

Intellectual Property

Econ 1101

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I. Change in Policies regarding IP

- (i) regulated monopoly
- (ii) shorter patents
- (iii) international standards
- (iv) Public financing

II. Counterpoint

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I. Patent Policy implications (regulations): Changes in policy

I. Changes in Policy

- Policy 1: regulated monopoly (cap price)
- Policy 2: shorter patents
- Policy 3: Negotiate with the developing world to adopt international IP standards
- Policy 4: Finance pharmaceutical research through government research grants and put the results in the public domain to be freely used

1. Regulated monopoly

- If the US changes to a regulation system (like Canada)
- Annual operating Bigpharma's profit: 210 million
- Global annual OP = 630 million a year (2/3 of what it was before)
- Less incentive to develop the drug

1. Regulated monopoly: Comments

If fixed cost not too high, still might invest. But if fixed cost is big enough, won't do it now. (but otherwise would.)

When people argue that that the U.S. should not regulate drug prices, often this is the argument they are making.

- One counter to this argument might be: Why does the US have to pay a disproportionate share of all of this? (Even relative to other rich countries).
- One possible answer: If the U.S. cuts back it will make a big difference in the incentives for R&D. (because the US is a big share of the global market)
- If Canada moved to our system, would that increase the incentive for drug companies to do innovation?
 - No because Canada is a small percent of the global market. (Unless there are diseases specific to Canada...)

2. Change the patent system: Shorter patents

Issues are similar if we keep unregulated monopoly, but change patent system.

- For example, suppose 5 year patent instead of 20 years.
 - note: Technically, it is 20 years from date of patent application, or 17 years from grant date, whichever is longer.

2. Change the patent system: Shorter patents

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- For example, suppose 5 year patent instead of 20 years.
 - note: Technically, it is 20 years from date of patent application, or 17 years from grant date, whichever is longer.
- Then lifetime operating profit equals \$4.5 billion
- With 50% of success expected lifetime operating profit is \$2.25 billion. (The payout in operating profit is substantially reduced)

2. Shorter patents - Comments

Tradeoffs (for total surplus) of shorter patents

(1) Plus Side: might do it anyway

- In which case have monopoly for 5 years instead of 20 years.
- Less deadweight loss of monopoly.
- And less transfer of surplus to drug companies

(2) Minus Side: drug might not be developed.

- Lose health benefits of Wigitor.

(Comment: might not be such a loss if this is a drug that has close substitutes). But some drugs are major innovations.

3. International intellectual property standards

Negotiate with the developing world (e.g. India and China) to adopt developed world (e.g. U.S., Europe, Japan) intellectual property standards

- In 1995 (with the creation of the WTO) the **international agreement** Trade-Related Aspects of Intellectual Property Rights (TRIPS) was signed and came into effect in 2005
- By trips, India and other developing countries agreed to respect drug patents in return trade concessions in the WTO made by rich countries on other issues. (Like rich countries opening up markets to textile imports from poor countries.)

3. International IP standards - Comments

- Benefit: extra profitability can encourage new research, allow weaker patent laws in developed country
- Costs and Implementation Issues:
 - 1 Poorer countries are too poor to pay the prices charged in developed countries; why not offer different prices?
 - 2 If drug companies price discriminate and charge poor countries very low prices, then some of that might end up back in rich markets.
 - Recall imperfect price discrimination monopolies; different pricing rules DO NOT work if you cannot discriminate
 - Problem is people in rich countries might find a way to just buy cheaper drugs from developing countries
 - 3 If they instead charge high prices, the poor countries probably will just ignore the trade IP agreements.

3. International IP standards - Comments

3. If they instead charge high prices, the poor countries probably will just ignore the trade IP agreements. For example:

- May 2007 News Story: (Associated Press) RIO DE JANEIRO, Brazil:
- “President Luiz Inacio Lula da Silva took steps Friday to make an inexpensive generic version of an AIDS drug made by Merck & Co. available in Brazil despite the U.S. drug company’s patent.
- da Silva issued a “compulsory license” that would bypass Merck’s patent on the AIDS drug efavirenz, a day after the Brazilian government rejected Merck’s offer to sell the drug at a 30 percent discount. Merck had offered to sell the drug for \$1.10 per pill, down from \$1.57, while Brazil was seeking to purchase the drug at 65 cents a pill, the same price Thailand pays.”

3. International IP standards - Comments

3. If they instead charge high prices, the poor countries probably will just ignore the trade IP agreements. For example:

“As the world’s 12th largest economy, Brazil has a greater capacity to pay for HIV medicines than countries that are poorer or harder hit by the disease,” Merck said in a statement.

Bottomline: Brazil is an increasingly wealthy country, and we still have this type of IP enforcement issue

4. Finance research through government

Finance pharmaceutical research through government research grants and put the results in the public domain to be freely used.

- Before we mentioned the need for public or charitable financing in some industries.
- This raises issue of **international cooperation**. How do we split the cost of research with other countries?

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II. Counterpoint

Counterpoint

Back to the point about patent protection and innovation

In the example of Wigitor, a cure for Economyosis, with **no patent protection** there is **no operating profit**, and given the fixed cost, we get **no drug**.

Three important points:

Point 1. Even with zero or very small operating profit, creative activity may still take place

- Examples: open source software, Wikipedia
- <http://www.youtube.com/watch?v=J—aiyznGQ>

Point 2: returns can be made

Point 2: Even with no intellectual property protection (like patents or copyrights), **returns can often be earned on creative activity.**

- Example 1: Musicians used to be able to sell CDs. They went on concert tours to promote sales of the CDs.
- The change in technology (the internet) has made it more difficult to protect a musician's intellectual property as people (especially young people) make copies of music without paying for it.
- Now musicians make relatively more money on concert tours. They release CDs to promote concert tours.
- Example 2: Advertising on YouTube

Point 3: patents can block subsequent innovation

Point 3: Patents and copyrights can be used to block subsequent innovation.

Example 1: 1 click shopping patent by Amazon (awarded 1999)

- Abstract of Patent US US 5960411
- “A method and system for placing an order to purchase an item via the Internet. The order is placed by a purchaser at a client system and received by a server system...”
- using this patent, the first thing, Amazon did: sue Barnes and Noble during Christmas season...

medskip

Bottom-line: Giving property rights away for obvious things can harm innovation. Patents can be used as a beating stick to shakedown rivals.

Point 3: patents can block subsequent innovation

Example 2: patenting human genes.

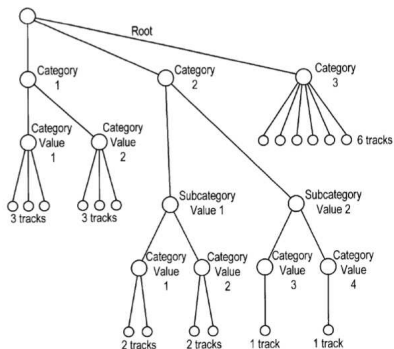
- Allowed in the US (Can read the article at the website for platform debate 2.)
- A company called Myriad, along with the University of Utah, have a patent on a gene related to a test for breast cancer. Anything that tests for this gene needs to go through them, since they own it. They are selling a test for \$3,000.
- If someone tries to invent a better test that might incorporate this gene and other genes, they know that Myriad will be stopping by for money.
- This past summer **Supreme Court ruled Myriad couldn't patent the genes**, but the point remains that the **patent was able to block innovation for many years** as legal fight played out

Point 3: patents can block subsequent innovation

Example 3: Apple and I-phone

- In 2005 Creative Labs received a patent for “automatic hierarchical categorization of music by meta data” - basically patent for organizing music by album, genre, etc..
- Sounds like an iPod? and Apple had to pay \$100 million to settle with Creative Labs in 2006
- Steve’s response with the iPhone was to patent everything (regarding the iPhone)

Creative Labs Patent 6,928,433



For example:

Category 1 = Album Name

Category Value 1 = Abbey Road

Category Value 2 = Hits from the 60's

Category 2 = Artist Name

Subcategory Value 1 = British Artists

Subcategory Value 2 = American Artists

Category Value 1 = The Beatles

Category Value 2 = Petula Clark

Category Value 3 = Mamas and the Papas

Category Value 4 = Nick Drake

Category 3 = All tracks

Example 3 (continued) Apple

U.S. Patent

May 10, 2005

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US D504,889 S



- Patents include:
 - Screen pinching
 - Magnet for cover (iPad)
 - Glass staircases
 - Rounded corners
 - Shape of icons
- Apple is using these patents to work the legal system to block Samsung

Important Issues for the debate (tonight)

Should intellectual property protection be weakened or strengthened, in general, or for particular kinds of products

- Human genes or drugs more generally
- Or music and file sharing (e.g, should the U.S. government help music industry shut down file sharing sites? Should college students be hauled off to jail?)

In your discussion, think about the economics. In particular

- What is your take on how the proposal will impact the incentive for creative activity?
- How will your proposal impact the size of the “pie” and the distribution of the “pie,” apart from how it impacts creative activity?

Notes

- Slides are not self contained since we worked on the whiteboard
- For more information you can consult slides 12(ii) in moodle