

# Probabilistic Patents

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# Introduction

- Patents are probabilistic property rights
- Implications for understanding patents in:
  - (1) Reform of patent granting system
  - (2) Reform of patent litigation
  - (3) Private incentives to challenge patents
  - (4) Antitrust limits on patent settlements

# Uncertainty with patents

- Two fundamental dimensions of uncertainty
  - (1) Uncertainty about commercial significance ---- Critical when studying the process of issuing patents
  - (2) Uncertainty about validity and scope of the legal rights ---- Critical when studying the enforcement and litigation of patents.

# Patent Prosecution & Patent Litigation in the U.S.

- Patents are rewards for contributors to economic growth through inventions
- Social benefit and cost
- The lower patent quality, the less efficient the patent system.

# Patent Prosecution & Patent Litigation in the U.S., cont'd

## Patent application and prosecution

- Scope of a patent is defined by its “claims”.
- Examination process by the PTO.
- Inventors don't know for sure if the invention will be a commercial success.
- Negotiations over the allowability and scope of the claims.

## Patent litigation and damages

- Most patents are never litigated.
- When patents are litigated, substantial uncertainty arises.

# Patents as Lottery Tickets

- Distribution of patent value is highly skewed.
- Patent applications and patents are like lottery tickets.
- Two common practices to increase chances of winning the patent lottery: continuation and proliferation.
- Patentees have superior information to PTO about likely commercial significance.

# Reforming Patent Granting System

- Many patents are improperly issued.
- Can the system be designed to work better at reasonable cost?
  - (1) To hire more examiners and let them devote more time to reviewing selected applications.
  - (2) To establish a more effective opposition system.
  - (3) To raise standard for non-obviousness.

# Reforming Patent Litigation

- Uncertainty exists about validity and scope of patents.
- Two reform approaches:
  - (1) Reducing litigation uncertainty.
  - (2) Acknowledging the uncertainty about validity and scope and ensuring that the law reflects that uncertainty.
- Uncertainty is inevitable to any system involving litigation.

# Private Incentives to Challenge Patents

- Patent litigation process does not work ideally well.
- Invalidating a patent generates positive externalities, so is under-supplied.
- Serious problems arise in relying on private parties to challenge questionable patents: suboptimal incentives
  - (1) Public good problem
  - (2) Pass-through problem

# Private Incentives to Challenge Patents, cont'd

- Potential solutions:
  - (1) To reward or subsidize contributors.
  - (2) To let government supply the public good.
  - (3) To encourage public interest organizations to challenge.
  - (4) To restrict agreements litigants can reach to settle patent disputes.

# Antitrust Limits on Patent Settlements

- 95% of the litigation cases end in settlements.
- the incumbent and potential entrant may achieve anti-competitive settlement: settlements may lead to higher joint profits.
- “Reverse payment”.
- Antitrust limits on settlements of patent disputes are needed.

# Conclusion

- The patent system does not grant an absolute right to patent holders to exclude others from practicing their inventions.
- The actual scope of a patent right and whether it will withstand litigation are uncertain.
- Modeling patents as probabilistic rights requires us to rethink some issues.