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# Is their Value Created from Licensing and Selling Patents?

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December 3, 2009

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## Plan of the talk

- What can we learn about the market of patents from the transfer of patents?
  - What are the gains from trade in the market for patents?
  - What are the motives of buyers and sellers?
  - Implications for management and policy
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## Patent data

- Panel of patents details trade history, renewal decisions, and citation history
  - 1.5M patents; 0.5M Small innovators patents
  - Starting with applications in Dec 1980 and issued to U.S. and foreign firms after Jan 1, 1984
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## What can we learn about the transfer data?

- Patent transfers: 14% are sold at least once over their life cycle
  - Patent age: 50% of all traded patents are sold by the end of their 4<sup>th</sup> year
  - Small firms vs. Large firms: more likely to sell - 17% vs. 10% (quality weighed 24% vs. 11%)
  - Field matters: Computers vs. Chemistry. Largest difference in computer and communication (24% vs 8%) and the lowest in chemical (17% vs 12%)
  - Patent quality: Higher quality patents more likely to be traded. Traded patents are more likely to be renewed
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## Impact of small innovators

- Subsample of small innovators using information on trades and renewals of patents (1983-2001)
  - Dollar value based on renewal costs
  - Develop a theoretical model of the market for patents
  - Market for patents represents 14.2% of the average value of a traded patent
  - This number likely differs across technology fields and firm size (work in progress)
  - Costs of technology transfer are about 10% of value of a traded patent
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## Who are the buyers and sellers of patents? Data

- Using the data from the first part we add information on the ownership status of patents
  - Ownership status of patents as of the issue and renewal dates
  - Small entity ( $\leq 500$  employees)
  - Large entity ( $> 500$  employees)
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# What can we learn from looking at firm size?

- Sales
    - Small firms are more likely to sell
    - Small to large - more likely to be renewed
  - Buying
    - Small firms buy disproportionately more patents than large firms (as compared to their patenting)
  - Quality matters: Large firms more likely to buy a patent of higher quality
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## Patent litigation and patent transfers

- Combine data on transfer of patents with data on patent litigation
- Litigation data from 1975-1999 [Lanjouw and Schankerman (2001)]
- Same transfer data as before



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## Are patents acquired and then used in litigation?

- Patents involved in litigation are about 1% of all granted patents
  - Most traded patents are never involved in litigation
  - About 50% of patents involved in litigation were traded over their life cycle
  - For about half of these patents, the transfer took place prior to the litigation date
  - The rest of patents are likely to be transferred as a result of settlements
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## Summary

- High quality patents are more likely to be traded
  - Most trades occur early on the life cycle of a patent
  - Small firms disproportionately sell and buy more patents than large firms
  - Market generates gains from trading patents, but may also facilitate litigation
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