

Patent Reform

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
- Considerations and concepts
 - Maximize social welfare (make the pie bigger)
 - Distributional considerations
 - Transaction costs
 - Externalities

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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, BUT:
 - 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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First: Why set the rules as they are?

- Fact pattern
 - N invents
 - P takes and uses N's idea, which is worth \$100/year to P
 - P's use causes \$50/year harm to inventor N (e.g., N's profits drop by \$50)
- Assuming that the parties can negotiate without cost:
 - What happens if P is entitled to take idea?
 - What happens if N is entitled to keep idea?

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Patent Reform: Do we need it?

- NPE lawsuits cost the economy \$29B/yr in direct costs (Bessen & Meurer)
- But NPE lawsuits are on the decline, why?
- Court Decisions:
 - Lower standard for obviousness (*KSR*, 2007)
 - Subject matter (*Mayo-Alice*)
 - Indefiniteness
 - Fee shifting
- Improved post-grant review system under AIA

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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 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
- What has happened so far:
 - Subject matter limitations under *Mayo-Alice*

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Liability Rules v. Property Rules

<i>Entitlement</i>	<i>Property Rule</i>	<i>Liability Rule</i>
P entitled to take idea	P can use the idea at will (N may buy entitlement)	N can stop P, but must pay damages to P
N entitled to protect idea	N can enjoin P from using idea (P may buy entitlement)	P can use the idea, but must pay damages to N

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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 a 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 2014, approximately \$3B in fees
 - Works out to be about \$5K per application (based on about 600K applications filed)

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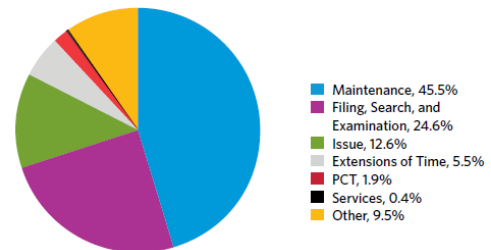
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Patent Fees

- In FY 2014, approximately \$3B in fees

FY 2014 Patent Revenue by Fee Type



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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:
 - Current litigation costs = \$30B/year
 - Reduce fees (\$3B decreases to \$0.5B)
 - Increases the number of patents by 2X
 - Decreases acquisition costs from \$20K/patent to \$2K/patent (\$12B decreases to \$2.4B)
 - Increase litigation costs by 2X
- \$45B (current system) vs. \$63B (reg. system)

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Hard Look: Increasing Examination

- Assumptions:
 - Litigation costs = \$30B/year
 - Double fees (\$3B increases to \$6B)
 - Decreases the number of apps/patents by 30%
 - Increases acquisition costs from \$20K/patent to \$30K/patent (Before: 600K * \$20K = \$12B; After: 400K * \$30K = \$12B)
 - Decreases litigation costs by 30% (~ \$10B)
- \$45B (current system) vs. \$38B (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 (new under AIA)
 - Post grant review (new under AIA)
 - Supplemental examination (new under AIA)
 - Business method review (new under AIA)

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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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Post-grant proceedings

- *Ex parte* reexamination statistics
 - 700+ cases filed in 2013
 - 10% canceled, 70% reduced, 20% maintained
- *Inter partes* review statistics (through FY 2015)
 - 100+ filings per month
 - 70% canceled, 20% reduced, 10% maintained

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Litigation reform

- Raise standard for pre-litigation activity (e.g., demand letters)
- Raise the pleading standard
 - Require a more specific allegation of infringement, including claim charts
- Streamline discovery
 - Limit early discovery just to that required to do claim construction
- Lower fee shifting standard
 - Statute: “exceptional cases”
 - Different proposals for shifting fees: automatic, presumed shift unless reasonable, only when unreasonable, etc.

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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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