

Cost and benefits of patents: increasing patent use through licensing

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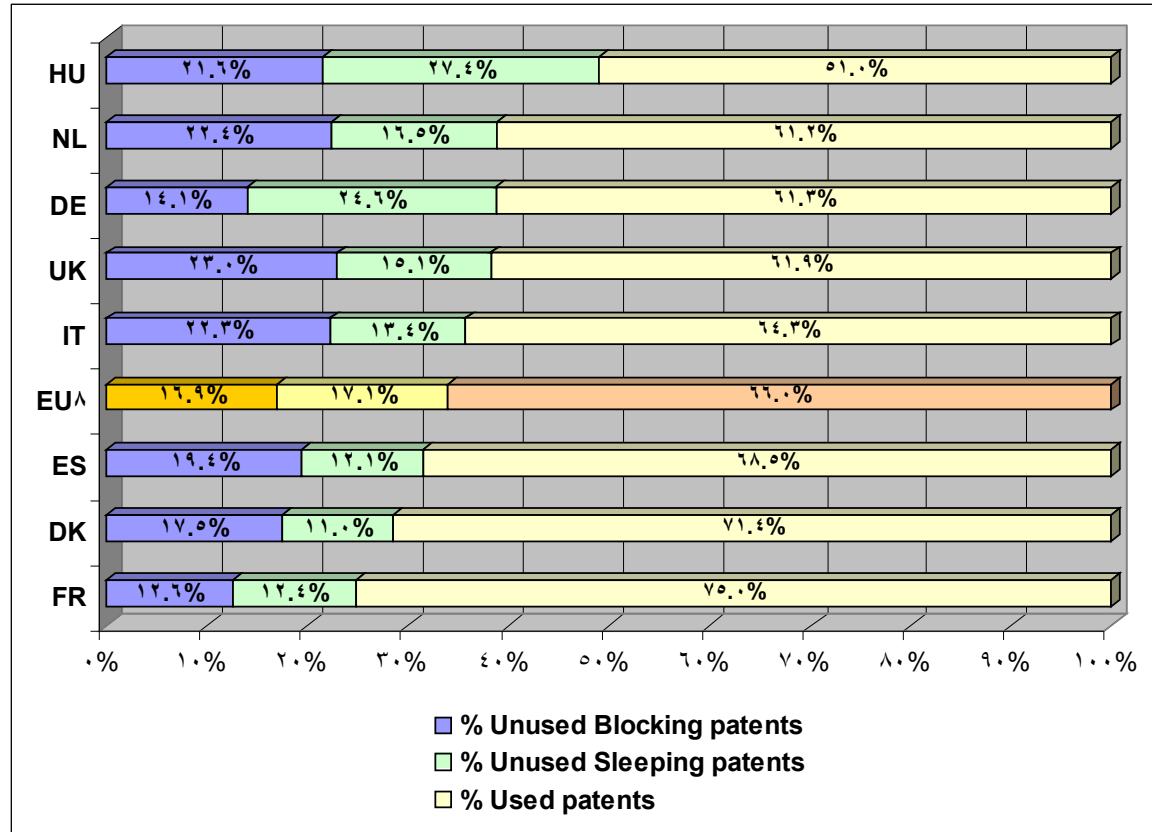
Outline

- Evidence on unused patents and licensing from the PatVal-EU survey
(Giuri-Mariani et al. 2006 CEPR WP #5752, Gambardella-Giuri-Luzzi LEM WP 2006/04, EC reports of projects HPV2-2001-00013 and ETD/2004/IM/E3/77)
- The market for patents in Europe: determinants of potential and actual licensing
- Policies for increasing patent use and for the patent system

The PatVal-EU Survey

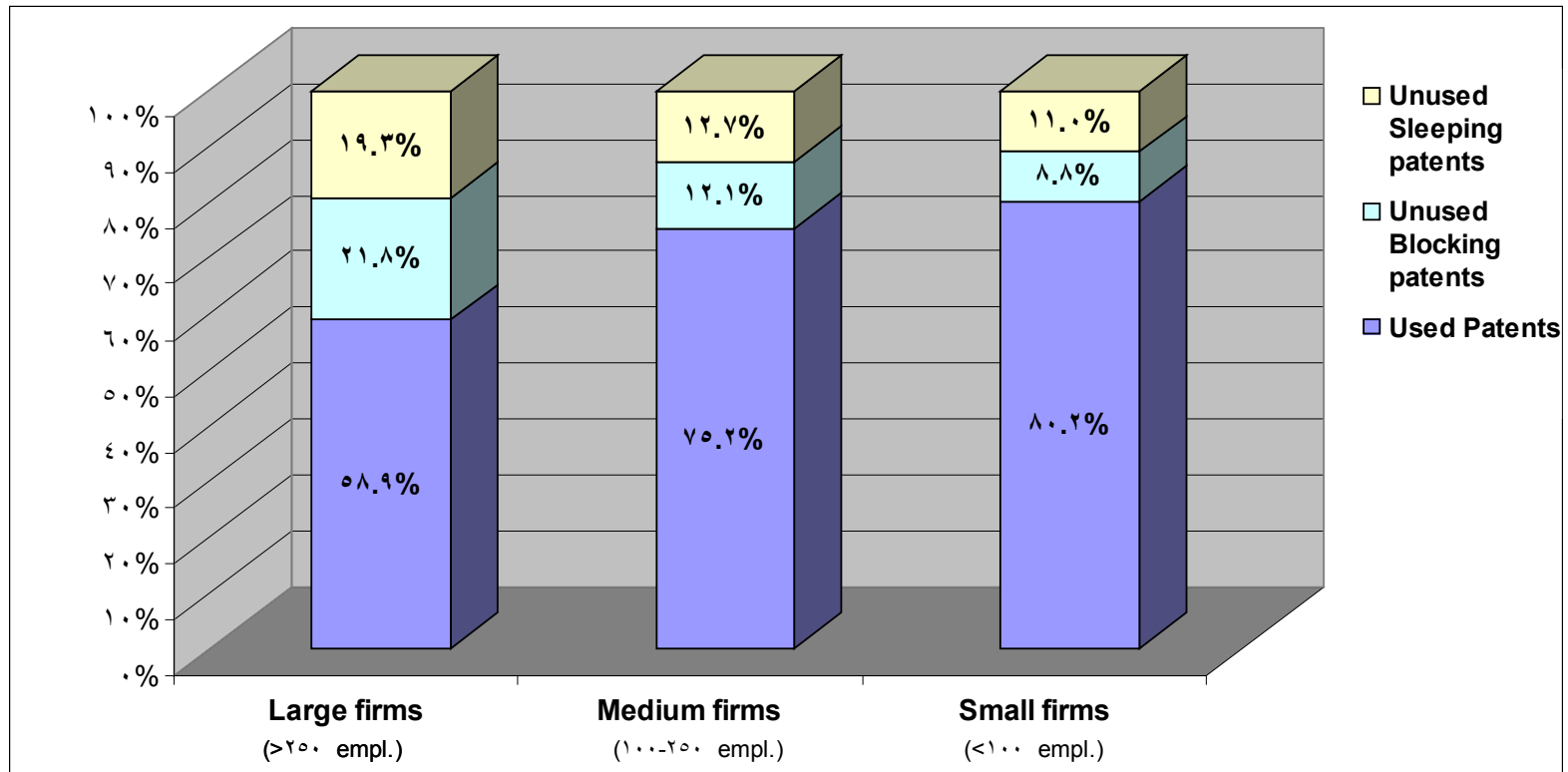
- EPO patents with priority date 1993-1997
- Denmark, France, Germany, Hungary, Italy, Netherlands, Spain, UK
- Questionnaire sent to first inventor (if not available: any other inventor)
- Questions about: patent value and use, inventor, invention process, invention characteristics, motivation to patent
- 28,000 questionnaires mailed, about 9,550 responses
- Details and results in Giuri, Mariani et al (2006), CEPR WP #5752

Patent explosion, but quite a few patents are not used



Share of unused patents by country
Patent appl. yrs 1993-1997, PatVal-EU survey

Lots of large firms patents are not used SMEs have higher utilization rates



Share of unused patents by firm size, PatVal-EU survey

Policy question

- How to increase the rate of use of patents?
 - Well functioning markets for technology
 - More effective than other means (e.g. differentiating patenting costs by firm size)

Patents & Technology Markets

- Classical view: Patents \Rightarrow Incentives to Innovate (and limits to competition)
- But patents may favor technology sales disembodied from products (Arora et al., 2001; Gans & Stern, 2003)
- Advantages:
 - Better match of technology users & producers
 - Technology available to many downstream producers (greater competition)
 - Increase rate of utilization of patents / diffusion of technologies
- Obstacles: Transaction costs (Ratzgaitis, 2004)

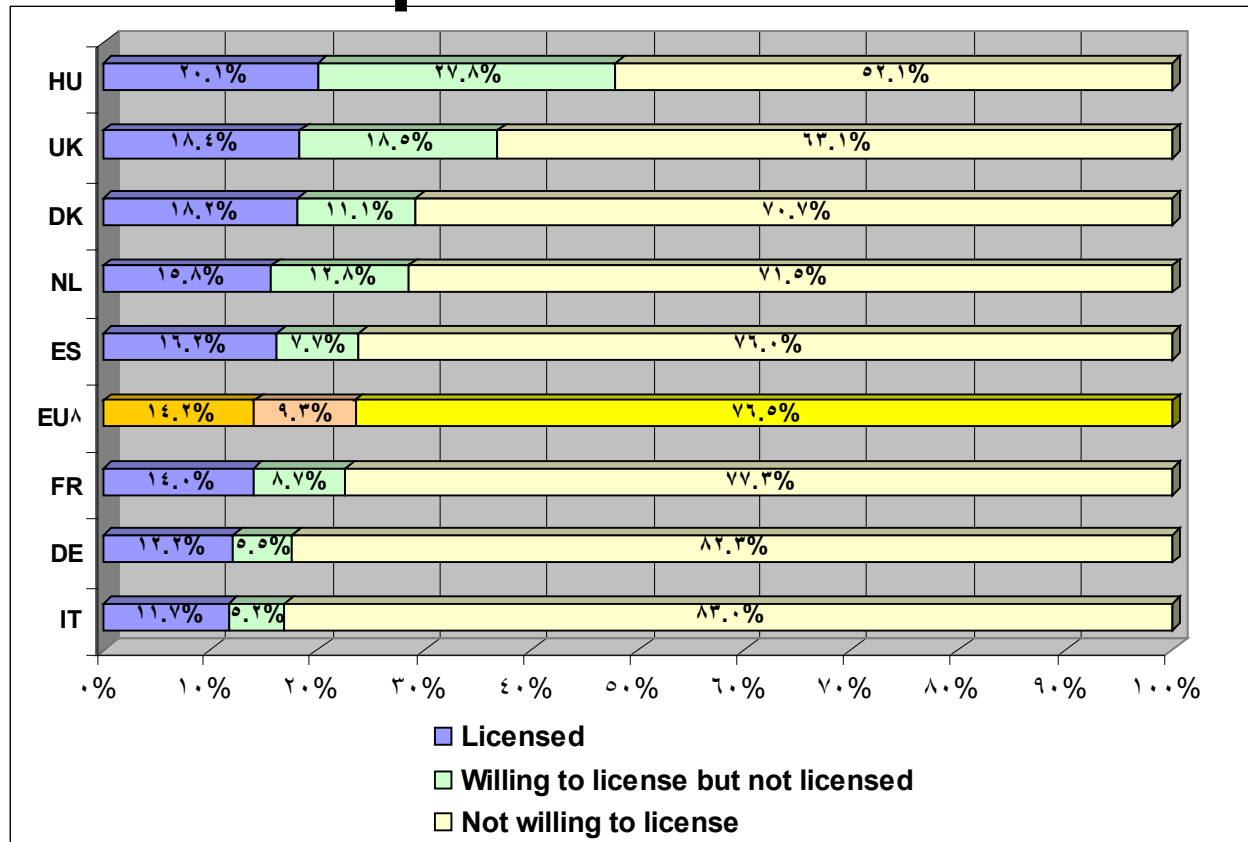


Market for patents in Europe

Results from a study by Gambardella, Giuri and Luzzi (2006) using the PatVal-EU dataset, and EC report (2006) on:

- Size of the market for patents in Europe
- Determinants of potential and actual licensing

“Licensed” and “willing to license but not licensed” patents

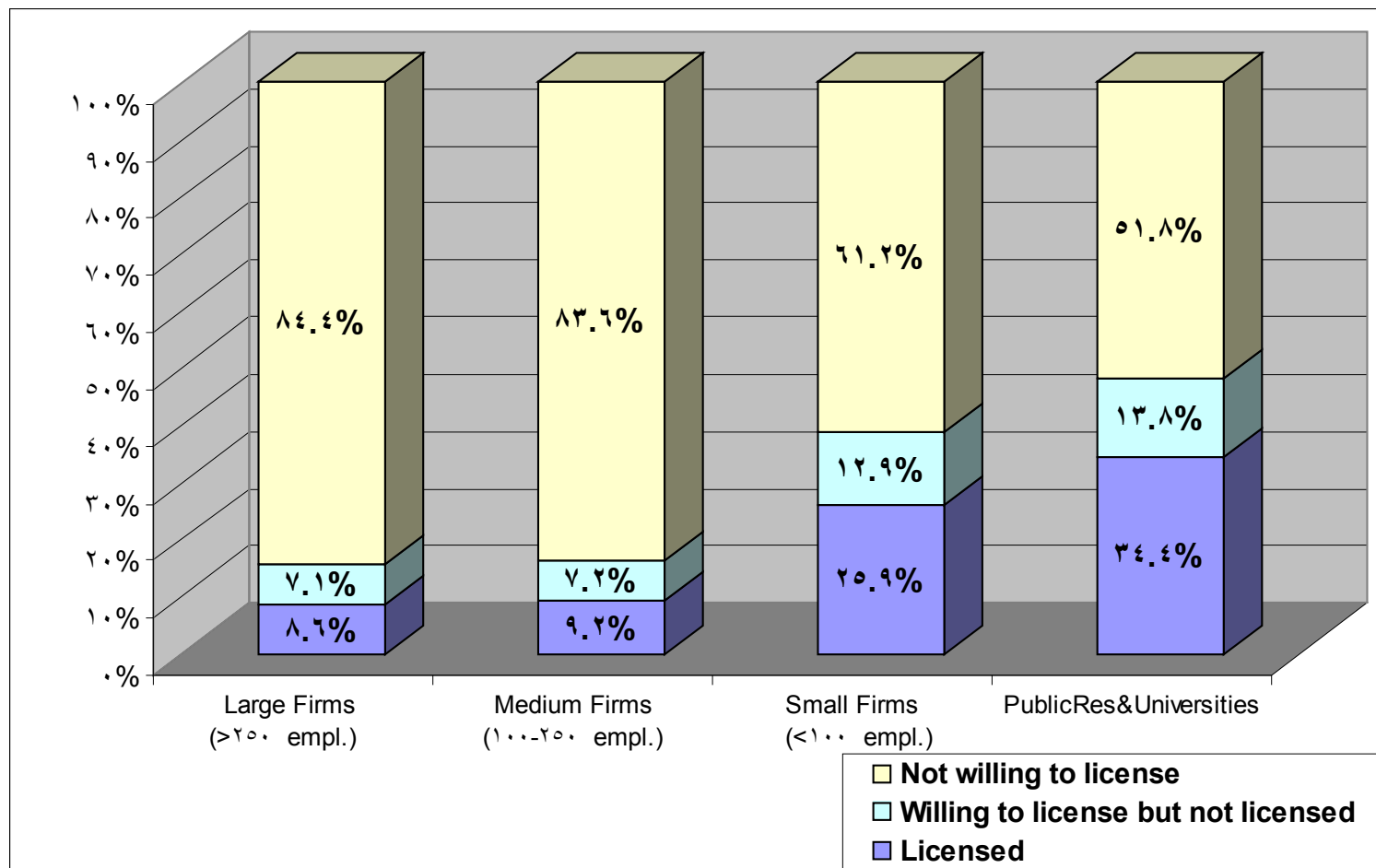


PatVal-EU Survey, Patent appl. years 1993-1997

*European Market for Patents may be underdeveloped
Lots of actual and potential licensing in UK-Denmark...*

... and Hungary: Policy for New Member States? active suppliers in technology markets in areas in which they are specialized?

More licensing by Small firms



Share of licensed patents by type of organisation, PatVal-EU survey

Determinants of actual and potential licensing

Results of estimations in Gambardella-Giuri- Luzzi 2006:

■ **Willing to license:**

- Patents are broader (# 4-digit IPC classes)
- **Protection is stronger** (# claims) (also value?)
- Patents are more scientific (*labs as source of knowl.*)
- **Small firms**, less complementary assets
- Not a core technology in large firms
- Competition (*many technology holders in IPC class*)
- **Patents are more valuable** (*opposition, obs., states*)

■ **Actual Licensing (given “willing to license”):**

- **Small firms**: firm size implies lower actual licensing given willingness

No effect of patent value on actual licensing, which suggests that transaction costs limit technology trade

Licensing of Large Firm Technologies

- While large firm license a lower % in absolute terms they have many patents that can be licensed (see also Rivette & Kline, 2000)
- But
 - they seem to resist licensing even when their technologies are of no interest internally: not much effort in technology licensing?
 - others hesitate buying from large firms?
- How to enhance licensing by large firms in the interest of both buyers and sellers?



Policies for increasing patent use (I)

- Reduce transaction costs in markets for technologies/patents
 - More information on technologies, their costs, prices
 - Start collecting “official” data systematically, like for “physical” goods ... this helps forming markets by allowing agents to make more informed actions and choices
 - Standard technology contracts. Guidelines on how they should be written
 - Formation of institutions for supporting these markets

Policies for increasing patent use (II)

- Since large firms are important reservoirs of unused technologies, how to enhance licensing by large firms? New company “culture”? Licensing consortia (yet2.com)?
- Policies supporting technology-based SMEs, and the division of innovative labour
- All this also leads to a better use of patents as a means for technology diffusion

Costs and benefits of strong patents

■ Benefits:

- encourage licensing/division of innovative labour and incentives to innovate (beneficial to SMEs) (Arora-Merges, 2004, Gambardella, 2005 ICC)

■ Costs:

- encourage strategic patenting by large firms (unused blocking patents)
- Induce litigations (more costly and risky for small firms)

■ Policies?

- *Improve patent quality (stricter criteria for granting patents)? Small firms produce more valuable inventions (Gambardella et al. 2006). This should affect large firms more than SMEs*
- *Exemptions from patent infringements for use of patents in open science (David...)?*
- *Selective compulsory licensing of unused inventions to limit anti-competitive behaviour ? (Nielsen-Samardzija 2007)*