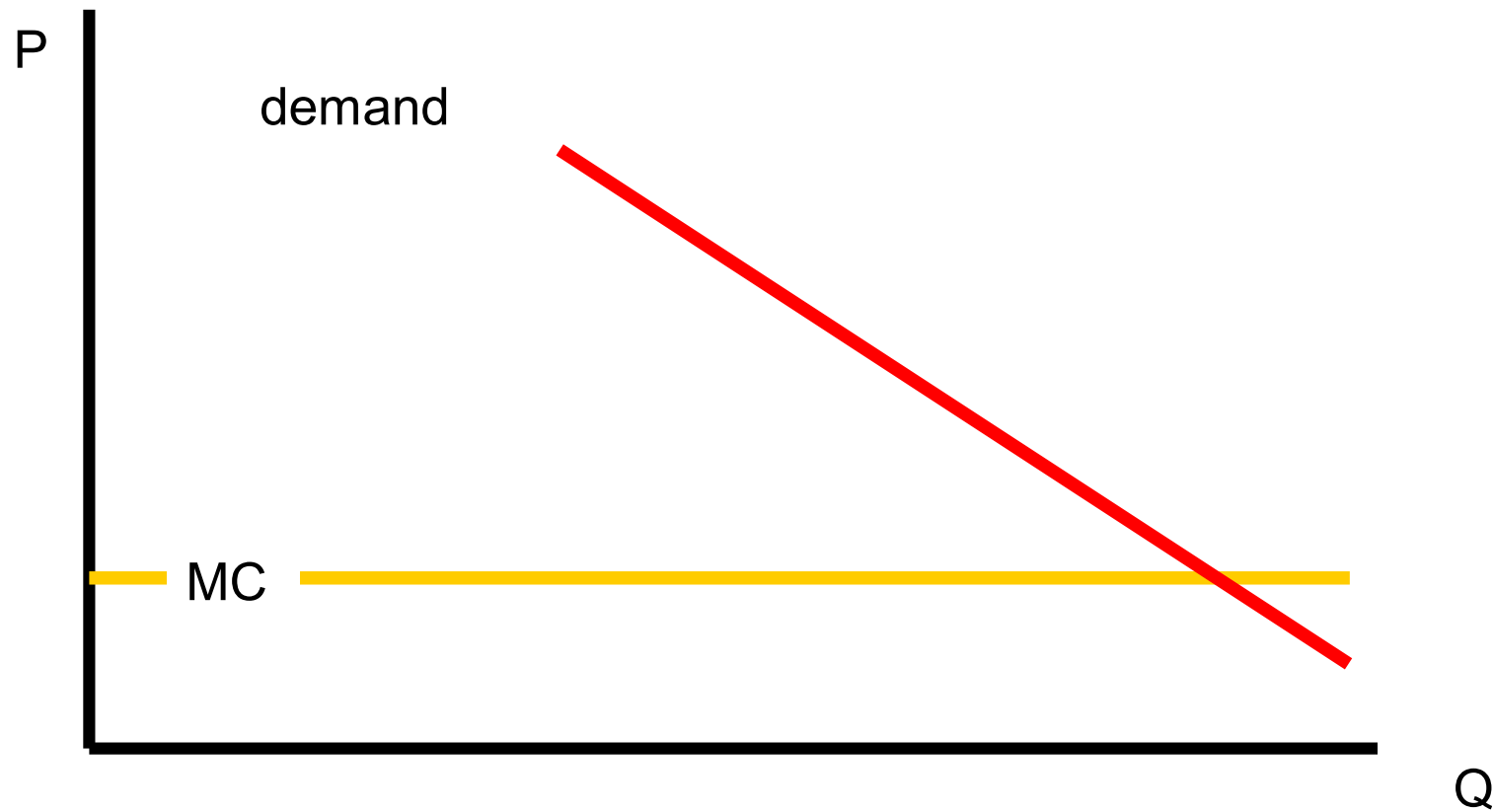


## *Is Intellectual Property Property?*

- it is **copies** of ideas that have economic value
- copies of ideas are “property”; abstract ideas are not
- 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



## ***Fixed Cost: The Economic Argument for IP***



## Fixed Cost and IP

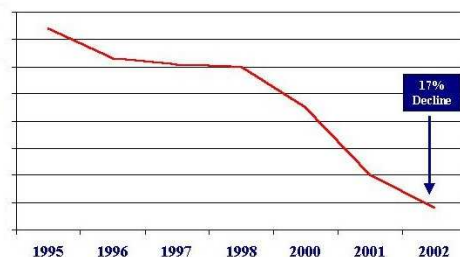
- ◆ information, ideas are a “public good” means zero marginal cost of distribution → increasing returns to scale
- ◆ increasing returns to scale

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

Gene Grossman and Elhanan Helpman (1994)

*Firms must be able to sell their products at prices in excess of unit production costs if they are to recover their up-front outlays on research and development. In other words, some imperfect competition is necessary to support private investments in new technologies.*

- Widely believed
- Wrong as a matter of theory
- Wrong as a matter of fact

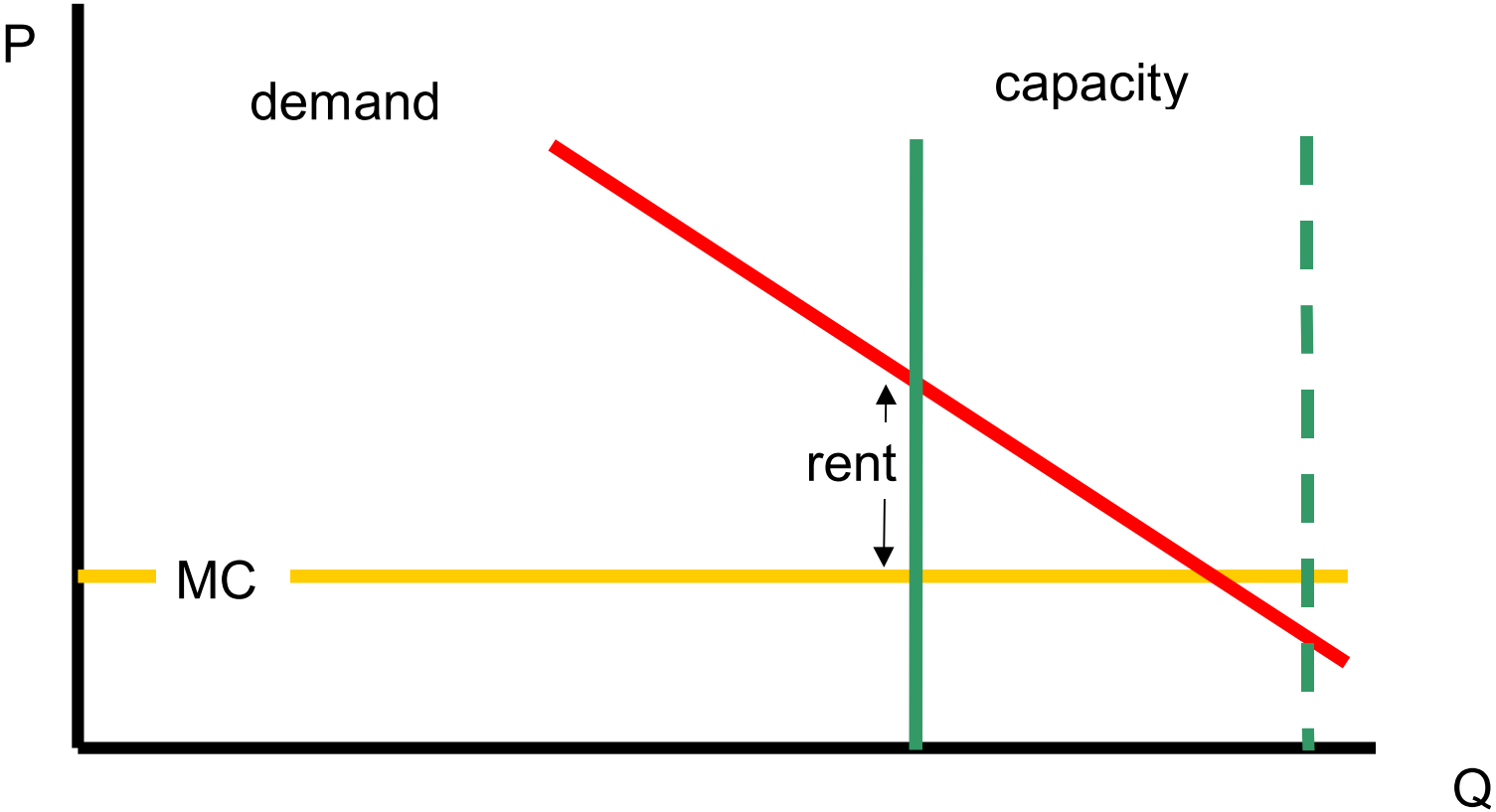
## *What is Wrong with This Story?*

- ◆ 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



## ***Competitive Rents***

- Usable copies of ideas are in short supply
- To earn a competitive rent you must own something in scarce supply
- What is it?
- It could be copies; it could be a good that is a complement of copies



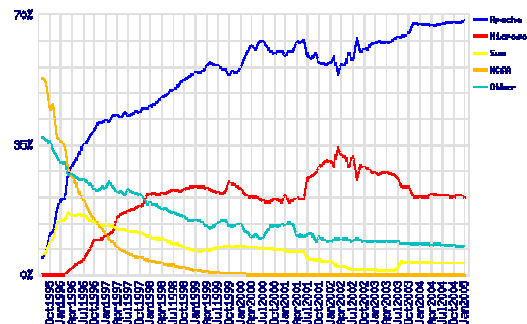
# Open Source Software

- 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

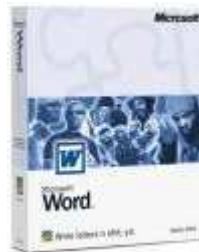
if you have a question would you prefer to call the person who wrote the software or the person who copied it?

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 is 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 19<sup>th</sup> 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

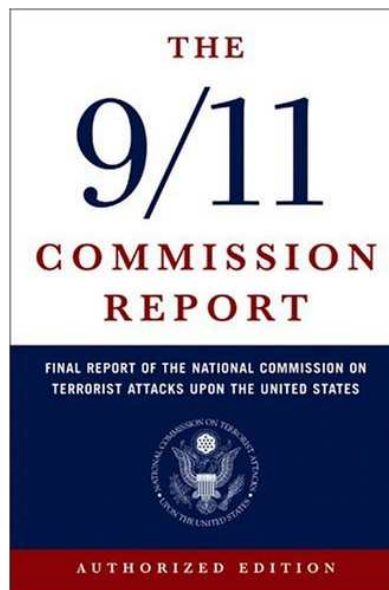
Dickens' *A Christmas Carol* sold for six cents in US, for two dollars and fifty cents in England.

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



## ***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***

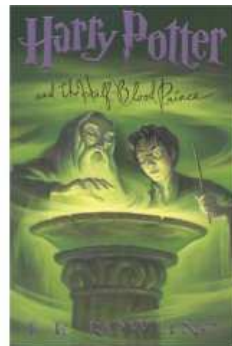
Including free downloads, about about 8 million copies of *9/11 Commision Report* in circulation

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



# Are Unpriced Spillover Externalities Important?

What on earth are they?

Travelpro – the modern wheeled roll-on suitcase with a retractable handle



Becker [1971]

*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*

# 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

**Top Secret**

## Sources of 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

# 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%



## Ideas of Marginal Social Value

- Competition does not result in full appropriation of social surplus
- Intellectual property does not result in full appropriation of social surplus
- Intellectual property increases appropriation of social surplus, but also increases cost of innovation due to downstream effects
- Full appropriation of social surplus is irrelevant

Condition for first best: marginal idea must have full appropriation



## ***Blockbuster Ideas***

ideas of great social value will be produced under competition

- great blockbuster novels
- life-saving drugs

generate such great surplus relative to the cost of creation that relatively little of that surplus need be captured by the innovator to make it worth her while

great works of Shakespeare and Mozart were created under conditions of perfect competition.



## ***Pharmaceuticals***

- Looks at data from Indian generic manufacturers
- takes about 5 years for a new drug to enter the Indian market as a generic following its introduction elsewhere
- effective patent protection is only about 10 years
- appears without patent that the innovator of a new product would enjoy a 5 year rather than 10 year monopoly
- when generics enter price of the original does not change much, and the original retains about 50% market share
- so 50% profit loss during the last five years is lost revenue do to not having patents
- about 20% loss of present value

## ***Marginal Ideas***

Marginal ideas face less competition

- *Harry Potter and the Half Blood Prince* scanned and illegally released onto the Internet within hours of appearing in print
- No trace of pirate versions of Sara Rath's opus *Star Lake Saloon and Housekeeping Cottages: A Novel* published six days earlier

Marginal ideas aren't going to get much protection from the law

## *Impact of the Internet: example of comic strips and t-shirts*

*Rosenberg raves that he has been able to make five times as much off his merchandising as off his subscriptions and that advertising doesn't come close to generating the revenue he gets off t-shirts, noting a profit margin of up to 50%, which would be as much as \$9 per item in some cases. Stevens quotes \$4-\$5 as his margin. Rosenberg further claims to have tripled his 2003 income by switching to t-shirt sales in the last three months of 2003. Todd Allen [2005]*



# 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

# 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

# Conclusion

- intellectual property brings a range of social ills ranging from monopoly to rent-seeking
- it does not deliver the basic promise: to encourage innovation and creation
- so: get rid of it