

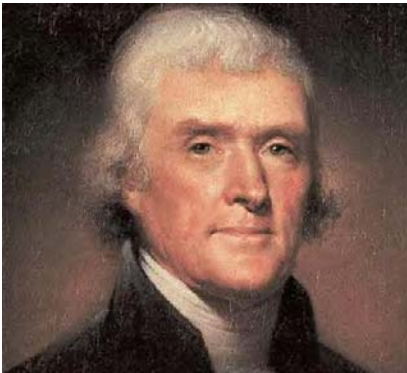
---

**International Studies & AAE 374**  
**Growth and Development of Nations**

*Lecture 16*  
3 November 2009

---

- I. “Intellectual Property” and all that
- A. Policy debates center around institutional and legal framework for “IP”
    - 1. Legally generated restrictions on transactions.
    - 2. Major focus to generate monopolies.
    - 3. ...wait, aren't monopolies generally a bad thing?
  
  - B. Two centuries+ old debate
    - 1. Thomas Jefferson vs James Madison (1788)



**Jefferson:** “The saying there shall be no monopolies lessens the incitements to ingenuity, which is spurred on by the hope of a monopoly for a limited time, as of 14 years; but the benefit even of limited monopolies is too doubtful to be opposed to that of their general suppression.”

**Madison:** “With regard to monopolies they are justly classed among the greatest nuisances in government. But is it clear that as encouragements to literary works and ingenious discoveries, they are not too valuable to be wholly renounced?”

2. Jeffersonian argument:
  - a) Think “leak from the geek”
  - b) "he who lights his taper at mine, receives light without darkening me."
  - c) On par with freedom of speech, religion, habeas corpus as dangers threaten free society, bind future generations to past ones
  
3. Madisonian argument:
  - a) Would-be innovators need incentives to generate and publicize their work
  - b) Monopolies are a nuisance and dangerous but our new popular government has great institutions

C. Let’s think a little more carefully about the kinds of cases when Madison’s argument applies...

I. Rival versus Non-Rival; Excludable vs. Non-Excludable Goods

A. Here we consider various types of goods:

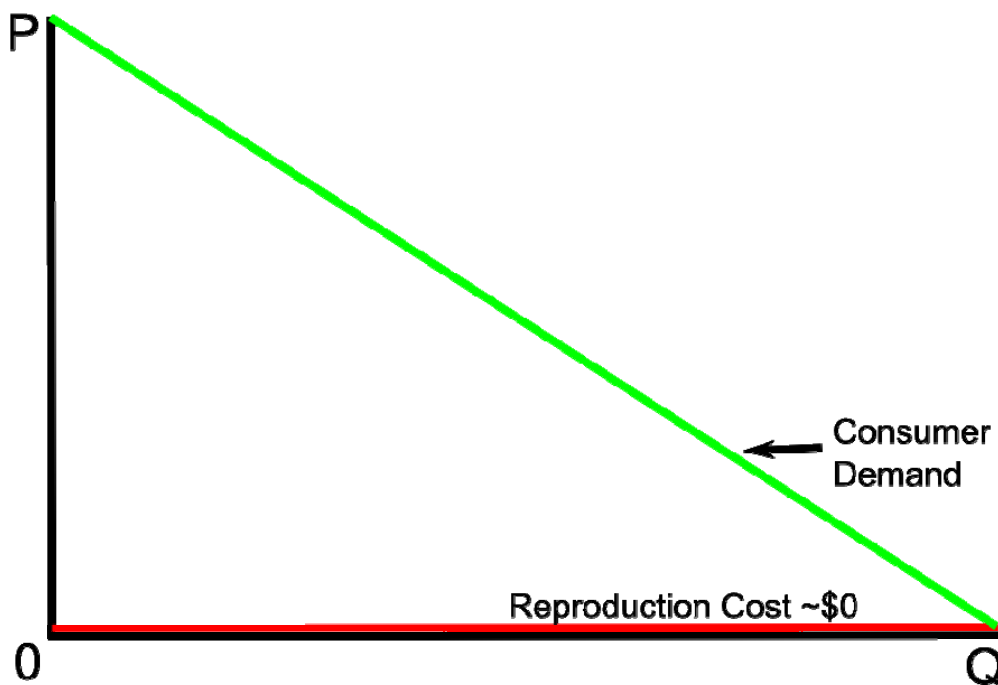
	Rival	Non-Rival
High Intrinsic Excludability	<ul style="list-style-type: none"> <li>▪ (My) piece of fried chicken</li> <li>▪ My <i>Soprano’s</i> DVD set</li> </ul>	<ul style="list-style-type: none"> <li>• The Sopranos (<i>Encoded HBO broadcast</i>)</li> </ul>
Legally-Generated Excludability	<ul style="list-style-type: none"> <li>• Low congestion toll roads</li> </ul>	<ul style="list-style-type: none"> <li>• (<i>KFC</i>) Colonel’s <i>Secret Recipe</i></li> <li>• <i>The Grey Album</i></li> </ul>
Low Excludability	<ul style="list-style-type: none"> <li>▪ <i>Fish in the sea</i></li> <li>▪ Party Keg</li> </ul>	<ul style="list-style-type: none"> <li>• <i>National defense</i></li> <li>• Calculus</li> </ul>

1. Essence of non-rival goods is that once created, they may leak out and generate further uses and benefits
  
2. Note that whether or not a good is excludable depends on laws, rules and their enforcement—i.e., excludability is a human construct. Intellectual property law (patents, etc.) is in fact all about making ideas into excludable goods. This is of course an area of huge international

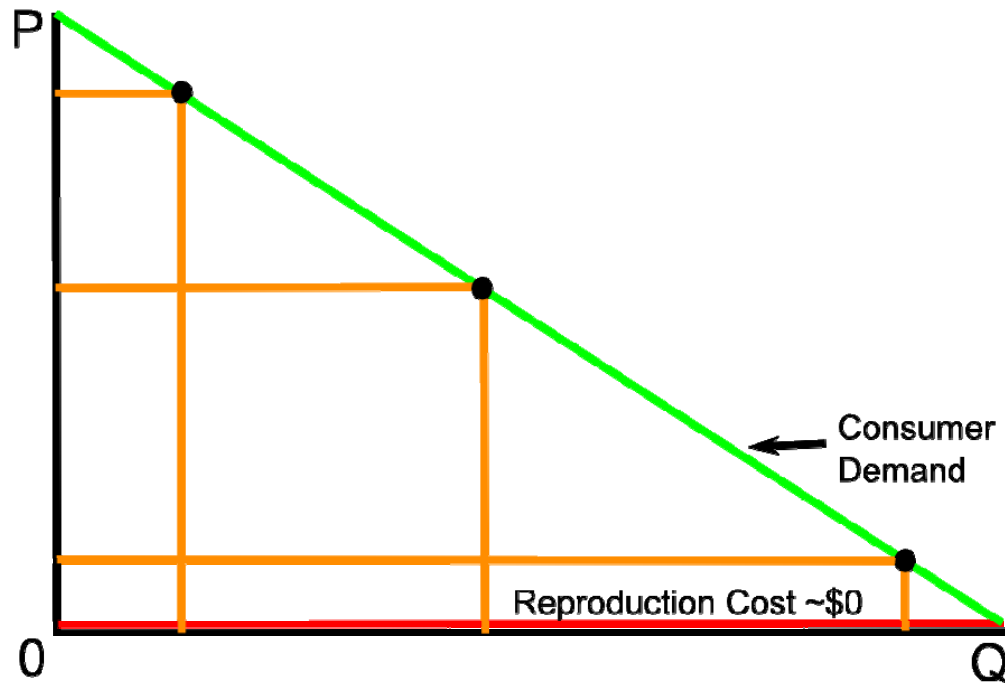
dispute—more on this later.

### B. *Fixed costs and increasing Returns*

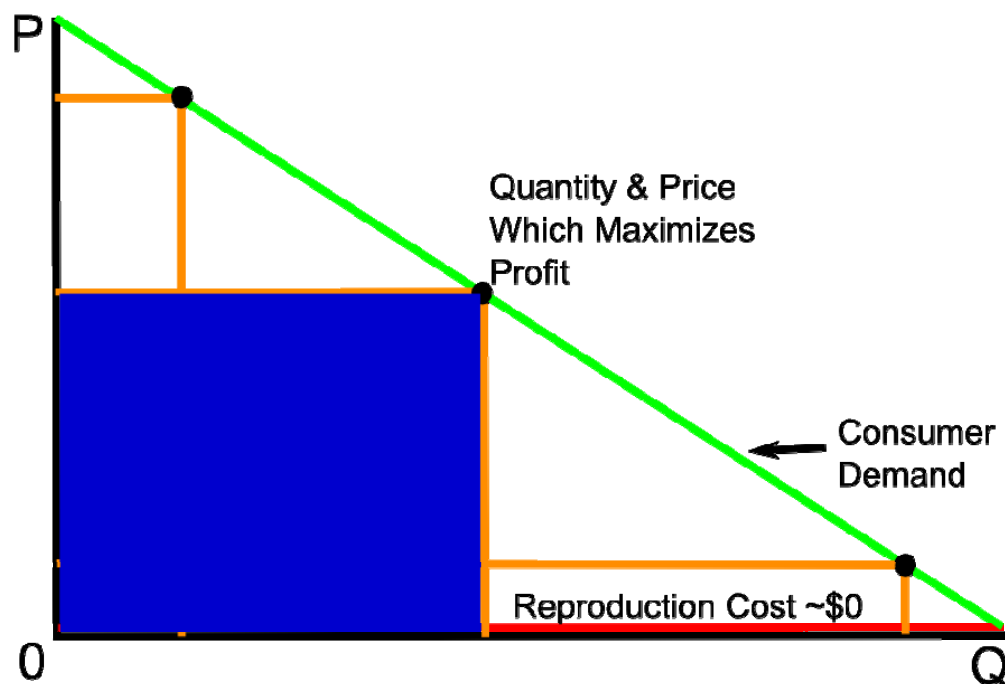
1. There is another economically relevant characteristic of knowledge because of its non-rivalrousness: creating it (the first time) is subject to large fixed costs.
2. Computer software is a good example of an idea-based product that have huge fixed costs—e.g., producing the first copy of Windows Vista<sup>®</sup> took thousands of hours of engineering time. However, the marginal costs of producing the second, third... copies is really only a few pennies.
3. Given low marginal costs, firms choose price and quantity based on consumer demand.



4. Given negligible costs, revenues are approximately profits. A single firm will choose among many price and quantity combinations to maximize profits=revenues. Revenues are represented as the area of the orange boxes below.



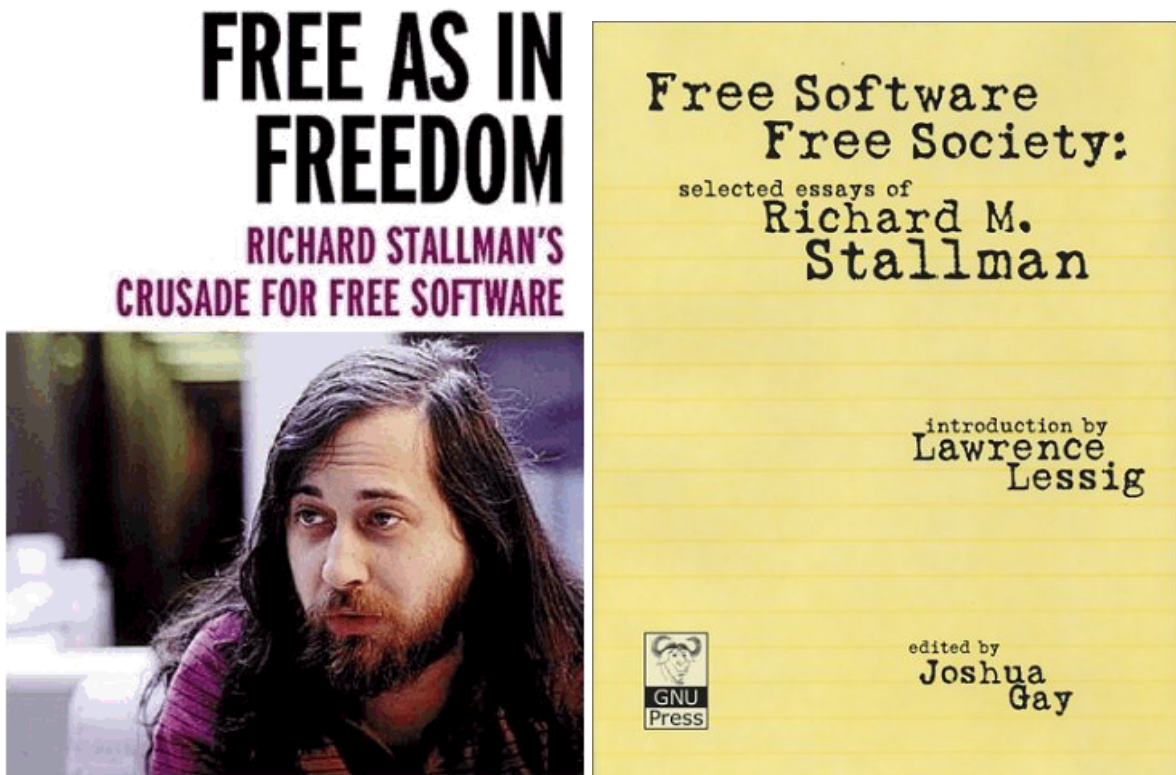
This results in a restriction of output so that the monopolist makes a high markup on each good sold: this requires a relatively high price. From an efficiency perspective, this deprives people who are less willing or able to pay for the good from purchase, even though they are willing to pay more for the good that it costs to make (=inefficiency).



5. If each of us with a writeable CDROM drive could simply copy the Windows<sup>®</sup> software and sell it, and in time the price would drop to a few dollars at most, rather than its current price of ~\$100-200 for a new license. (E.g. Nehru place in India)
6. If that were to happen Microsoft would be unlikely to ever recoup their fixed costs, and Bill Gates would have to sell his mansion (or its least its mood-activated sound system).
7. Ubiquity of fixed costs in knowledge-intensive activities suggest that these sorts of IRTS problems are non-trivial
8. Has implications for trade and trade policy

C. Copyright, patents and Legally-Generated Excludability

1. Step into the modern era of nuance: Stallman vs Lanjouw



2. Stallman (as Jefferson):
  - (a) Case of software use CopyLeft (requirement to share source code of programs spurs innovation)
  - (b) Copyright for creative content like video game graphics probably essential, but software patents deadly
3. Software Patent law makes it illegal to replicate “key innovations” of existing software. Some examples from the European Patent Office (the US is even more in this direction):
  - (a) issued a patent on the progress bar
  - (b) one on accepting payment via credit cards
  - (c) effects this might have on technological development?
  - (d) Does this logic stop at creative content (e.g. grey album)?



4. Base of Lanjouw’s argument like Madison
  - (a) Monopoly essential to investment
  - (b) Depends on institutional FDA enforcement of “goodwill” clause

5. Copyright makes it illegal for us to copy and sell the Windows<sup>®</sup> operating system. If it were not for such law, it is possible that Gates (via IBM) would have decreased the investments to create that product.
  - (a) Reasons this might/might not have this effect?
6. Enforcement and definition of these types of laws will thus influence the generation of new technologies in a market economy.
7. Nobel prize-winning economist Douglas North who argues that the creation of intellectual property rights has in fact been the key to era of modern (sustained) economic growth.
8. Of course, it also means that those who gain legal exclusivity have monopoly power and will charge higher prices (i.e., prices higher than the marginal cost of producing the product). Such higher pricing will exclude some people from the new goods, especially those without money. This is one argument internationally over intellectual property—poor (and other countries) claim that by pushing international enforcement of its intellectual property rights law, the US is simply excluding poor countries from technology and adding to the financial girth of those that create and patent technologies.
9. Frederick Howe (Confessions of a Monopolist, 1906) Progressive reformer from Ohio Senate: “The desire of something for nothing, of making the other fellow pay, of monopoly in some form or other, is the cause of corruption. Monopoly and corruption are cause and effect.”

10. Possibility of government capture:

	<b>FDA Position</b>	<b>To/from</b>	<b>Regulated affiliation</b>
Michael A. Friedman, M.D	acting commissioner	to	G. D. Searle & Co
Terry Medley	food advisory committee	to	Dupont
Margaret Miller	Deputy Director of Human Food Safety	from	Monsanto
Michael Taylor	executive assistant to commissioner, later Deputy Commissioner	both	Monsanto
Suzanne Sechen	Research reviewer	from	Monsanto

11. From 9/4/09, iol.co.za “Aspiring to be a corrupt official”:  
 “Beijing - A six-year-old girl has become a media darling in China on her first day of school by expressing her aspiration to become a "corrupt official" when she grows up, state media said on Friday[...]

‘When I grow up I want to be an official,’ said the girl, whose face was blurred to protect her identity.

‘What kind of official?’ the interviewer asked.

‘A corrupt official because corrupt officials have a lot of things,’ she replied.”

12. Implications for countries with weaker institutions and “efficient” awarding of patents/enforcement?

## **1. Pre-2003 TRIPS**

([http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/agrm7\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm))

(a) TRIPS - ‘trade related aspects of intellectual property rights’. Obliges countries to protect pharmaceuticals. Slow phase-in for developing countries.

(b) But, governments can grant ‘compulsory licenses’ to generic manufacturers in case of national emergency or extreme urgency.

(c) This is still not satisfactory because it means the drugs have to be produced domestically. So, while Argentina, Brazil, China, India, and Thailand all have well-developed pharmaceutical industries, many developing countries, especially the poorest in Africa, do not. TRIPS doesn't really let poor countries import generic drugs, just produce them for domestic consumption.

(d) Maybe not that bad after all since compulsory licenses authorize manufacturers to produce predominantly "for the supply of the domestic market. For a country like China or India, a non-predominant share of production could still represent a significant supply of the drug for other developing countries. (Remember, it is not the importing country that gets in trouble, it is the producing/exporting country that can get in trouble.)

## **2. Main Questions for Today**

- a. What is TRIPS? See 1a) above.
- b. Why is there such a strong push for the protection of intellectual property rights in the area of pharmaceuticals?
- c. What are the potential private and social benefits of that protection?
- d. What are the costs?
- e. How might those calculations vary for wealthier versus poor countries?

- f. What challenge does this pose to international rules or regulations that relate to intellectual property rights?
- g. What is Lanjouw's policy approach?
- h. What are its strengths and weaknesses?

### **3. August 2003 decision**

- (a) Waiver allowing certain countries to import generics (i.e. allowing exporters to export generic drugs to those countries).
  - i. all diseases - not a predefined set
  - ii. least developed countries are mostly those eligible
  - iii. importer must notify the WTO
  - iv. safeguards so that these cheaper drugs imported by LDCs don't make their way back to developed countries.
- (b) Canada and Norway were the first to amend laws to allow generic exporters of protected drugs.
- (c) Main continuing problem with the way things are:
  - i. It seems rather ad hoc.
  - ii. It doesn't give incentives for research on LDC diseases.

### **4. Jenny Lanjouw's proposal**

- (a) There is a tradeoff between the creation of new products and access to those that already exist.
- (b) Drug markets are different - some diseases may have most of their market in the developing world (malaria) while others are global with global markets for their therapies (cancer).
- (c) Problem is the need to increase research effort on developing country diseases, so there is good argument for private sector involvement and patents in poorer countries.
- (d) Cancer, heart disease, and diabetes together cause 16% of the total disease burden in poorer countries and this is 4 times the loss due to malaria. But, poor countries barely figure in the worldwide market for global products. For example, half the world's pop represents 2% of spending on cardiovascular drugs. Thus, it is hard to argue that patents in poor countries are important to support R&D on these diseases.
- (e) Bottom line - optimal patent system would treat drugs differently according to their different world markets. Need a system with clearer rules, greater perceived fairness, and less firm discretion.

(f) Specific proposal - structured so that protection evolves as a country develops and with changes in disease incidence. Protect markets as they become more important to firms.

(g) See figures - line up the diseases in order of most concentrated in LDC's to most global. Start a poorest country on the bottom and go up until you hit the country at which cumulative sales thus far reach 2% of global sales. Low for malaria and high for cancer. Thus gives you cutoff curve below which competition by generics is allowed. Above a certain GDP there is no change no matter what. Size of the generic region is decided by two parameters: the \$5000 GDP cutoff and the 2% world market cutoff. 3% would extend it and 1% would shrink it. Could be recalculated annually to reflect changes in markets and incomes.

(h) How? Through legislation in developed countries. Patentees promise not to enforce patents according to the structure described. When you apply to the US for permission to get patents in other countries, you would add the sentence shown in the slides or the text of her proposal.

(i) Simple scenario - PharmaUS markets a new cancer drug in the US and India. CiplaIndia enters the Indian market with a copy of this product. PharmaUS can do one of three things.

- i. Compete (lower their prices in India)
- ii. Exit the market in India
- iii. Sue for infringement, and then this means PharmaUS's patent in the US is no longer valid and is unenforceable.

(j) Advantages

- i. Everything is automatic.
- ii. Self-enforcing since firms behave as desired without monitoring.
- iii. Requires little money for administration or enforcement.
- iv. Insulated from political pressures in rich and poor countries.

## **5. TRIPS – Post 2003**

[http://www.wto.org/english/tratop\\_e/trips\\_e/pharmpatent\\_e.htm](http://www.wto.org/english/tratop_e/trips_e/pharmpatent_e.htm)

See fact sheet sent out as additional memo.

The fact sheet states that less-developed countries can access cheap generic imports basically with little restriction at present from other generic importers. If they reach a certain level of wealth, then they cannot.

Actual situation may be quite close to the solution sought by Lanjow but has been done by not enforcing compliance with patent law and imports of generics.