
Patent Reform

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Picture of the Day



In the hit-or-miss fishery, any one of the roughly 50 permit holders and their crews can become instantly wealthy or go bust. In 2008, two boats caught more than 10,000 tons of the 14,386-ton quota in one opening. At \$550 per ton, it was worth more than \$5.5 million. Ten boats had 500 or more tons of Pacific herring in the first 30-minute span. (JuneauEmpire.com)

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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
 - Optimal amount of examination
 - Cost of litigation
 - Post-grant review

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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?

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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?
 - Why does the law not just let the neighbor burn garbage?

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Pollution Example

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

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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 the law is to “lubricate” transactions
- Transaction costs:
 - Getting the parties together
 - Negotiating, creating contracts
 - Obtaining information
 - Enforcement

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Transaction Costs

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

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Cheapest Cost Avoider

- Assume abatement:
 - Party P 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 N; can install air filter for \$20
- With and without transaction costs:
 - What happens if P is entitled to pollute?
 - What happens if N 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*

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Liability Rules v. Property Rules

- Property rules protect entitlement via injunctions
- Liability rules protect entitlements via damages
- There are thus four combinations, e.g.:

Entitlement	Property Rule	Liability Rule
P entitled to pollute	P can pollute at will (N may buy entitlement)	N can stop P, but must pay damages to P
N entitled to clean air	N can enjoin P from polluting (P may buy entitlement)	P can pollute, but must pay damages to N

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Rules of Thumb

- Property rules make sense when private parties can efficiently negotiate reallocation of the entitlement
- Liability rules make sense when we do not know who values the entitlement most and when the transaction costs are high
 - Determining damages can be difficult
 - Courts are an inefficient mechanism for recovering damages
 - Under- / Over-estimation leads to inefficiently high / low levels of activity

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The Patent Context

- In the patent context, L & E teaches:
 - Select rules that correctly allocate rights when transaction costs are high
 - Reduce transaction costs
 - Internalize externalities
- Example areas:
 - First to file v. first to invent
 - Patent scope
 - Liability rules v. property rules
 - Registration system v. examination system v. reward system

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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

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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)
 - Eliminate doctrine of equivalents (non-literal infringement)
 - Change the duration

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Liability Rules v. Property Rules

- Injunctions used to be an automatic remedy.
- Problems with property rules in patents:
 - Endowment effect
 - Hard to value innovation *ex ante*
 - The time and cost for an improver to protect his improvement is high (need to get a patent)
 - Patent boundaries are uncertain
- Courts are taking a harder look at issuing injunctions now.
 - Injunction granted only when damages remedy is insufficient

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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

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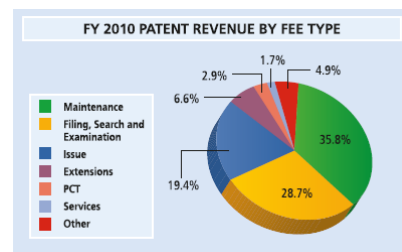
Examination vs. Registration

- 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)

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Patent Fees

- In 2010, approximately \$1.9B in fees



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Reducing Examination: Registration

- Why not get rid of the examination function of the patent office, move to registration-based system.
- Let parties fight out validity in court.
- Assumptions:
 - Litigation costs = \$20B/year
 - Reduce fees (\$2B decreases to \$0.5B)
 - Decreases acquisition costs from \$20K/patent to \$2K/patent (\$10B decreases to \$2B)
 - Increases the number of patents by 100%
 - Litigation costs double
- \$32B (current system) vs. \$42.5B (reg. system)

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Hard Look: Increasing Examination

- Assumptions:
 - Litigation costs = \$20B/year
 - Double fees (\$2B increases to \$4B)
 - Increases acquisition costs from \$20K/patent to \$40K/patent (\$10B increases to \$15B)
 - Decreases the number of patents by 30%
 - Decreases litigation costs by 30% (~ \$6B)
- \$32B (current system) vs. \$33B (hard look)

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Overview post-grant proceedings

- Concepts
 - The patent office is more efficient at determining validity than the court
 - The patent holder's competitor is best situated to invalidate patent
- Five types of post-grant proceeding:
 - Ex parte reexamination
 - Inter partes review - 102
 - Post grant review
 - Supplemental examination
 - Business method review

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Post grant proceedings

Type	Who	Reason	Timing	Notes
Ex parte reexamination	Anyone	102/103 patents/pubs	Anytime	
Inter partes review	Third party only	102/103 patents/pubs	> 9 months after issue	Estoppel; Stays concurrent court case
Post-grant review	Third party only	Any	< 9 months after issue	Estoppel; Stays concurrent court case
Supplemental exam	Owner only	Any	Anytime	
Business method review	Third party that was sued	102/103 patents/pubs	Anytime < 2020	

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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

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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?

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