Opposition and Post-Grant Patent Reviews
Conference on Patent Reform
Berkeley Center for Law and Technology
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A look at the European experience

Summary of empirical results

- **frequency**
- **duration**
- **outcomes**
- **costs**
- **case selection**

Third parties contribute relevant information which frequently leads to revocation or narrowing of patents.

Valuable patents are given more attention (2nd round review) than is possible in a standard process.

**Interpretation**

Interviews with patent attorneys

- total cost per party/instance: 15-25 k€
- low potential for driving up competitor's costs

Empirical evidence from various studies

- new technical fields with uncertainty and asymmetric information
- high impact/close to market
- valuable patents

Among EPO patents granted 1980-1995

- opposition rate: 7.9%
- appeal rate: 31.7%
- patent revoked: 33.2%
- patent amended: 32.6%
- opposition rejected: 27.4%
- opposition closed: 6.8%

- duration of opposition: 1.9 yrs
- duration of appeal: 2.1 yrs
- opposition rate: 7.9%
- appeal rate: 31.7%

7.9% historically about 2 yrs for each instance

1/3 revoked, 1/3 amended low valuable patents
A look at the European experience
Subsequent German invalidity and infringement suits

≈ 269,760 EP grants with DE designation (1986-1995 grant date)
valid after opposition
97.3% of grants

Oppositions
(7.5% - 20,150 cases)

≈ 249,610 EP grants without opposition
2.3% rejected
2.5% amended
2.7% revoked
≈ 6,190
≈ 6,680
≈ 7,280

485 patents attacked
(0.2%)
198 patents
(1.5%)
43% rejected
57% amended

Invalidity challenge rate
0.25%
A look at the European experience
Subsequent German invalidity and infringement suits

- Invalidity filing rate (EP patents) in Germany: 0.3%, infringement filing rate (EP patents) 0.9%.
- Overall national filing rate in the US: 1.9% (Lanjouw and Schankerman 2003) or higher
- Filing rate for EP patents in Germany is considerably lower although estimates for Germany are biased upwards
  - only EPO-granted (relatively valuable) patents considered
  - invalidity suits can be filed independent of infringement cases
  - litigation in Germany is less expensive than in the US.
  - litigation court proceedings are resolved faster in Germany than in the U.S.
Key design parameters (1/2)

- Who hears the case? SPECIAL BOARD
- Which time period after grant? SHORT (3 months)
- Allow cases under threat of suit? YES (with time limit)
- Who can challenge the grant? ANY THIRD PARTY
- Which issues? VALIDITY ONLY
- Which grounds? PATENTABILITY REQUIREMENTS
- Amendment of claims allowed? YES (but only narrowing)
- Discovery NO – NO!!!
### Key design parameters (2/2)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time limit expedition?</td>
<td>YES (great – EPO should have that)</td>
</tr>
<tr>
<td>Settlement allowed?</td>
<td>NO</td>
</tr>
<tr>
<td>Appeal possible?</td>
<td>YES</td>
</tr>
<tr>
<td>Legal status of patents during review?</td>
<td>VALID</td>
</tr>
<tr>
<td>After revocation, before judicial review?</td>
<td>INVALID</td>
</tr>
</tbody>
</table>
Personal View

Here is an opportunity for improving the US patent system.

The institution of a post-grant “Open Review” process as proposed in the NRC study is likely to generate high welfare gains.
Backups – please do not distribute
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>Δ</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
A look at the European experience
Incidence and Duration of Opposition

<table>
<thead>
<tr>
<th>Technical Field</th>
<th>Opposition Rate*</th>
<th>Duration Opposition</th>
<th>Appeal Rate**</th>
<th>Duration Appeal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>5.3%</td>
<td>2.1 yrs</td>
<td>27.0%</td>
<td>1.8 yrs</td>
</tr>
<tr>
<td>Instruments</td>
<td>7.1%</td>
<td>2.0 yrs</td>
<td>34.7%</td>
<td>1.9 yrs</td>
</tr>
<tr>
<td>Chemicals</td>
<td>9.1%</td>
<td>2.1 yrs</td>
<td>32.3%</td>
<td>2.6 yrs</td>
</tr>
<tr>
<td>Processes</td>
<td>9.7%</td>
<td>1.7 yrs</td>
<td>32.5%</td>
<td>2.3 yrs</td>
</tr>
<tr>
<td>Mechanical</td>
<td>7.7%</td>
<td>1.7 yrs</td>
<td>30.5%</td>
<td>1.9 yrs</td>
</tr>
<tr>
<td>Construction</td>
<td>7.2%</td>
<td>1.7 yrs</td>
<td>32.3%</td>
<td>2.0 yrs</td>
</tr>
<tr>
<td>All Fields</td>
<td>7.9%</td>
<td>1.9 yrs</td>
<td>31.7%</td>
<td>2.1 yrs</td>
</tr>
</tbody>
</table>

* Share of all patents granted between 1980 and 1995 (N=327,328)
** Share of all opposition cases (N=25,499)
Duration data are median values. The duration of opposition is net of the 9-month opposition period.
A look at the European experience

Outcomes of opposition

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Instruments</td>
<td>37.3%</td>
<td>31.0%</td>
<td>26.0%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Chemicals</td>
<td>32.7%</td>
<td>33.3%</td>
<td>26.7%</td>
<td>7.4%</td>
</tr>
<tr>
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<td>35.4%</td>
<td>34.6%</td>
<td>24.3%</td>
<td>5.8%</td>
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<tr>
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<tr>
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<td>31.7%</td>
<td>31.6%</td>
<td>6.4%</td>
</tr>
<tr>
<td>All Fields</td>
<td>33.2%</td>
<td>32.6%</td>
<td>27.4%</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

Based on all opposition cases for patents granted from 1980 to 1995 \(N=25,499\)
All outcomes after appeal if an appeal had been filed. Cases still pending in 2001 (4.6%) excluded.

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Empirical evidence on selection of cases

- new technical fields with uncertainty and asymmetric information
- high impact/close to market
- valuable patents

Third parties contribute information.

Valuable patents are given more attention (2nd round review) than is possible in a standard process.
A look at the European experience
Subsequent German invalidity and infringement suits

- 1986-1995: ≈269,760 patent grants with DE designation
- 1986-1995: ≈20,150 opposition cases ⇒ opposition rate 7.5%
- Invalidity suits under §81 PatG (German Patent Code) may result from infringement litigation or be filed independently.
- 1993-2002: 796 invalidity suits against 683 EP patents ⇒ filing rate 0.30%
- estimated filing rate for infringement suits against EP patents: 0.90%
A look at the European experience
Relationship between opposition and litigation

- 29.9% of all EP invalidity cases at the Federal Patent Court were preceded by an opposition. 25.7% of infringement cases at the Landgerichte were preceded by an opposition (Cremers 2003).
- In 10.5% (83 filings over 10 yrs) of all EP invalidity suits, the plaintiff had been the opponent in a preceding opposition case.
- Outcomes of EP invalidity cases: 46% rejected or withdrawn, 18% invalid, 17% partially invalid, 8% settlements, 11% other outcomes.