The market for patents in Europe 1997-2009

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The market for patents

- Anecdotal evidence of the growing trade of patents
- Little quantitative evidence
  - Major exception: Serrano (2009-12) on US reassignments
- This presentation:
  - On-going works on patent reassignments in Europe
  - Based on the INPI and EPO registers, from 1997 to 2009

⇒Methodological challenges

⇒Recent trends

⇒Trade patterns

Outline

1. Analysis of the INPI and EPO patent registers (1997-2009)

2. Focus on the Telecom sector (1997-2009)

The INPI & EPO Patent Registers 1997-2009

(joint with A. Dechezleprêtre)

The INPI and EPO registers

- Reassignments = full transfer of patent ownership
  - as opposed to licenses

- Cover virtually all patent families in Europe
  - EPO register = EP patents before grant
  - INPI register = post grant EP patents (98%) + national route

$\Rightarrow$ 56,060 reassignments between 1997 and 2009 (55% EPO)

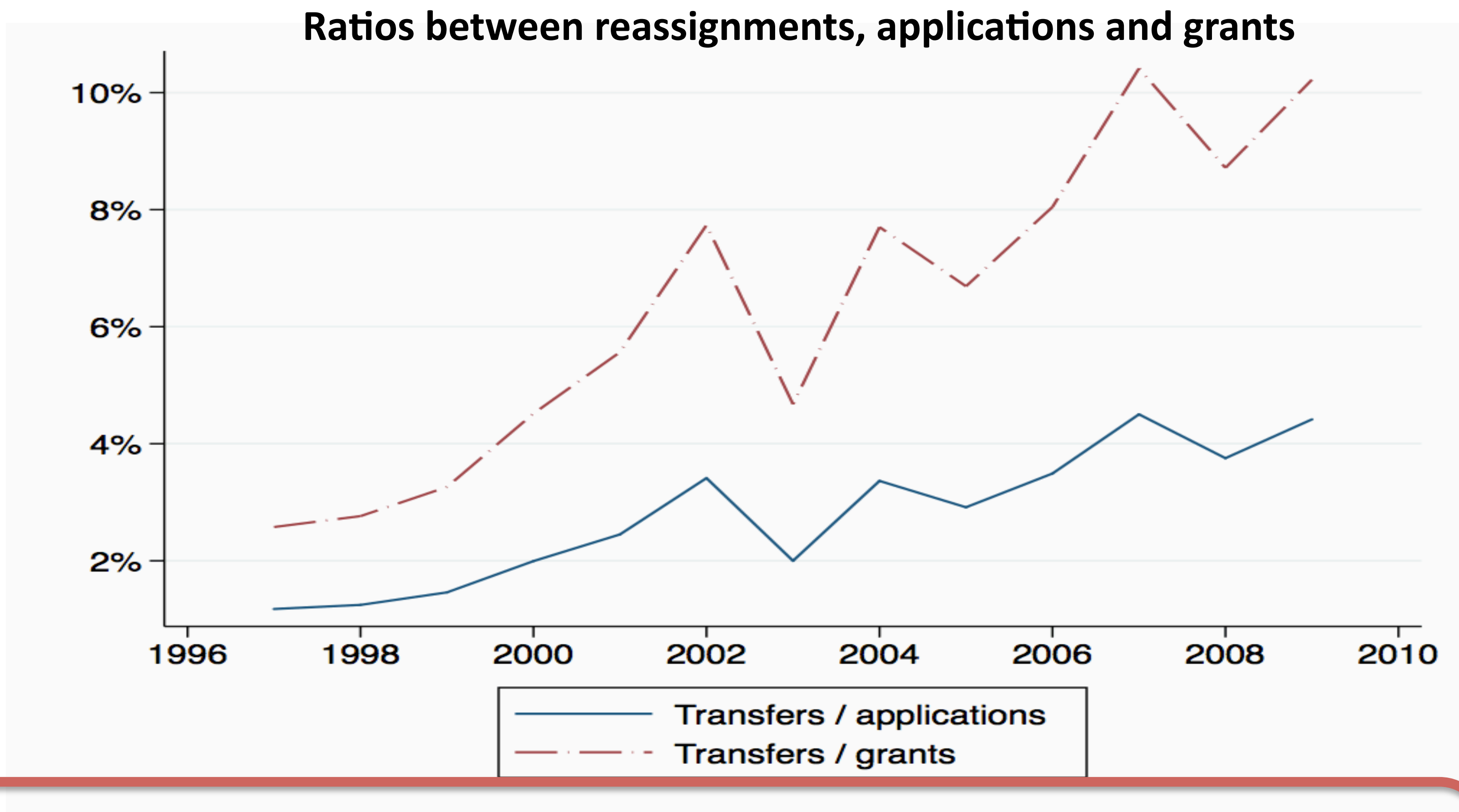
Data limitations

- Why reassignment data should be reliable
  - Reassignment is required to sue an infringer
  - Moderate cost at INPI (€85/patent) and EPO (€85/patent)
- Why they may not
  - Patent attorney fees
  - Not always immediate
  - Not systematic (e.g. US only)
- Data are challenging
  - Applicant names
  - Names are not harmonized
  - Reassignments cover different types of transactions

Datasets

Data	Source	
	INPI Patents	EPO Patents
Ownership transfers: patent number, assignee, transaction date	INPI's ownership transfers database	
Initial applicant	OECD's EP-PAT	INPI's F-PAT
Forward citations, INPADOC family, grant status, classification codes, harmonized names	EPO's PATSTAT (October 2011 version)	

Volumes of transfers are small but increasing

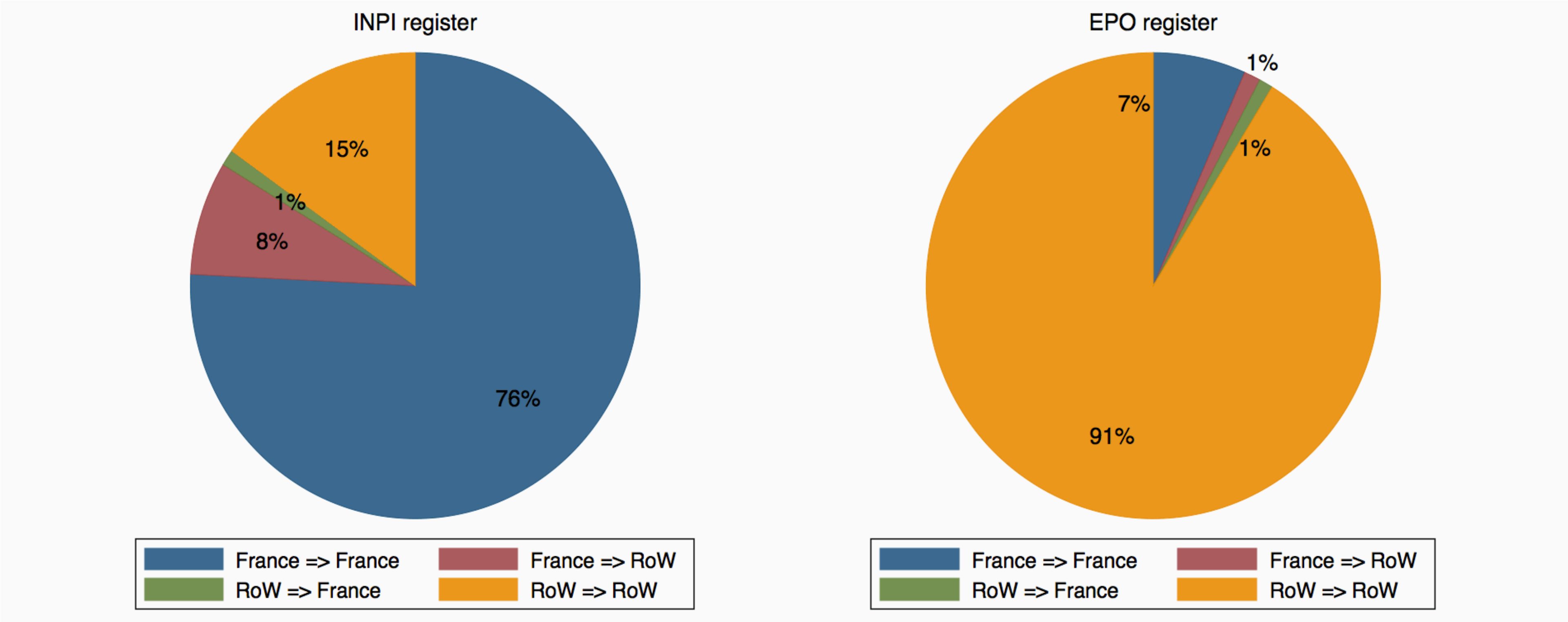


In 2005, transfers represented only 1.3% of valid patents in France
As a comparison, 14% of EP patents are licensed (PATVAL, 2007)

Quality (family size, citations) is significantly higher for reassigned patents

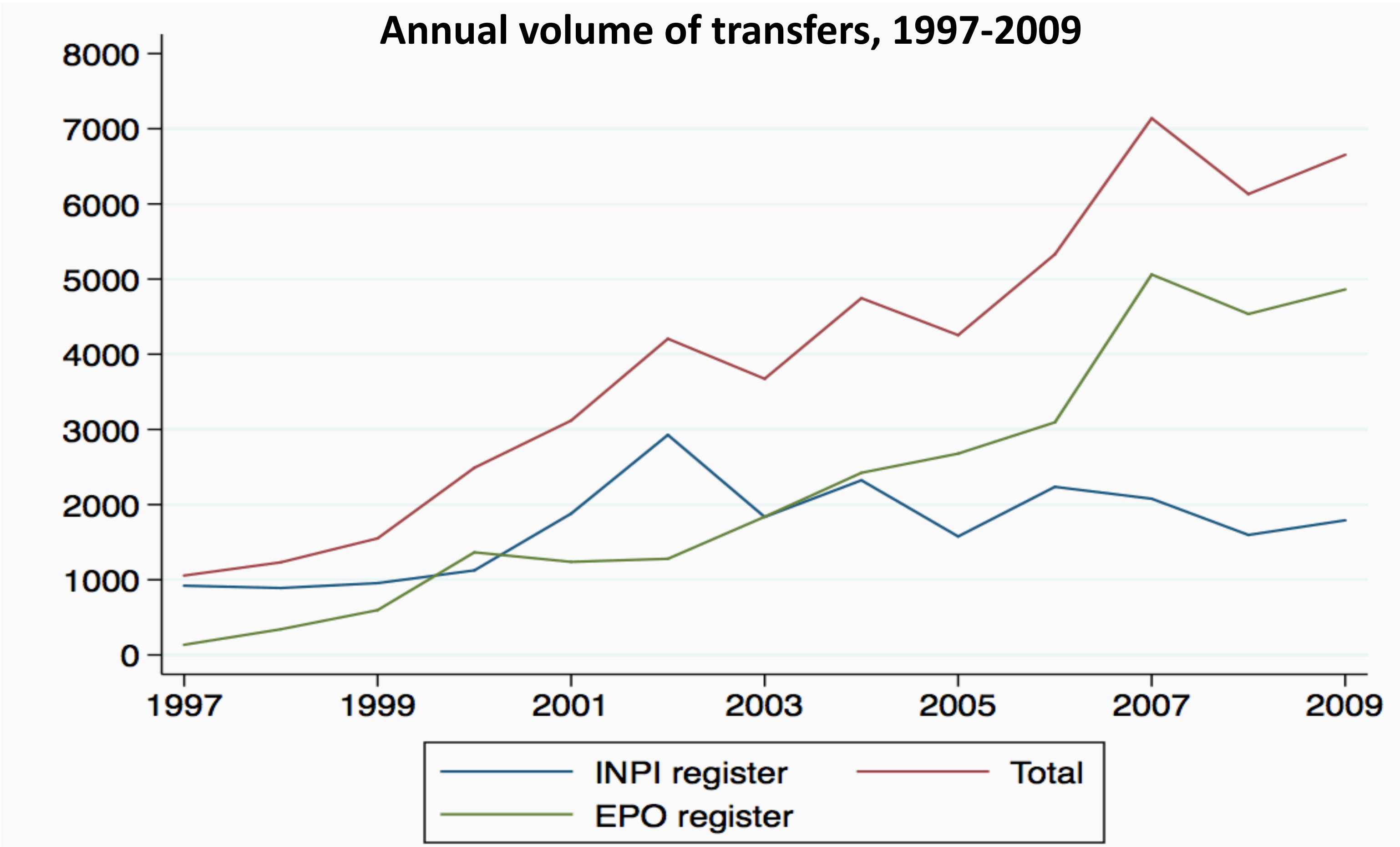
Two different « markets » for patents

Share of patents transferred between France and other countries



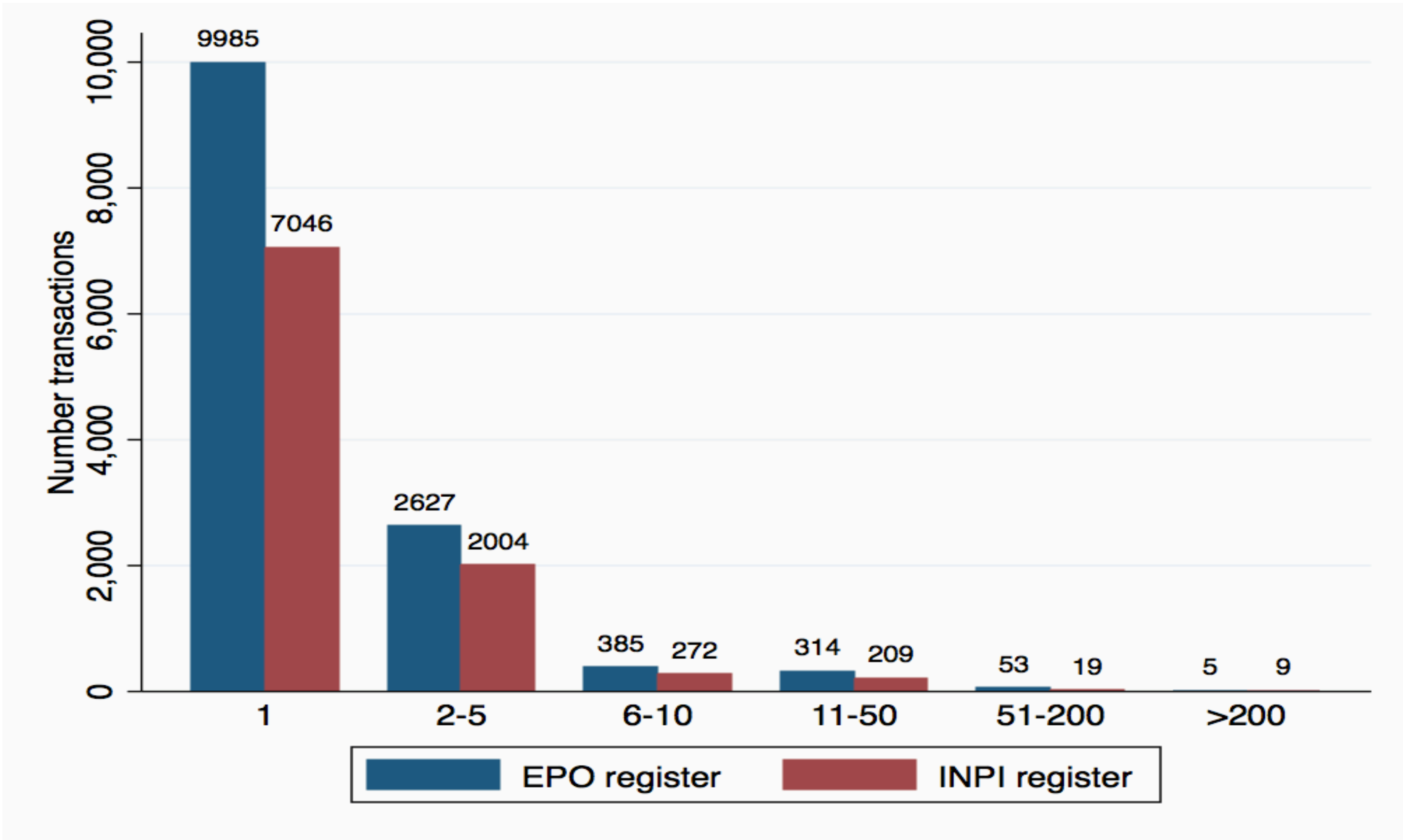
INPI register: domestic transfers
EPO register: international transfers

The growth of transfers is limited to the EPO register



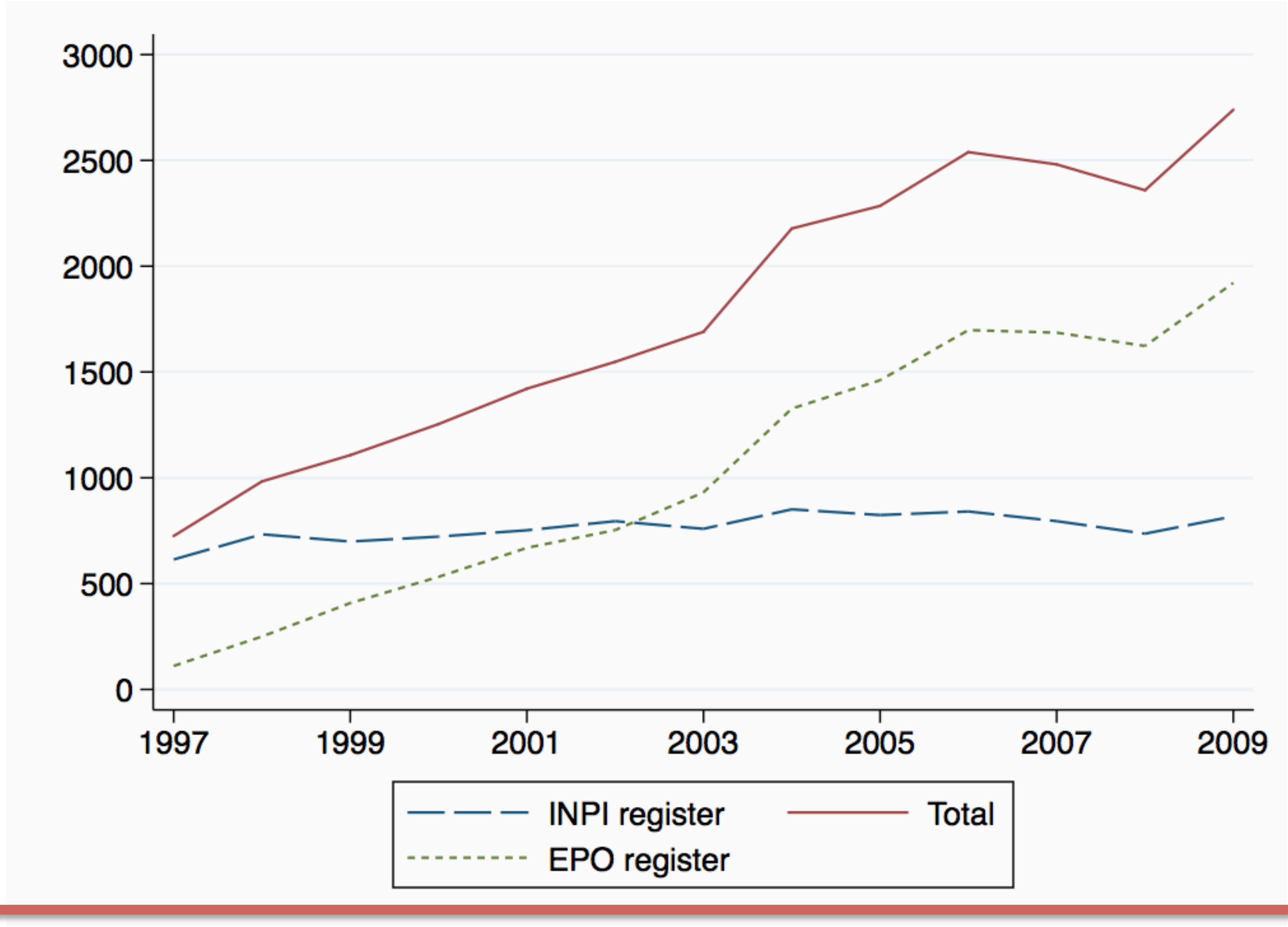
Av. annual growth rate at EPO is 34% (5.7% at INPI)
⇒The trade of patents is growing at the international scale

Distribution of the size of transactions



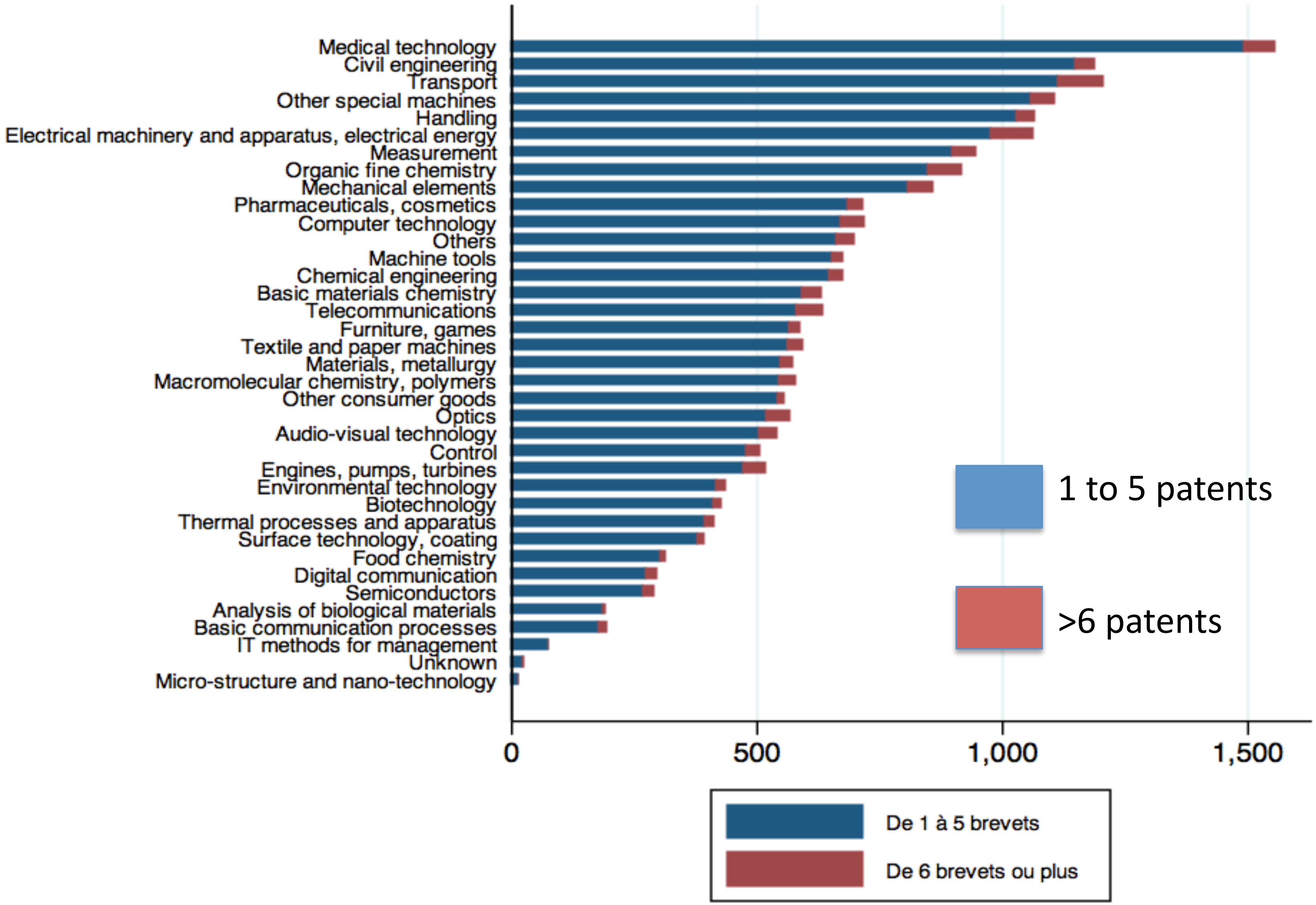
Transaction size is very heterogenous.
53 transactions of more than 100 patents account for 20% of all transfers

Volume of transactions from 1997 to 2009



Neutralizing transaction size confirms that the trade of patents is growing

Distribution of transactions by sectors



Summary

- Reassignment data suggest the emergence of a market for patents
  - Esp. after 2004 and at the international level (EPO)
  - About 10% of granted patents in 2009
  - Patents of high quality

- Reassignment data must be interpreted cautiously
  - Large transactions may not reflect “naked” patent sales but rather other operations (intragroup, M&A; name changes etc)

A focus on Telecom patents

(joint with J. Baron
& A. Dechezleprêtre)

Purpose & methodology

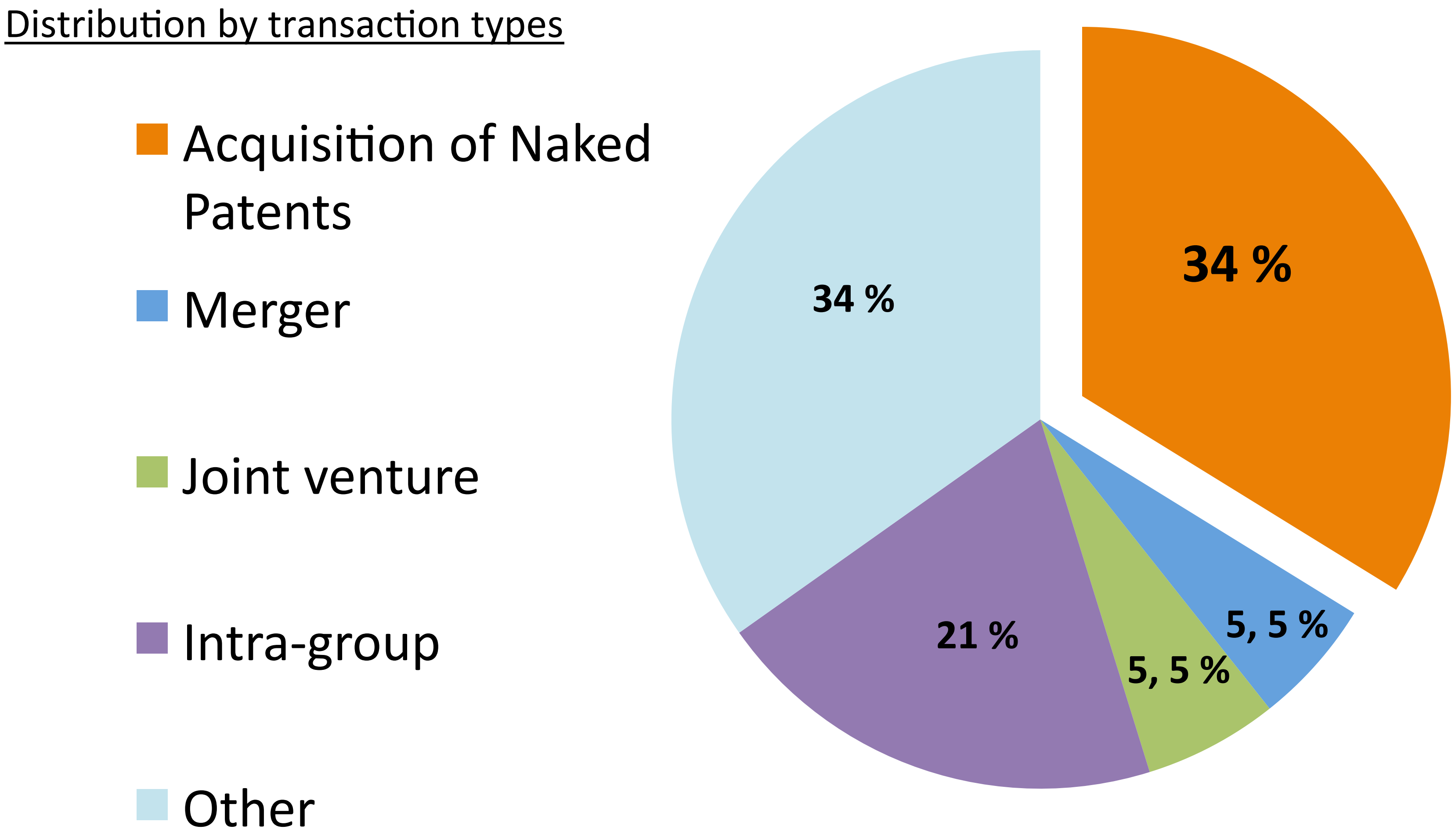
- Narrow the field of investigation in order to better inform:
  - the nature of transactions => focus on ‘naked’ transfers
  - the categories of applicants and acquirers
- Focus on patents in Telecoms

  ⇒12,459 reassigned from 1997 to 2009 (22% of initial dataset)

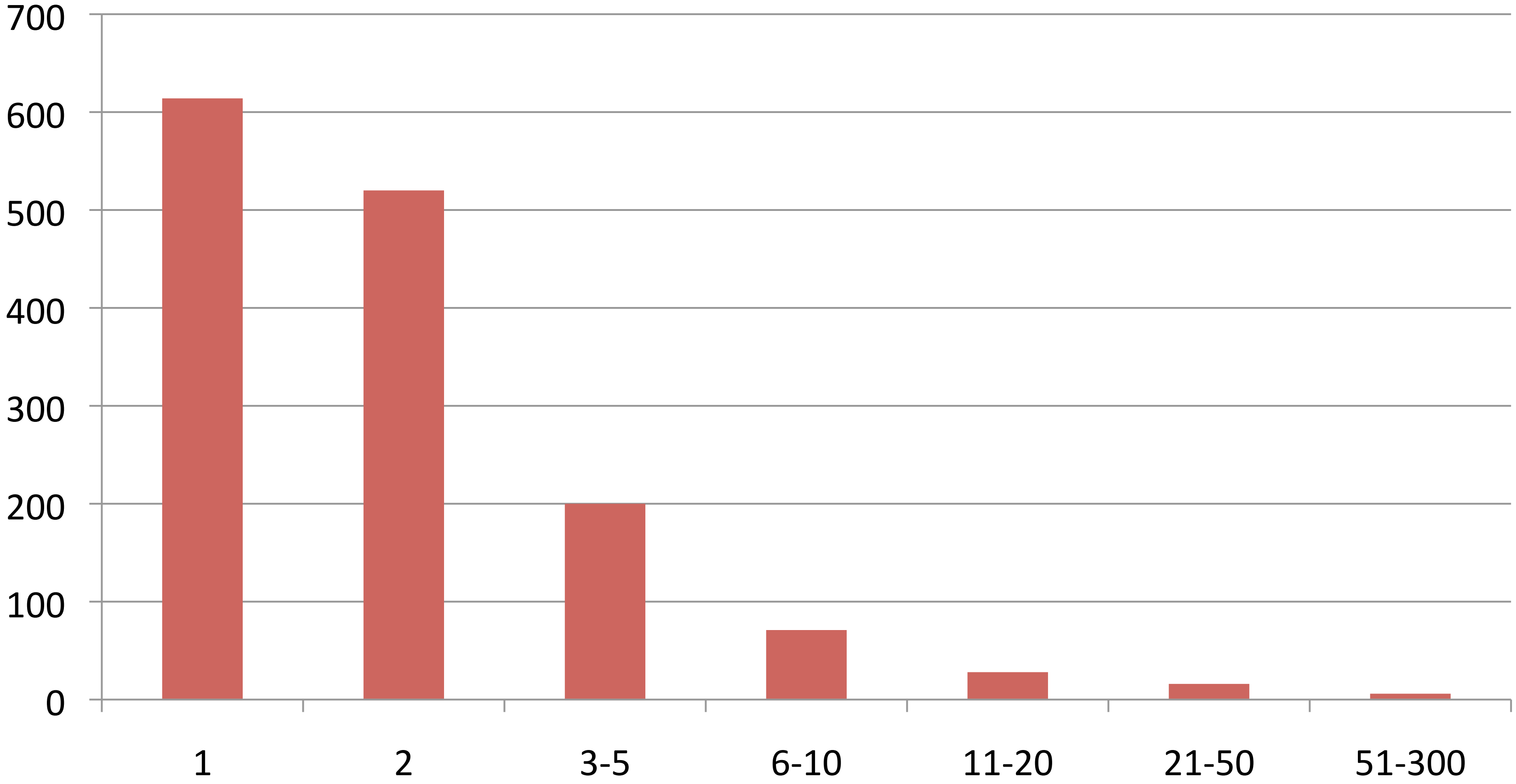
Use of Thomson Reuters data solutions

Data	Source	
	INPI Patents	EPO Patents
Ownership transfers: patent number, assignee, transaction date	INPI's ownership transfers database	
Initial applicant	OECD's EP-PAT	INPI's F-PAT
Technology sub-classification, composite patent quality indicator (IP Strength)	Thomson Reuters Strength Index	
Parent company data on initial applicants and assignees (including size of patent portfolio); Context of the transaction (acquisition of naked patent, intra-group transaction, transfer through merger and acquisition)	Thomson Reuters Derwent World Patents Index (DWPI)	
Forward citations, INPADOC family, grant status, classification codes, harmonized names	EPO's PATSTAT (October 2011 version)	

2,410 “naked” sales from 1997 to 2009

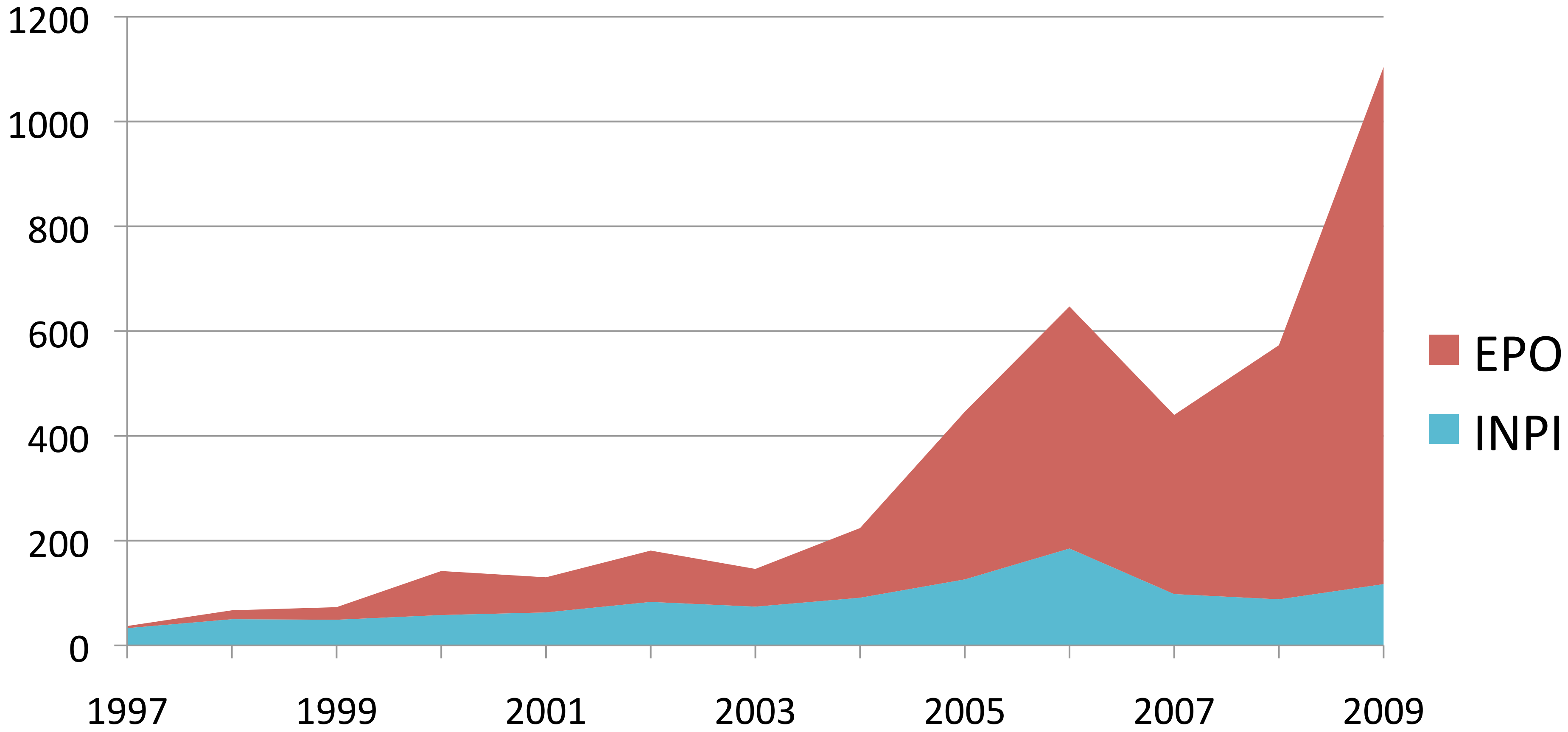


Distribution of transaction size (naked only)



Large transactions do not fully disappear

Exponential growth of patent sales



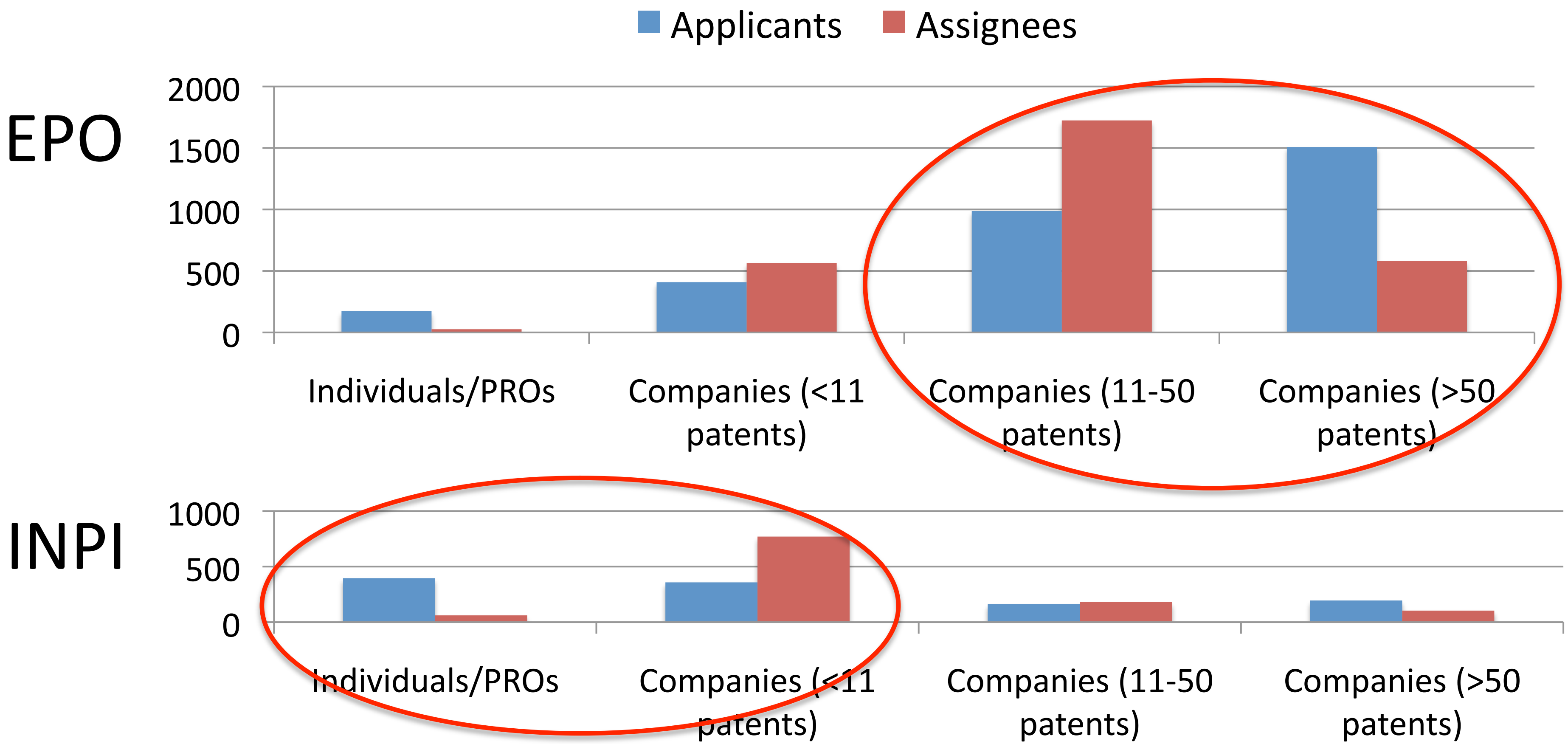
Annual growth rate of about 30% over the whole period.
Mainly at the EPO level.

Quality of traded patents

	Quality indicator	Sold patents	All telecom patents	Difference
EPO	Family size	5.53 (3.01)	4.35 (2.62)	1.17***
	Forward citations	2.82 (7.15)	0.81 (2.53)	2.01***
INPI	Family size	3.64 (2.76)	3.49 (2.60)	0.15***
	Forward citations	0.85 (2.31)	0.51 (1.85)	0.34***

Traded patents are of higher quality than average Telecom patents.
Especially those registered at EPO.

EPO versus INPI



In the sequel, we exclude individual applicants and French singletons (∼20%)

Origins of the patents (2005-9)

	Europe	USA	Asia	Others	All
Firms (>50 patents)	**36%**	**10%**	4%	0%	**51%**
Firms (11 to 50 patents)	**13%**	**11%**	5%	3%	33%
Firms (1 to 10 patents)	7%	5%	2%	1%	15%
Universities	1%	0%	0%	0%	1%
TOTAL	**56%**	26%	11%	5%	100%

Patent sales originate mostly from European companies with large portfolios

Destination of the patents (2005-9)

	Europe	USA	Asia	Others	All
Firms (>50 patents)	**15%**	**14%**	5%	0%	23%
Firms (11 to 50 patents)	**17%**	**22%**	**10%**	4%	**54%**
Firms (1 to 10 patents)	**12%**	8%	2%	2%	24%
TOTAL	**44%**	**33%**	**17%**	6%	100%

Firms with medium size portfolios are more active on the demand side.

They are based in the US, Europe and Asia.

Market flows

DEMAND SIDE (Assignees)

SUPPLY SIDE (Applicants)

	Large portfolio firms	Medium portfolio firms	Small portfolio firms
Large portfolio firms	(V=5.1)	(V=5.7)	(V=4)
Medium portfolio firms	(V=6.9)	(V=8.5)	(V=6.3)
Small portfolio firms	(V=6.7)	(V=8.5)	(V=5.3)

Large portfolio firms sell low quality patents

Medium portfolio firms trade high quality patents

Summary

- Careful identification of patent sales in the Telecom sector confirms prior results
  - Sharp increase of patent sales, esp. after 2004
  - Sold patents are of high quality

- Two main underlying trends:
  - European companies with large portfolios have been selling large volumes of (medium quality) patents
  - US (European and Asian) companies with medium portfolios have been increasingly active, especially on the demand side. They trade patents of outstanding quality

Work in progress

- Update for 2010-2011
- Trade of standard essential patents

- What is traded exactly?
  - Profile of trading companies' portfolios
  - Focus on other sectors (medical technology, automotive)
  - Compare with M&A

- Other national registers
- US reassignments