

---

## Patent Reform

227

---

## Patent Reform Topics

- Law & economic model for understanding patent law
- Evaluate aspects of the patent system
  - Patent acquisition: role of private parties and government
  - Patent scope
  - First to file v. first to invent
  - Opposition
  - Cost of litigation
  - Optimal amount of examination

228

---

## Law and Economics

- Framework for understanding/evaluating legal regimes/rules
- At least two considerations:
  - Maximize social welfare (make the pie bigger)
  - Distributional considerations
- Example:
  - Allowing a factory to pollute makes the factory owner (much) better off, but at the expense of the surrounding community
  - Is this an efficient rule?

229

---

## Example: Nuisance Law

- General rule: you can do whatever you want with your property so long as it doesn't interfere with another's use and enjoyment of their property
- If your neighbor is burning garbage, you can enjoin (stop) him from doing so
  - Is this a good rule?

230

---

## Pollution Example

- Fact pattern
  - Party A builds a factory on their property, which is worth \$100/year
  - The factory spews smoke, which causes \$50/year harm to neighbor B
- Assuming that the parties can negotiate without cost:
  - What happens if A is entitled to pollute?
  - What happens if B is entitled to clean air?

231

---

## The Coase Theorem

- In the absence of transaction costs, the allocation of initial entitlements is irrelevant, because the parties will negotiate an efficient allocation
  - Corollary: Job of government is to "lubricate" transactions
- Transaction costs:
  - Getting the parties together
  - Negotiating, creating contracts
  - Obtaining information
  - Enforcement

232

## Transaction Costs

- Assume high transaction costs:
  - Party A builds a factory on their property, which is worth \$100/year
  - The factory spews smoke, which causes \$50/year harm to neighbor B
  - It costs \$30 to each party to negotiate
- What happens if A is entitled to pollute?
- What happens if B is entitled to clean air?
- Lesson: if transaction costs are high, then place the entitlement with the party that values it most

233

## Cheapest Cost Avoider

- Assume abatement:
  - Party A builds a factory on their property, which is worth \$100/year; can install smoke scrubber for \$10
  - The factory spews smoke, which causes \$50/year harm to neighbor B; can install air filter for \$20
- With and without transaction costs:
  - What happens if A is entitled to pollute?
  - What happens if B is entitled to clean air?
- Lesson: if transaction costs are high, then place the entitlement *against* the party that that is the *cheapest cost avoider*

234

## Coase in the Patent Context

- In the patent context, Coase means:
  - Selecting rules that correctly allocate rights when transaction costs are high
  - Reducing transaction costs
- Example areas:
  - First to file v. first to invent
  - Registration system v. examination system
  - Patent scope

235

## Thought Experiment

- Can we imagine a system where the allocation of rights is (more or less) random?
  - Randomly assign patent rights to the parties
  - Let the parties sort out who values the entitlement the most
- Somewhat less random approach:
  - A registration system
- What is good or bad about such approaches?

236

## Example Features of Patent Law

- First to file system has lower transaction costs than first to invent
- Claim construction: Dictionary definitions vs. contextual approach
- Enablement / written description requirement
  - What about after-emerging technologies?
- Best mode requirement
- Assignment system

237

## Prospect Theory

- The allocation of patent rights can be analogized to mineral prospecting and claiming



238

## Prospect Theory

- Basis: “finders keepers” rule
- In prospect theory, the ability to strike a claim provides assurances that the prospectors efforts to make mineral discoveries will be rewarded
- Requirements/Features
  - Enforceable property rights
  - Clear boundaries
  - Requirement to develop or “work” claim

239

## Over investment

- A “finders-keepers” approach can stimulate over investment



- Other approaches: Would a quota system work?

240

## Patent Scope

- Narrow patents
  - Reduced incentives to invent
  - Competitive environment for improvements
- Increase breadth
  - Increase incentives to invent, possibly wasteful
  - Blockages (especially in cumulative technologies), follow on parties are less likely to engage in invention
  - But holders of broad patent may be able to coordinate operations of other parties to make follow on inventions

241

## Modifying Patent Scope

- Levers:
  - Change standard for non-obviousness
  - Change the claim breadth (e.g., limit to just concrete examples disclosed in spec)
  - After-emerging technologies (strict enablement)
  - Change the duration

242

## Patent Validity as Public Good

- Patent validity is a public good with a collective action problem
  - When a large number of parties are held up by patent troll, it is very difficult to coordinate action
  - Free riding: sit back and let other parties shoot down patent OR just negotiate privately with the patent holder
- Who is responsible for assuring validity?
  - Right now, public/private approach: USPTO does some work, while private parties fight it out in court

243

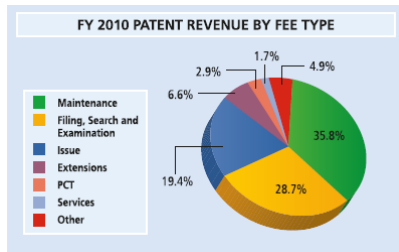
## Examination vs. Registration

- Examination or registration?
- How much examination is optimal?
- Current situation: In 2010, approximately \$1.9B in fees
  - Works out to be about \$4K per application (based on about 500K applications filed)

244

## Patent Fees

- In 2010, approximately \$1.9B in fees



245

## Registration

- Why not get rid of the examination function of the patent office?
- Registration-based system
- Let private parties fight out validity in court
- Under Coase, parties can just negotiate an efficient allocation
- But, high transaction costs abound:
  - Information costs: imagine 1 patent holder and 10 potential licensors: each of them has to determine validity
  - Litigation is complex

246

## Increasing Examination

- Assumptions:
  - Litigation costs = \$2 or 20B/year
  - Double fees (\$2B increases to \$4B)
  - Increases acquisition costs from \$20K/patent to \$40K/patent (\$10B increases to \$15B)
  - Reduces the number of patents by 30% (fewer filed, fewer allowed)
  - Fewer patents means lower litigation costs (down by \$600M or 6B).
- Under the lower assumption, \$4.4B increase
- Under the higher assumption, \$1B savings

247

## Opposition Proceedings

- Often, the patent holder's competitor is best situated to invalidate patent
- Problems with re-examination (current approach)
  - Limited types of evidence/reasons for reexam
  - Weird estoppel provisions: (a party cannot later in litigation argue over the same art)
  - Ex parte: requestor can be anonymous, but limited interaction with examiner
  - Inter partes: requestor is not anonymous
- Good things about reexamination
  - Cheap (compared to litigation)

248

## Opposition

- Europe provides a more robust opposition system
  - Different types of evidence/reasons for reexam
  - No estoppel provision
- Much higher rates of opposition: about 6% of issued patents
- Outcomes: 1/3 each revoked, reduced, maintained
  - Compare in US:
    - Inter partes: 45% revoked, 45% reduced, 10% maintained
    - Ex parte: 10% revoked, 70% reduced, 20% maintained

249

## Reward System

- Reward system
  - Ex post rewards provided to inventors based on the social welfare contributed
  - Solves the monopoly pricing problem, improves social welfare
  - Collect taxes to obtain reward money
  - Distribute rewards based on use of invention
  - No more patent litigation
- The hard part: Accurate valuation

250