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.