Intellectual Property in the International Arena: Entanglement of incentives and politics

Recall some examples:
Xalatan (glaucoma)
Artemisinin
Patent Incentives and Patent Politics

• **Incentive** purpose: Promote R&D
  In international arena: Promote domestic interests
  Tradeoffs:
  Innovation versus deadweight loss
  Deadweight loss versus inefficiencies of public sector

• **Political** purpose:
  collect profit from abroad
  avoid profit flows to foreign jurisdictions

• The political purpose interferes with choice of incentive systems.

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Who patents, and where? And why? How much international crossover?

• Almost all patents are issued to Japanese, European, US inventors
• The “trilateral block” are about 13% of world population
• Populations 2002: Japan (16%) EU(47%) US (37%)
• Relative GDP 2002: Japan (18%) EU (36%) US(46%)
• What would we expect? Patents in these proportions

• Domestic bias:
  --About half of patents in the U.S. are non-American.
  --About half of patent applicants to the European Patent Office are non-European

• Japanese bias.
  About 80% of Japanese patents are to Japanese inventors, and Japanese inventors patent disproportionately in EU/US.

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Three regimes; three periods of history

1. Autarky (reciprocal externalities)
   Before the Berne and Paris Conventions.

2. National Treatment; no guidelines.
   In the 100 years between Paris Convention and TRIPS. Strong protections in some jurisdictions; weak protection in others. Inefficient? Unfair?

3. Post-TRIPS: Harmonized protections. All inventors get the same minimum protections in all jurisdictions.
Observations

• **Autarkic period**: *reciprocal externalities* among nations, but inadequate incentives for R&D in small countries.

• **National treatment period**: International *profit flows* affect domestic IP policies. National treatment creates a reason to weaken protections; an incentive to free-ride. Race to the bottom?

• **Harmonization period** with *harmonization*

  Domestic policy makers may favor IP over public science, to *recover* some of the externalities as profit.

  Which countries advocate for stronger protections?

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The regimes may be equally efficient from the point of view of global deadweight loss.

Efficiency Goal:
Maximize ratio of profit to deadweight loss.

Ratio Test: Tax the market with largest ratio.

Conclusion: Efficiency is the same regardless of size, since the ratio is the same.

Message: It’s all about equity, not efficiency.
Autarky

• Free Riding
• Why should a small country provide protection? Whether or not it’s own innovators are protected in the large markets, its own market cannot support innovation.
• Large countries may provide protection (it would be effective), create most of the innovations, and provide externalities for small countries.

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National treatment Period:

• “Free-riding” and inequity: Country “a” refuses to protect a subject matter because country “w” protects it, and protection in a single country is enough to cover invention costs.

• “Free-riding” and a race to the bottom: but then “w” has an incentive to drop its protection, especially if it thinks that public sponsors will step in.

• Bilateral failure to protect.
  Neither country protects because unilateral protection does not suffice. Countries fail to coordinate on protection.

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Harmonization Period:

- **Too much protection?**
  Choices are too binary. “Effectively” every subject matter is protected everywhere or nowhere. Some subject matters do not need so much protection.
  Notice: This is the fault of national treatment.

- **Too much IP, too little public sponsorship.**
  With public sponsorship, there is no way to repatriate the benefits conferred abroad.
Harmonization: How do disagreements depend on asymmetries?

• Two asymmetries: size and innovativeness
• Size & innovativeness: correlated?
• Conflicting Effects:
  -- Size: larger countries want more public sponsorship abroad, and less IP
  -- Innovativeness: More innovative countries want more global IP
What can harmonization accomplish?

- Can only strengthen protections, and will typically do so.
- Cannot achieve what might be the first-best solution: Autarky and reciprocal externalities.
- Can solve the bilateral coordination problem (at least when there is no disagreement)
- Cannot remedy the unilateral failures (there is always disagreement over “free riding”) Harmonization may occur where public sponsorship would be better.
- Cannot remedy the failure to provide public sponsorship when domestic benefits are less than cost.

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Is the public sector an orphan?

• Space station: Mostly Russia and U.S.
• CERN nuclear physics facility
• Various telescopes around the world.
• Various research efforts of the World Health Organization (very limited)
R&D: How much, by whom?

Public sponsorship:
E.U. 44%
U.S. 26%  (ratio of public/private was 2:1 in 1950; now 1:3)
Brazil, Chile, Costa Rica and Mexico: substantially over half

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Related policy issues

• IP and trade rules:
  Cannot import protected commodities without a license.
  What about using research tools abroad?

• Price discrimination and parallel imports
  Why can’t pharmaceutical companies produce cheap pills for poor countries?

• Is enforcement subject to treaty?