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

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

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?

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?

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
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 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

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

Liability Rules v. Property Rules

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

<table>
<thead>
<tr>
<th>Entitlement</th>
<th>Property Rule</th>
<th>Liability Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>P entitled to pollute</td>
<td>P can pollute at will (N may buy entitlement)</td>
<td>N can stop P, but must pay damages to P</td>
</tr>
<tr>
<td>N entitled to clean air</td>
<td>N can enjoin P from polluting (P may buy entitlement)</td>
<td>P can pollute, but must pay damages to N</td>
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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

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

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?
Patent Reform: Do we need it?

• NPE lawsuits cost the economy $29B/yr in direct costs (Bessen & Meuer)
• 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

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

Liability Rules v. Property Rules

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<td>P can use the idea at will (N may buy entitlement)</td>
<td>N can stop P, but must pay damages to P</td>
</tr>
<tr>
<td>N entitled to protect idea</td>
<td>N can enjoin P from using idea (P may buy entitlement)</td>
<td>P can use the idea, but must pay damages to N</td>
</tr>
</tbody>
</table>

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

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

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
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)

Patent Fees

- In FY 2014, approximately $3B in fees
  - FY 2014 Patent Revenue by Fee Type

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)

Hard Look: Increasing Examination

- Assumptions:
  - 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)

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)

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

**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.

**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?