Is their Value Created from Licensing and Selling Patents?

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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
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
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 4th 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
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
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)
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
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
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
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