

Assessing the Market for Technology in Europe

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Background

- Significant increase in the # of patents worldwide
- MFT have also become more important
- Yet constraints on their size and growth persist

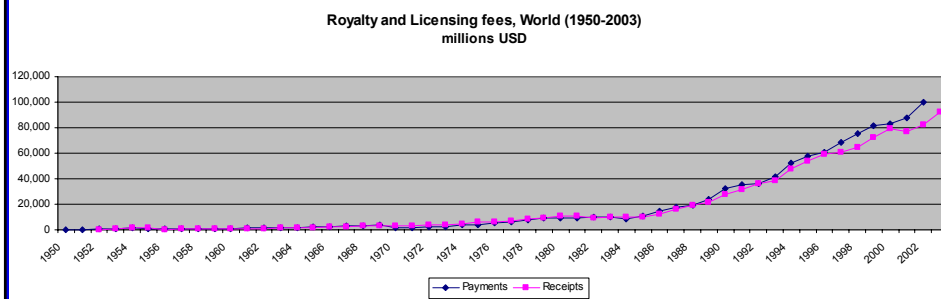
Background

- Why should we care about MFT?
 - They enhance the rate and efficiency of technology (patent) use
 - *The producers of the technology (patent) may not use it or they may not be the best users*
 - They stimulate innovation
 - *Technology producers with no downstream assets can sell their intermediate outputs*

This presentation

- Shows that MFT are expanding ... but limitations persist (especially in Europe)
- Assesses their extent and characteristics (including “value” of patent licensing)
- Emphasizes need for data collection in this area (to support policy & for research)

MFT are expanding



Source: Athreye and Cantwell, 2005

MFT in the 1990s

- Evidence is scattered, *but they were probably less developed in Europe than US and Japan*
- BTG surveyed 133 companies from the three regions in mid-1990s
- % of R&D spent in licenses:
 - US firms 12% (\approx \$ 25b in mid-90s)
 - JP firms 10% (\approx \$ 6.6b in mid-90s)
 - European firms 5% (\approx \$ 8.3b in mid-90s)

MFT in the 2000s

- Other sources suggest that MFT have expanded further in the 2000s
- OECD survey of 105 firms (mostly large) from EU, US, JP in 2003 (Sheehan, Martinez, Guellec, 2004)

OECD Survey

- 60% of the firms reported increased inward & outward licensing compared to previous decade
 - especially true of US vs European firms (MFT still less developed in Europe)
- Sectors
 - ICT is sector w/ largest share (60%) of firms reporting increased out-licensing (the ICT-MFT model)
 - Pharma is sector w/ largest share (80%) of firms reporting increased in-licensing (biotech)

OECD Survey

- *Revenue from licensing* = 3rd most important reason for patenting
 - after *prod mkt competition* and *bargaining power*
- Once again:
 - Ranked more highly in the US vs Europe
 - Ranked as very important in ICT and pharma
- Most companies also predict ↑ importance of licensing (in & out) in the next 5 yrs (especially ICT-Pharma and US firms)

OECD Survey (summary)

- MFT still underdeveloped in Europe
- Role of ICT and biopharma suggests that sectoral composition may matter (biotech, the ICT model)

EPO Survey

- *Confirms that MFT are less developed in Europe than the US*
- Data from 733 EPO applicants interviewed in 2004 (mainly large firms)
- *Royalties Spent/RD*
 - US firms 5.6%
 - JP firms 22.0%
 - Eu firms 0.8%
- *Received/RD*
 - US firms 6.0%
 - JP firms 5.7%
 - Eu firms 3.1%

Obstacles to Technology Licensing

- OECD survey reports that 70% of the interviewed firms found fewer obstacles to tech licensing today than 10 yrs ago (and 18% was not sure)
- But obstacles persist

Obstacles to Technology Licensing

- Razgaitis (2004) surveys 229 US and Canadian companies
- Of 100 licenseable technologies
 - 25 find a potential licensee
 - 6-7 partners enter into negotiations
 - 3-4 end up in a license

Obstacles to Technology Licensing

- Transaction costs in technology licensing:
 - Search costs for finding partners
 - Fear of opportunism in negotiations
 - ...
- Policy should focus on reducing such costs

Value of licensed patents

- *How much is a patent license worth?*
- This is an important question that we can no longer postpone
- Yes, it is a hard question, w/ lots of ambiguities
- But the formation of markets is a long process, and the creation of this market is not harder than the formation of the insurance mkt in 1700 or many others since then

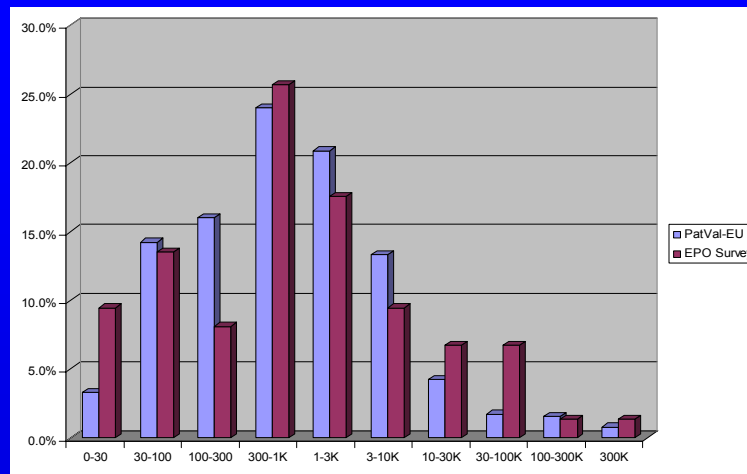
Moreover, the question is important in general. How much a patent is worth on the market, and the formation of markets for technologies, help assess the value of non-traded patents as well.

This is helpful for instance for assessing the value of companies (intangibles)

Value of licensed patents

- Compare two sources
 - EPO
 - PatVal-EU (a survey of about 9k patents in France, Germany, Italy, Netherlands, Spain, UK during 93-97)
- EPO = firm avg of royalties received over # of licenses
- PatVal = minimum price at which the applicants would sell the patent if asked

EPO and PatVal show similar distributions



Value of licensed patents

- Moreover, we find that licensed patents are worth more than non-licensed patents
- This suggests that the MFT is not a “market for lemons”
- PatVal-EU
 - Median of licensed patents = 761K euros
 - Median of all patents = 476K euros
- EPO survey produces similar orders of magnitude for licensed patents: Median = >500K euros

Summary & Conclusions

- MFT have expanded in the 2000s and seem to be expanding further
- Europe still lags behind
- MFT might be driven by leading sectors (ICT, biopharma)
- Thus, expanding those sectors will naturally expand the MFT

Summary & Conclusions

- But there are obstacles to the MFT (transaction costs) to be removed ... a focus for policy
- Why?
- B/c this is a new market at the outset, which can offer the typical benefits of markets (efficiency & more intensive use of technologies, assessment of value)
- We then need to experiment w/ them to form prices

Summary & Conclusions

- Moreover, like w/ any new market we have not collected data suited to understanding them
- Something is being done
- But more is needed ... particularly to identify more precisely which data have to be collected and for what purpose
- Academic research also helps support policy decisions and understand which data are to be collected