

Issues and Possible Reforms in the U.S. Patent System

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Overview

- Economics of patents and innovations
- Changes to US patent system in the past quarter century
- Proposed US patent reform legislation and its current prospects

Patents, innovation, and competition

- Traditional view
 - Patents provide incentive for innovation
 - Patents grant short term monopolies, bad for competition
- “New” view
 - Patents increase cost of innovation
 - Patents encourage entry in knowledge-intensive sectors

The Patent System Viewed by a Two-Handed Economist

Effects on	Benefits	Costs
Innovation	creates an incentive for R&D; promotes the diffusion of ideas	impedes the combination of new ideas & inventions; raises transaction costs
Competition	facilitates entry of new small firms with limited assets; allows trading of inventive knowledge, markets for technology	creates short-term monopolies, which may become long-term in network industries

Which effect dominates?

- Economic Theory: mixed
 - an incentive for innovation, but
 - can slow advance in cumulative technologies
 - litigation fears discourage investment
- Across U.S. Industries: great variation
 - Clearest benefits: pharma, chemicals, medical devices
 - Ambiguous: semiconductors, other IT
- Across countries and time:
 - Not much evidence that strengthening IP protection induces more domestic R&D and innovation

Conclusions from research

- Introducing or strengthening patent system results in an increase in patenting and the strategic uses of patents.
- Not clear that it increases innovation, although it may change its direction.
- Most responsive sectors are pharmaceuticals, biotechnology and specialty chemicals.
- Existence and strength of patent system affects organization of industry by facilitating trade in knowledge assets.

Evolution of the U.S. Patent System since 1980

- Patenting extended to
 - new technology (biotechnology)
 - technologies previously not subject to patent protection (business methods, software)
 - upstream scientific research tools, materials, and discoveries
- Emergence of new players (universities and public research institutions)

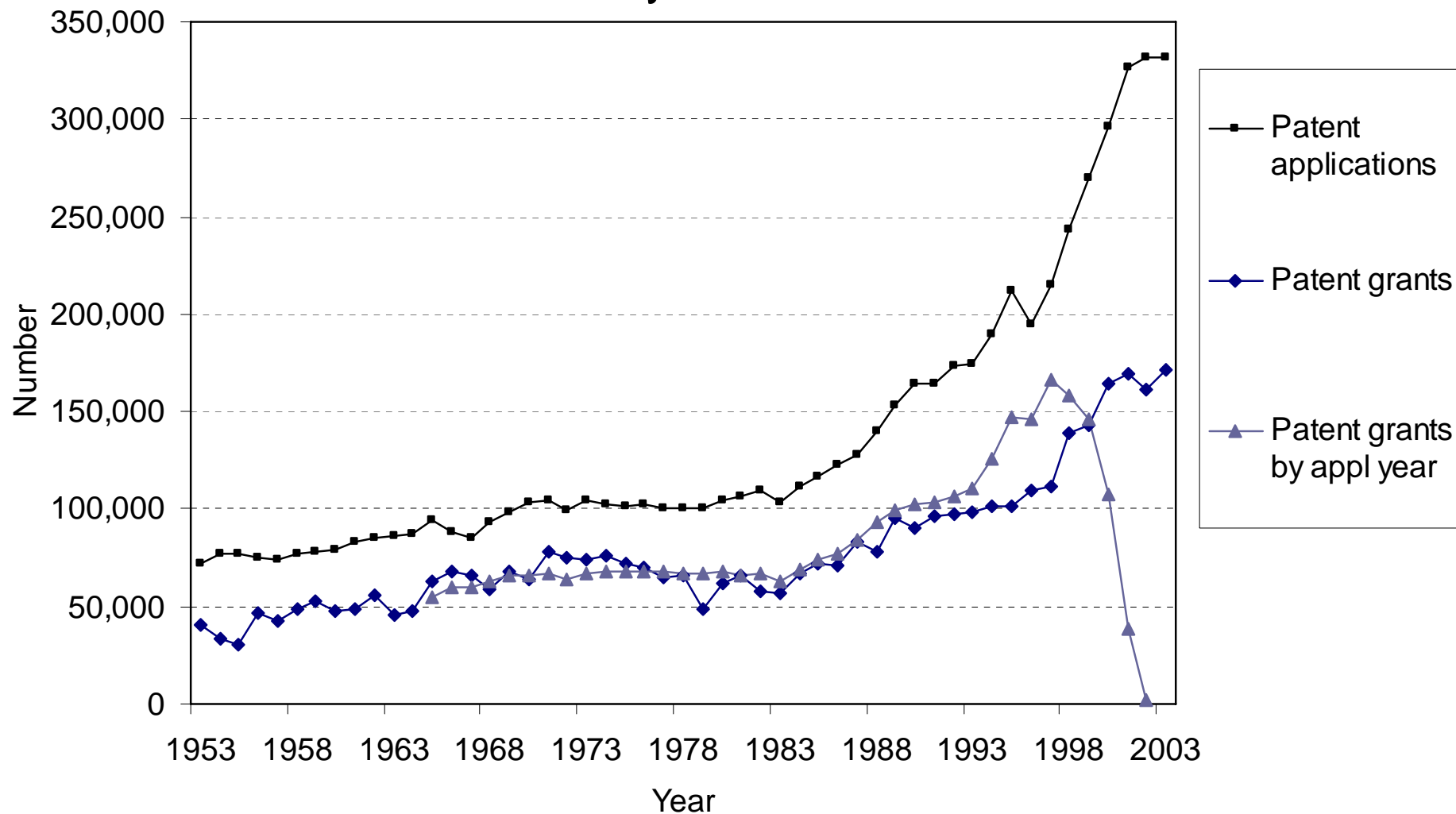
Evolution of the patent system, cont.

- Position of patent holders strengthened vis-à-vis alleged infringers
 - Court of Appeals for the Federal Circuit \implies higher validity rates from 1982
 - Process Patent Amendments, 1988 (blocks imports)
 - Major damage awards (e.g. *Polaroid v. Kodak*, 1986/1991)
 - TRIPS Agreement, 1994
 - No research exemption (*Madey v. Duke*, 2002)
- Antitrust constraints on patent use relaxed

Contributing to...

- Doubling of patent applications and grants (to 100 per working hour), 1992-2002
- Higher renewal rates
- More frequent assertion of patents
- Doubling of U.S. District Court patent suits, 1988-2001

Figure 1
USPTO Utility Patents 1953-2003



Concerns and criticisms

- Volume of patent applications threatens to degrade quality or lengthen backlog or both
- Decline in quality from other sources (prior art)
- Rising costs for acquiring and defending patents and securing licenses
- Increase in defensive patenting
- Difficulty negotiating patent thickets/risk of hold-ups, especially in cumulative technologies
- Some impediments to research

Estimated Median Litigation Costs for Each Party in Litigation (\$ Thousands)

	2001	2003	Percent Change, 2001 to 2003
<i>Less than \$1 million at risk</i>			
End of Discovery	\$250	\$290	16.0
Inclusive of discovery, motions, pre-trial, trial, post-trial, and appeal	\$499	\$500	0.2
<i>\$1-\$25 million at risk</i>			
End of Discovery	\$797	\$1,001	25.6
Inclusive of discovery, motions, pre-trial, trial, post-trial, and appeal	\$1,499	\$2,000	33.4
<i>More than \$25 million at risk</i>			
End of Discovery	\$1,508	\$2,500	65.8
Inclusive of discovery, motions, pre-trial, trial, post-trial, and appeal	\$2,992	\$3,995	33.5

Source: AIPLA

Current prospects for reform

- High interest in U.S. Congress
 - Response to NAS and FTC reports
 - Lamar Smith (House) Orrin Hatch (Senate)
 - Hearings - April, June, July, September last year
 - HR 2795 introduced in June, substitute in Sept.
- Interested groups
 - AIPLA, IPO, ABA IPL Section, BIO, BSA
 - Coalition – 37 large cos. plus these groups propose a reform package

H. R. 2795 as proposed (**amended**)

- Changes the current "first to invent" standard to "first inventor to file"; one year grace period (§ 3)
- Eliminates the subjective "best mode" requirement from § 112 of the Patent Act, delineating objective criteria that an inventor must set forth in an application (§ 4)
- Imposes a duty of candor and good faith on parties to contested cases before the patent office, eliminating inequitable conduct as a defense of patent unenforceability, unless at least one claim in the patent has already been found invalid. (§ 5).

H. R. 2795 as proposed (**amended**)

- Reduces the scope of willful infringement by raising the standard of proof required, and limits the amount of damages a patentholder can collect from an infringer (§ 6). **Substitute bills change wording, limit to cases where notice has been given.**
- Limits patentees' ability to get injunctions (§ 7). **Removed.**
- Authorizes the director of the patent office to regulate continuation applications (§ 8). **Removed, but Dudas has taken the initiative with Fed Register proposal**

H. R. 2795 as proposed (**amended**)

- Establishes a new post-grant opposition system in the patent office with 9 month window (§ 9).
Subsequent 6 month window removed.
- Allows members of the public to introduce new information to the patent office up to six months after the date of publication of the patent application to challenge the patent and to provide a final quality check (§ 10)

Will there be a bill?

- Eventually, yes – a lot of support for some provisions
- Possibly not this year – problems with
 - apportionment of damages
 - injunctions when patent is not being “worked”
- In the meantime, USPTO goes ahead with reforms to stem the tide