Adoption is not Development: First Mover Advantages in the Diffusion of New Technology
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Discussion
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Set Up

- R&D is costly and *takes time*
- Intermediate steps are not observed (secrecy)
- Firms are initially symmetric

Results

- Leader and Follower (Lead Time)
- Leader more profitable than Follower
- First mover advantage increasing in Complexity (K)
## Capturing Returns to Innovation

<table>
<thead>
<tr>
<th></th>
<th>Legal Protection</th>
<th>Strategic Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical</td>
<td>36%</td>
<td>87%</td>
</tr>
<tr>
<td>IT</td>
<td>18%</td>
<td>82%</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>28%</td>
<td>82%</td>
</tr>
<tr>
<td>Food</td>
<td>26%</td>
<td>66%</td>
</tr>
<tr>
<td>Textile</td>
<td>8%</td>
<td>75%</td>
</tr>
<tr>
<td>Wood</td>
<td>19%</td>
<td>65%</td>
</tr>
<tr>
<td>Other</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>24%</strong></td>
<td><strong>75%</strong></td>
</tr>
</tbody>
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Legal Protection (patents, copyrights and brand names), Strategic Protection (Secrecy, Complexity and/or lead time)

Own elaboration based on Veugelers and Cassiman (1998)
Towards a model of R&D…

- Secrecy versus observability of R&D progress?
- Lead time? \( S = T_F - T_L \) increasing in complexity
- Leader and Follower have different costs: spillovers from Leader to Follower? Imitation? \( K_S > K_W \)
- Uncertainty?
  - Other SPE with some preemption. Lower profits leader.
  - Can K be known with certainty?
- Patents? Increasing complexity (K) follower? Preemption incentive stronger?
- Incumbent versus Entrant: who is more likely to be leader or follower?
- Adoption versus development: does the comparison make sense?
- Non-monotonicity profits of Leader and Follower in K?