

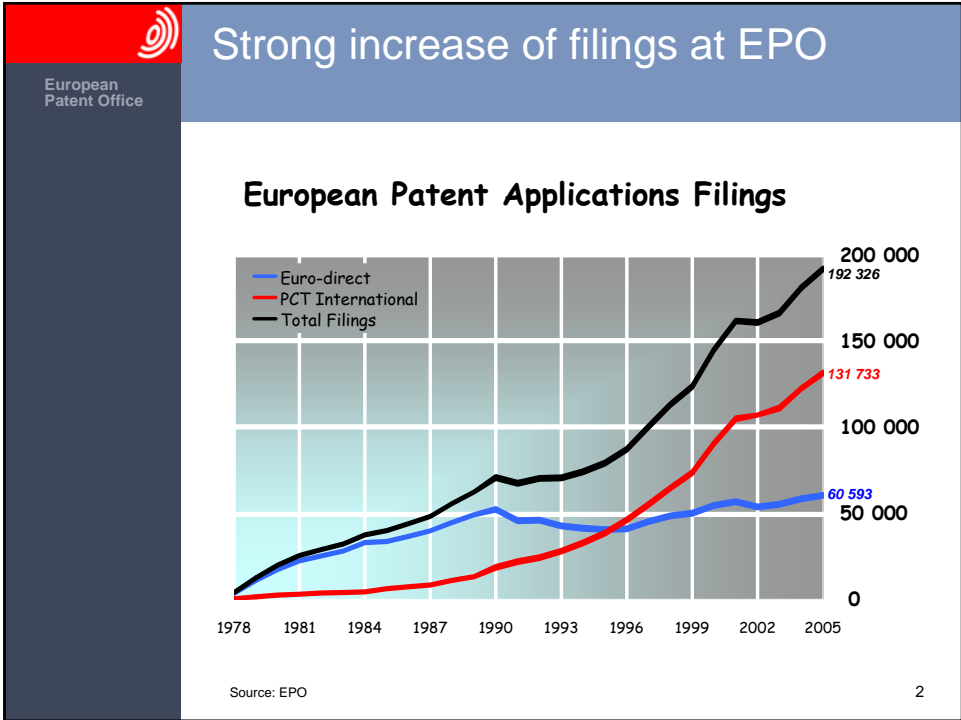


European Patent Office

Patent value in Universities

World Conference on Intellectual Capital for Communities, June 29-30, 2006, Paris, World Bank

Bruno van Pottelsberghe
Chief Economist, EPO



Valuing Patents?

■ Various approaches to value

■ Some new insights into what determines value: the case of academic patents



'Value' metrics for patents

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- Financial value (NPV) induced by protection
- For how much would you sell it (PATVAL)
- Net present value induced by licensing

■ Technological/scientific

- Impact on new inventions: Forward Patent Citations
- Patent granted

■ Value witnesses

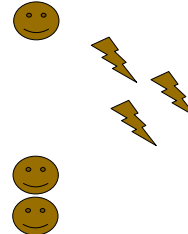
- Renewed for several years (costs)
- Patent families (costs)
- Oppositions to grant
- Has been licensed to other firm
- Has been used for HTSU

Mea	Av
-	-
+/-	-
+/-	-
+	+
+	+
+	+/-
+	+
+	+
+	-
+	-



The cost of patenting

- Filing and examination fees
- Patent attorney for document
- Patent attorney for interaction
- Patent attorney for translations
- Validation fees
- Renewal fees



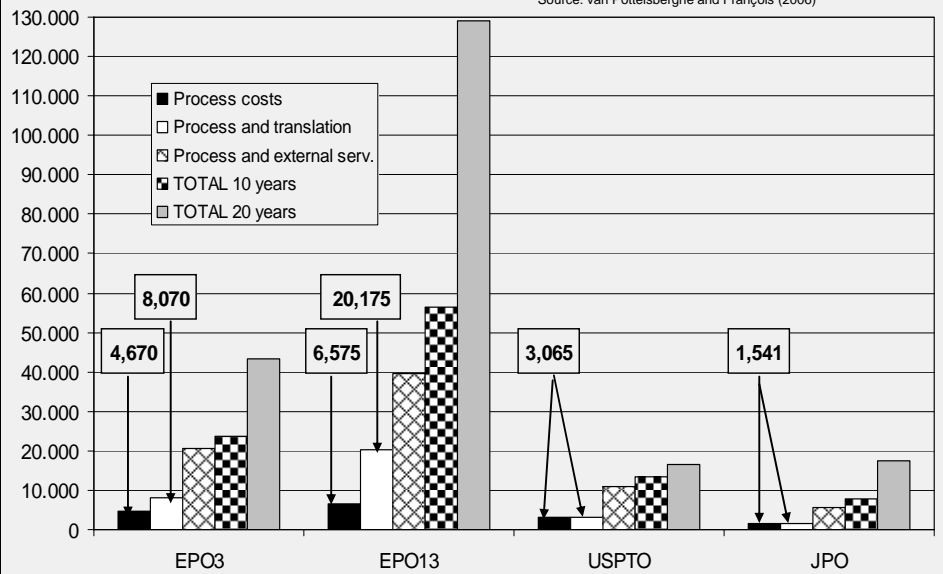
Easy to assess

In house or outsourced + transaction cost



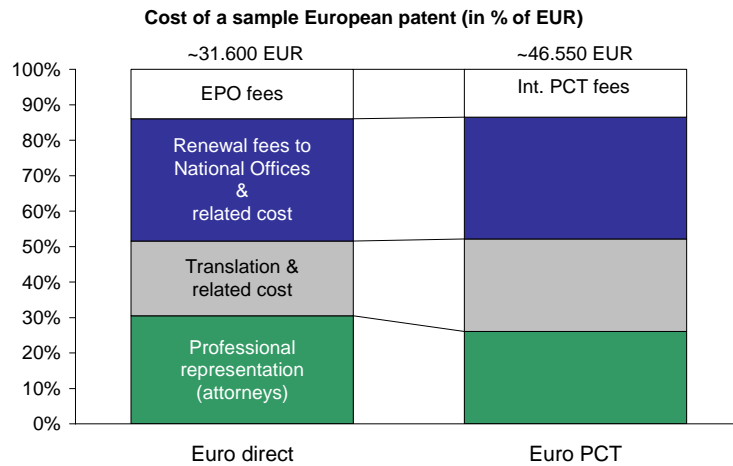
Attorney and translation cost main cost driver

Source: van Pottelsberghe and François (2006)





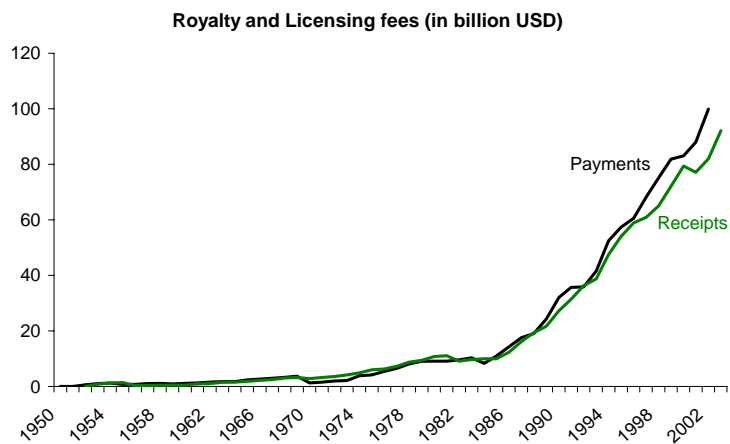
Attorney and translation cost main cost driver



Note: Additional cost for professional representation are included in the categories for renewal fees and translation cost (mainly under related cost). Company-internal administrative costs are not included.
Source: Roland Berger Market Research, EPO



Fast growing market for technology

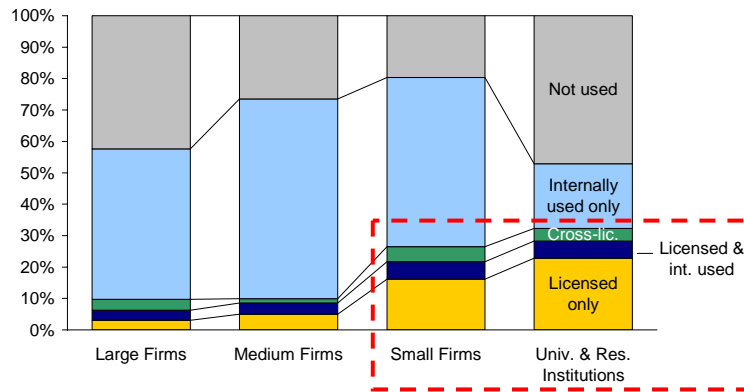


Source: Athreye and Cantwell (2005)



Licensing more important for small firms and academia

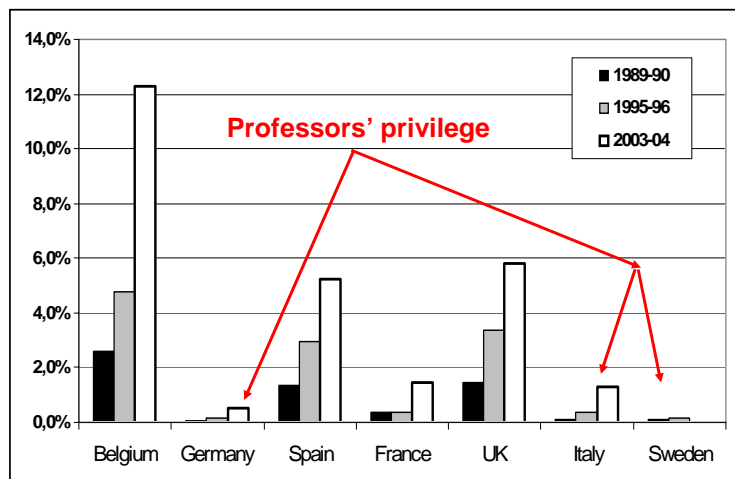
Patent uses by type of applicant



Source: PatVal-EU (6635 EPO Patents 1993-97)



Percentage of university patents in total EPO patents (assignees)



Own calculation, from van Looy et al. (2006).



European Patent Office

Investigation for Belgian bio-tech patents

- 239 corporate patents
- 155 academic patents

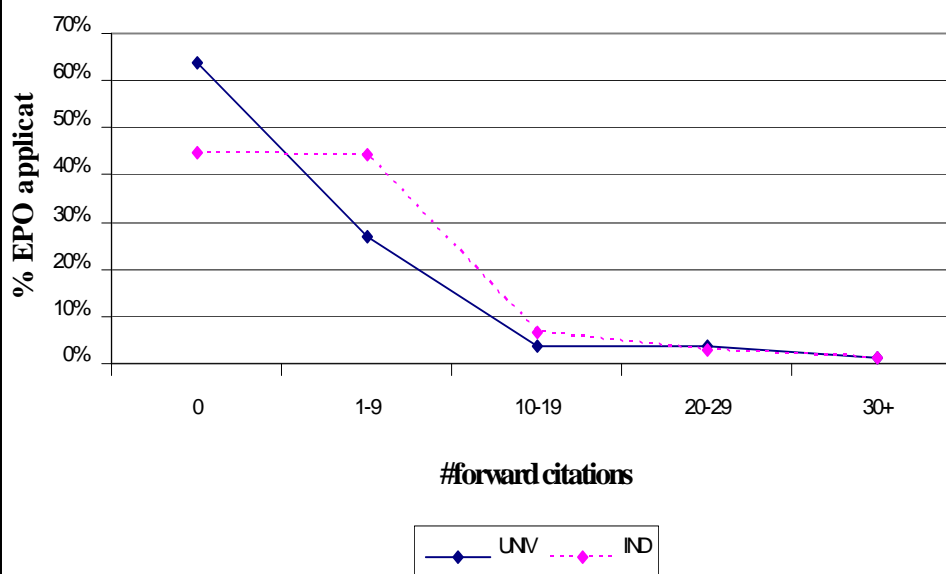
- Value indicator: forward patent citations
- Value determinants:
 - Backward patent citations
 - Non patent citations
 - Family size
 - Complexity
 -new determinants

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European Patent Office

Value distribution is similar in business and academic sectors





Identification of 'institutional' sources of knowledge

- **Non patent citations** (literature : +/-)
 - Self (+) = own tacit and codified knowledge, experience
 - Non self (-) = public domain, more competition, imposed?

- **Backward patent citations** (literature : +)
 - Self (-) = incremental innovation wrt own previous research
 - PRI (+) = important scientific content
 - Industry (?)

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New determinants

- **Scientific Literature**
 - Negative & significant effect of non-self NPC
 - Positive & significant effect of self NPC

- **Technological Literature (Patents)**
 - Positive & significant effect of public BPC

- **Collaboration**
 - Positive & significant effect of collaboration with industry

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Concluding remarks

- Universities are new actors in the patent arena, with a high variations within Europe.
- Few patents are actually used (or generate revenues)
 - Preliminary investigation EPO-OECD
 - Has the average value increased or decreased?
- The cost of a European patent (once granted) reflects the lack of integration of the European market for technology
- The institutional sources of knowledge allow for a better understanding of what determines value.
- Target scientists with a high publication record when implementing industry-university partnership policies

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References

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