Post-Grant Patent Review
Conference on Patent Reform
Berkeley Center for Law and Technology
April 16, 2004

Bronwyn H. Hall
UC Berkeley and NBER

Overview

- Heterogeneity
- More patents not necessarily better
- Problem and reasons for it
- Evidence?
- Post-grant review: benefits and costs
The problem – brief review

- Rapid growth in patent applications leading to
  - Large increase in patent office workload
  - Higher grant rates?

- Increase in patent litigation

- Consensus that the average standard being applied during the past decade is too low, especially in newer technology areas
  - Long list of legal, economic, policy scholars and practitioners.....

Possible causes

- Overburdened patent office
- Lack of expertise in the relevant areas
- Lack of prior art databases
- Weakening of the non-obviousness test, partly through court decisions

- Some of these problems already addressed by USPTO
  - Hiring changes (computer scientists)
  - Second exam for 705 patents
  - Increased prior art availability; better searching methods
  - Etc.....
More is not necessarily better

- Trivial patents confer market power without consumer benefit
- Slows advance in cumulative technologies
  - increases level of fragmentation of rights
- Some areas of research avoided by small and new firms (Lerner 1995)
- More patents => more litigation
  - Investment in innovation and commercialization slowed by uncertainty over patent validity
- Clogs the process at the USPTO, especially as others increase patenting in response

Evidence?

- Compare grant rates at the EPO for applications with US and non-US priority dates
  - Difference in grant rates has risen from 0% to about 16% during the past 20 years
  - Yet...US priority patents should be of “higher” quality (value)
  - Suggests a decline in the standard of US applications
- Compare grant rates for US priority patent equivalents at EPO and USPTO (OECD study)
  - Difference in grant rates at USPTO versus EPO has grown from 12% to 30% during the past 20 years
  - Suggests a decline in the standard of patentability

Source: OECD and Harhoff calculations
Post-grant patent reviews – expected benefits

- Who is most likely to be able to demonstrate obviousness using non-published prior art?
  - Competitors who are familiar with the area
- Fast feedback to current patent examination
- Second pair of eyes improves quality; PTO spends more time on valuable patents
- Revoked patents cannot cause litigation => large welfare gains (Graham et al. 2004)
- Dampening effect on aggressive patent portfolio strategies

Post-grant patent reviews – expected drawbacks

- Too costly?
  - additional financial burden for patent holders
- Too lengthy?
  - delays enforcement of patent rights (but so does litigation)
  - general delay of uncertainty resolution?
- Is the USPTO capable of running such a process?
  - Not without additional resources
- Independent inventors and small entities may be disavantaged in such a process
  - But no evidence that they are more subject to either US re-exam or European opposition
  - Process costs less than litigation and should be faster
Backup slides follow

- Aggregate US patent applications and grants 1965-2003
- Further data on grant differences at EPO between US priority and non-US priority

The problem?

[Graph showing USPTO Utility Patents 1965-2003 with data points for patent applications and patent grants lagged two years]
A look at the European experience
Outcomes of EPO examination – by technical field

<table>
<thead>
<tr>
<th>Technical Field</th>
<th>Non-US Grant Rate*</th>
<th>US Grant Rate**</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>69.7%</td>
<td>57.8%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Instruments</td>
<td>67.0%</td>
<td>60.1%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Chemicals</td>
<td>68.4%</td>
<td>56.7%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Processes</td>
<td>68.4%</td>
<td>61.7%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Mechanical</td>
<td>70.4%</td>
<td>61.7%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Construction</td>
<td>62.9%</td>
<td>51.6%</td>
<td>11.3%</td>
</tr>
<tr>
<td>All Fields</td>
<td>68.3%</td>
<td>58.4%</td>
<td>9.9%</td>
</tr>
</tbody>
</table>

Application years 1990 and earlier. Grants include grants after appeal.
* Grant rate for EPO applications with non-US priority
** Grant rate for EPO applications with US priority