

Financial Patenting in Europe

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Two (distinct) goals

- To contribute to the literature on the economic value of innovation and patent rights in the service sector with particular focus on the financial industry
- To answer the question: what are the determinants of the quality/value of financial patents in the EPO?

Outline

- Motivation
- Data and methods
- Results
- Concluding remarks

Motivation

- Two competing/complementary views on the relation between patenting and innovation:
 - increase the incentive to devote resources to inventive activity
 - raise the cost of combining and recombining of inventions to make new products and processes, in particular in cumulative innovations (Scotchmer, 1996, Cohen and Lemley, 2002, Lemley, 2006)
- Particular relevance for financial patents and software and business methods in general (Hall, 2003)

Motivation (cont)

- Policy implications of new subject matter such as software and business methods for the value of patents?
- Are increases in software and business methods patenting a consequence of strategic patenting behavior?
- EPC (art. 52): computer programs “as such” not patentable but ...
 - “software-related” and business methods patents have been granted by the EPO
 - EC has been considering standards for “computer implemented inventions” and business methods

Focus on Financial Patenting

- Are financial patents issued at the EPO?
- What are the characteristics of the firms that obtain financial patents?
- What are the characteristics of the financial patents vis-à-vis other patents such as scope, prior art, value etc?

Defining financial patents

■ Patent class method

- A) EPO equivalents of USPTO patents in certain finance-related class/subclass combinations
- B) EPO patents in a set of IPC/ECLA finance-related classifications
- C) EPO patents in technology classes where “pure play” financial firms patent

■ Keyword method

- Search for (transaction, financial, credit, payment, money, debit card, portfolio, and wallet) in the title and abstract

Defining financial patents (cont.)

- Patent class method => 4,370 patents
- Keyword method => 6,004 patents
- This paper - intersection of these two methods => 1,225 patent applications

Figure 1: Aggregate patenting trends by priority year at the EPO and USPTO (base year 1991)

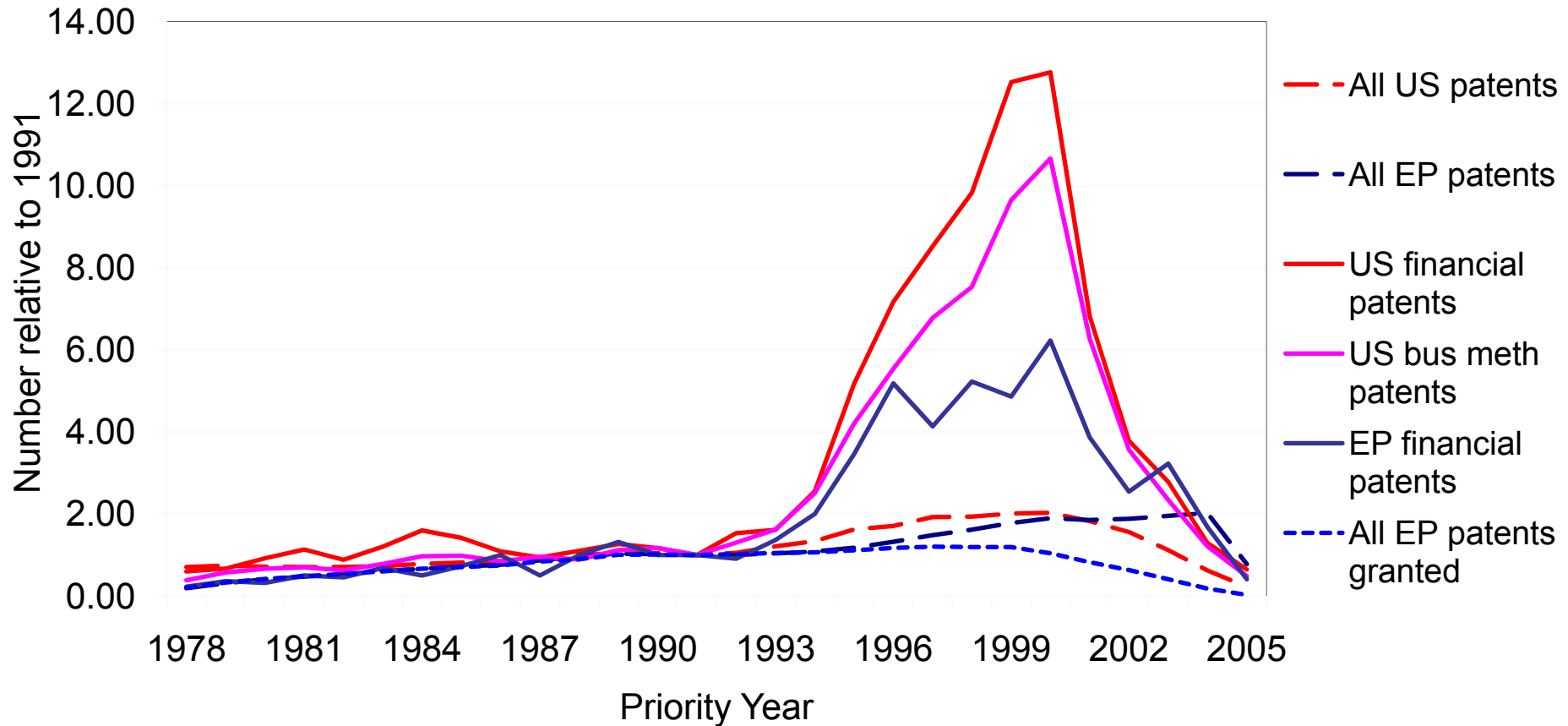


Table 3: Time evolution of financial patents by region of the patentee

Country	Shares with priority year equal to				Total
	before 1990	1990-1994	1995-99	after 2000	
US	39.5%	52.2%	52.9%	45.1%	48.4%
<i>Germany</i>	9.3%	5.9%	5.3%	8.8%	7.1%
<i>France</i>	16.7%	13.2%	6.1%	11.6%	10.2%
<i>UK</i>	9.9%	4.4%	2.9%	4.6%	4.6%
<i>Other EU countries</i>	10.5%	11.8%	14.5%	14.9%	13.8%
EU27 total	46.3%	35.3%	28.9%	39.9%	35.7%
JP	9.9%	10.3%	15.8%	12.1%	13.1%
Rest of world	4.3%	2.2%	2.5%	2.8%	2.8%

*70 documents have more than one applicant but in almost all cases the applicants are from the same country.

Figure 3: Financial patenting by sector

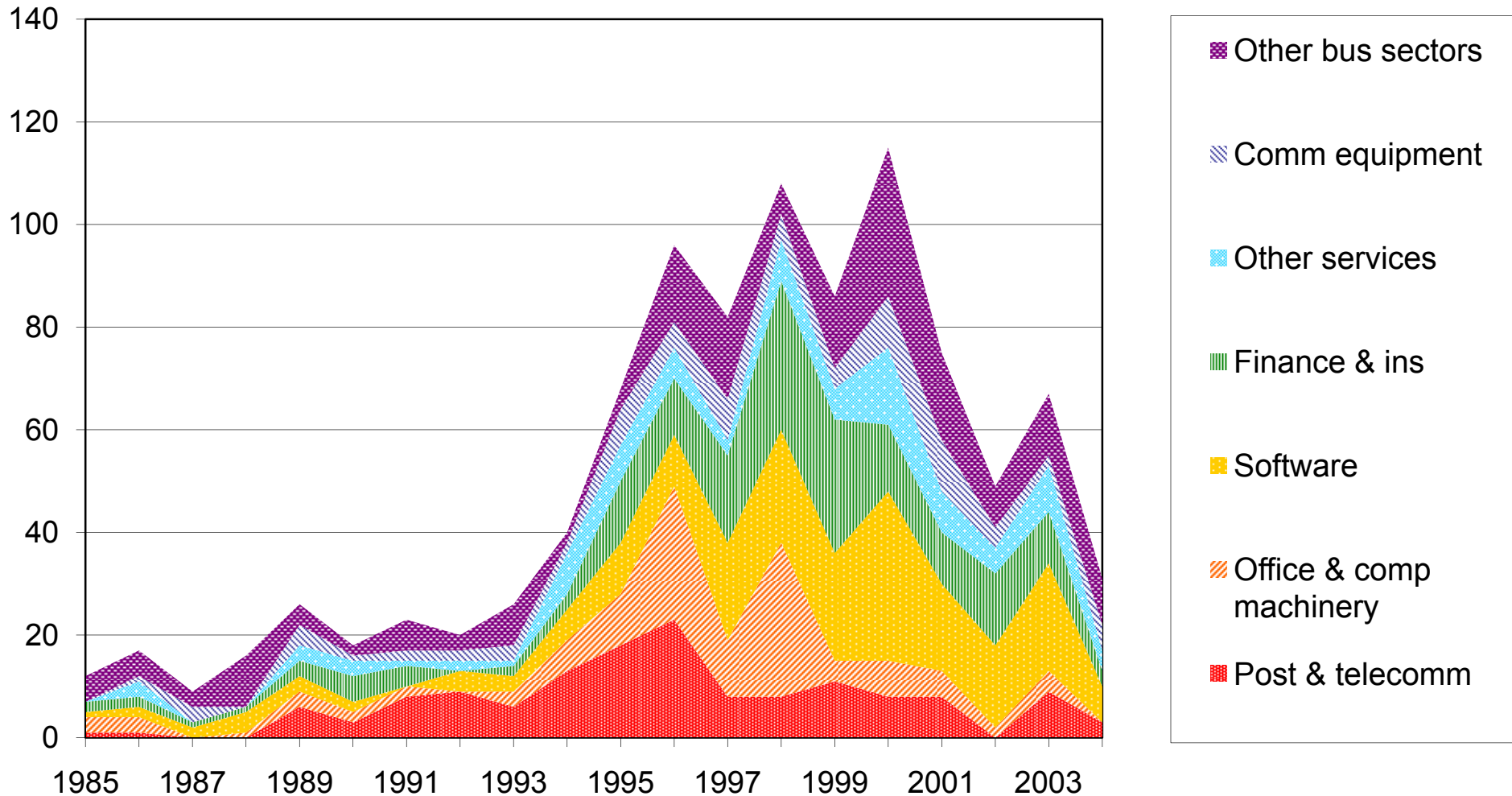


Figure 4 Financial patenting by sector

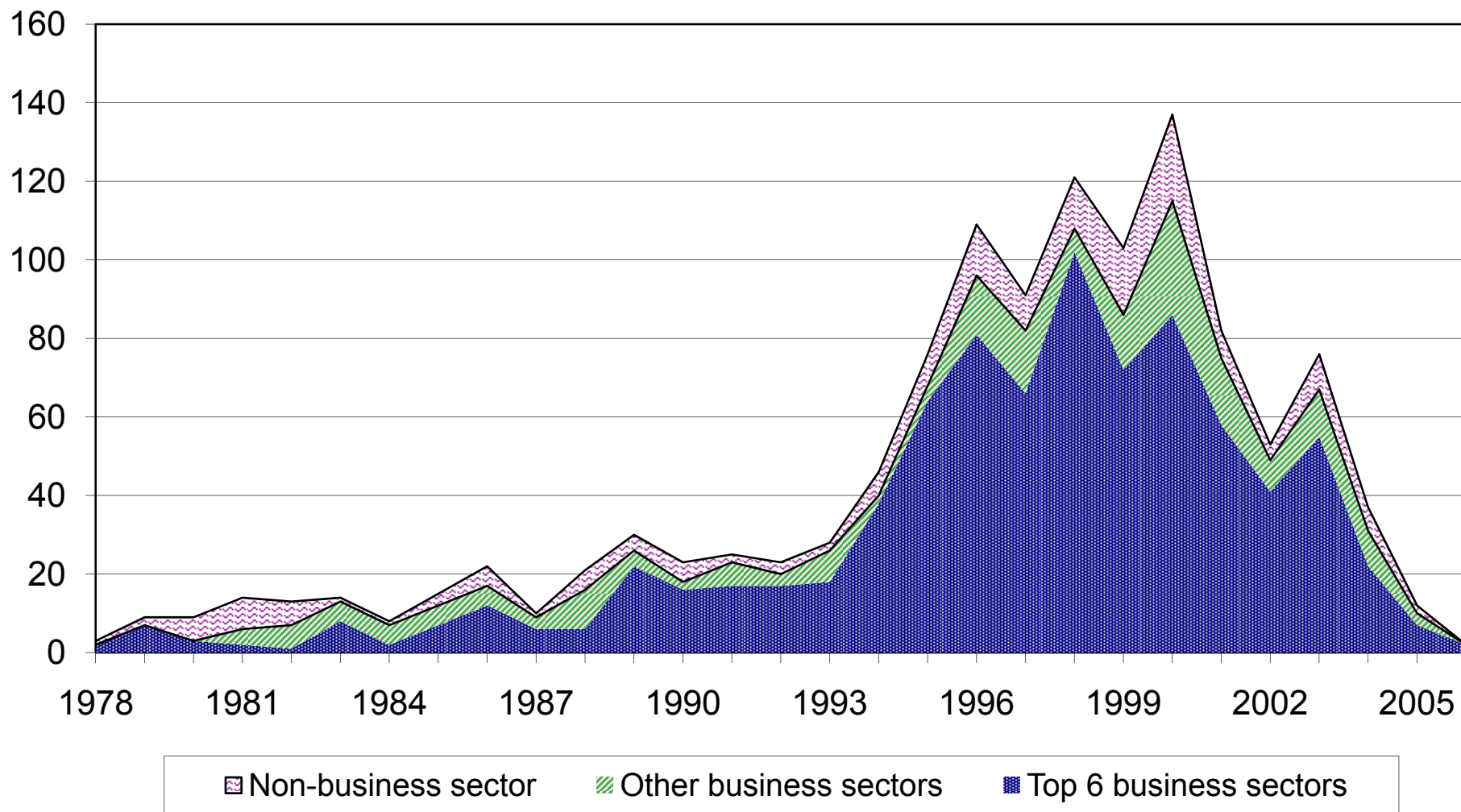
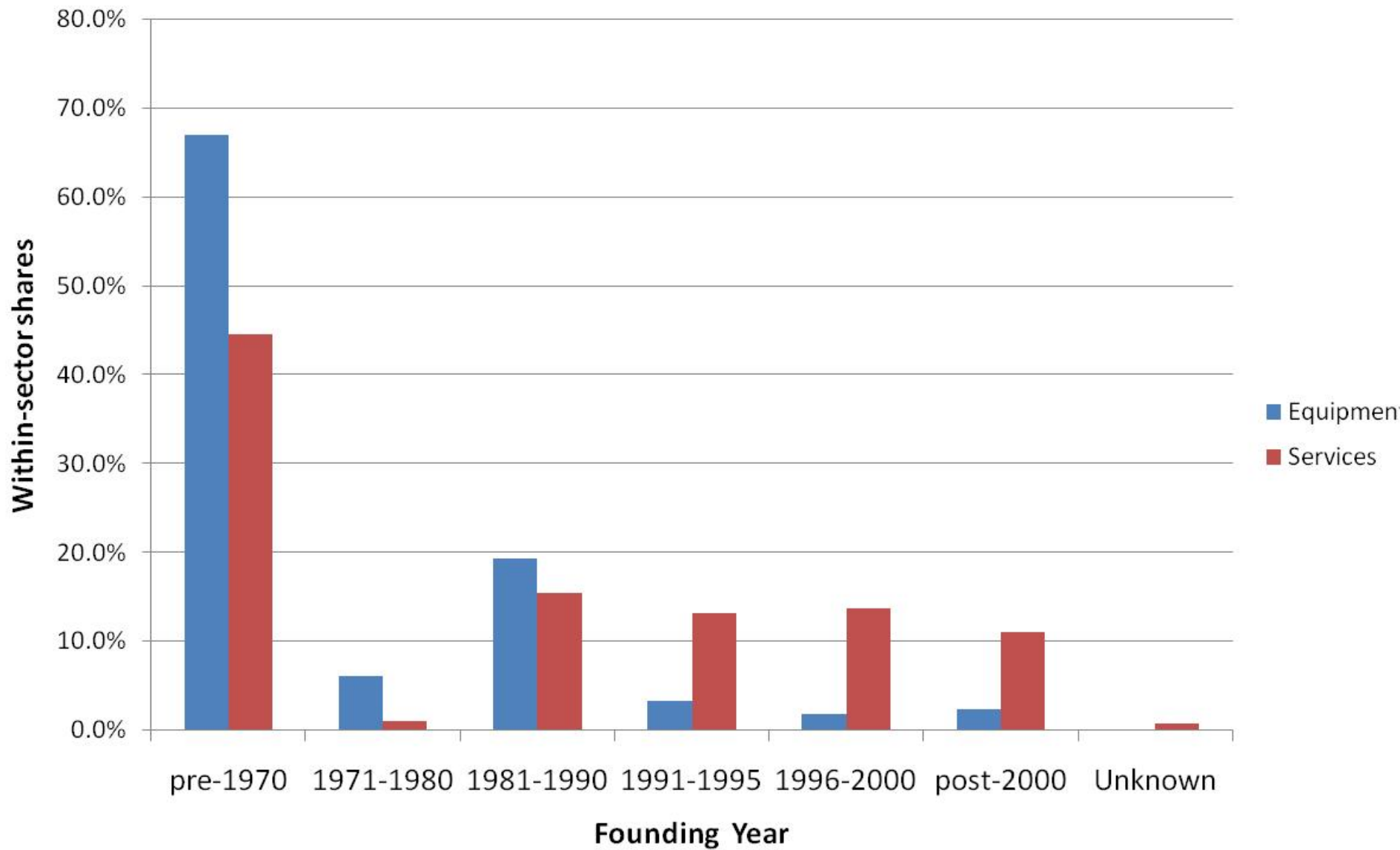


Table 7: Patents by the sector and age of the patentee



Analysis of the patent documents

- Comparison with other business methods and a representative sample of the patent population
- Prior Art: fewer references to the non-patent literature, more backward citations to other patents as well as more X or Y backward citations
- Patent Value: more inventors, broader geo scope, more citations, and more IPCs

Table 11: Outcomes of the EPO Process

	Financial	Business method	All
Number of patent applications 1978-2005	1,204	1,232	1,846,138
Decision reached	68.4%	58.2%	74.4%
Applications failed	39.1%	27.5%	27.7%
withdrawn	34.7%	23.9%	25.3%
refused by EPO	4.6%	3.7%	2.6%
Applications granted	29.6%	31.4%	47.6%
<i>Conditional on a decision being reached</i>			
Applications failed	57.2%	47.4%	37.2%
withdrawn	50.7%	41.1%	34.0%
refused by EPO	6.7%	6.4%	3.5%
Applications granted	43.3%	54.0%	64.0%
<i>Conditional on grant</i>			
Opposition	12.4%	21.4%	7.8%
<i>Opposition by period</i>			
1978-1985	14.3%	64.5%	9.0%
1986-1994	21.5%	16.1%	6.2%
1995-2000	5.6%	6.5%	3.7%

The determinants of grant

- Experience matters significantly (portfolio size)
- Positive for firms from software, telecommunications, and computing equipment sectors
- After controlling for other value related indicators at the patent level

The determinants of opposition

- Better patents are opposed
- Patents with many XY citations are more opposed
- Patentees with a larger portfolio of XY citations are less opposed

Licensing

- About 20% of the patentees in software and financial and other business services license or are willing to licensee
- Small and young firms
- Two segments served: computer and communication equipment vs banking sector
- Different technological contracts according to the segment

Concluding remarks

- The EPO has been granted a significant number of financial and other business methods patents
- Few sectors account for the bulk of financial patents and rising share of patents by specialized technology firms
- Financial patents are different from other business methods and other patents in general

Concluding remarks (cont)

- More oppositions could be generated by the higher uncertainty surrounding these subject matters
- Both patent and patentee level characteristics are predictive of the probability of grant and oppositions
- Licensing is growing too, which increases in turn the incentives for investment in innovation and patenting