
OWNERSHIP TRANSFER OF PATENTS AT THE STATE INTELLECTUAL PROPERTY OFFICE OF CHINA

GTM2015: 5TH GLOBAL TECHMINING CONFERENCE

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Peter Neuhäusler, Rainer Frietsch



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Research question(s) and conceptual framework

- Technology transfer between countries
 - China claims dependence on foreign technology – and wants to become independent (buzzword “indigenous innovation”)
 - Rules on Stopping the Abuse of Intellectual Property, April 7, 2015 (Order No. 74)
- (Technology transfer between public and private actors – Science-Industry-Linkage)

- **What are the trends in ownership transfer in China?**
 - What is the companies’ motivation to buy these patents?
- Are these patents more valuable?
- (Are NPEs active in China (and do they buy international patents)?)

Literature

- Market for technologies (Arora et al 2001, Gambardella et al. 2007, Guellec and Zuniga 2009, Arora and Gambardella 2010)
 - Licensing and cross-licensing, selling (→ new revenue streams)
 - Knowledge sourcing reduces costs and time of internal innovation processes
 - Mergers and acquisitions (Breitzman and Thomas 2001)
 - **Patent sales and acquisitions** (Jones et al 2001, Serrano 2006, 2011, Petruzelli et al. 2015)

- University-industry collaboration (Azagara-Caro et al 2007, Llor 2007)
 - Contract research
 - Technology transfer

- Patent stocks, patent portfolios (e.g. Hall et al. 2005)

- Patent trolls, patent assertion entities, non-producing entities (e.g. Bessen and Meurer 2009)

Legal status codes at SIPO and EPO

SIPO codes

C41	Transfer of the right of patent application or the patent right
C56	Change in the name or address of the patentee
LIC	Patent license contract for exploitation submitted for record

EPO codes

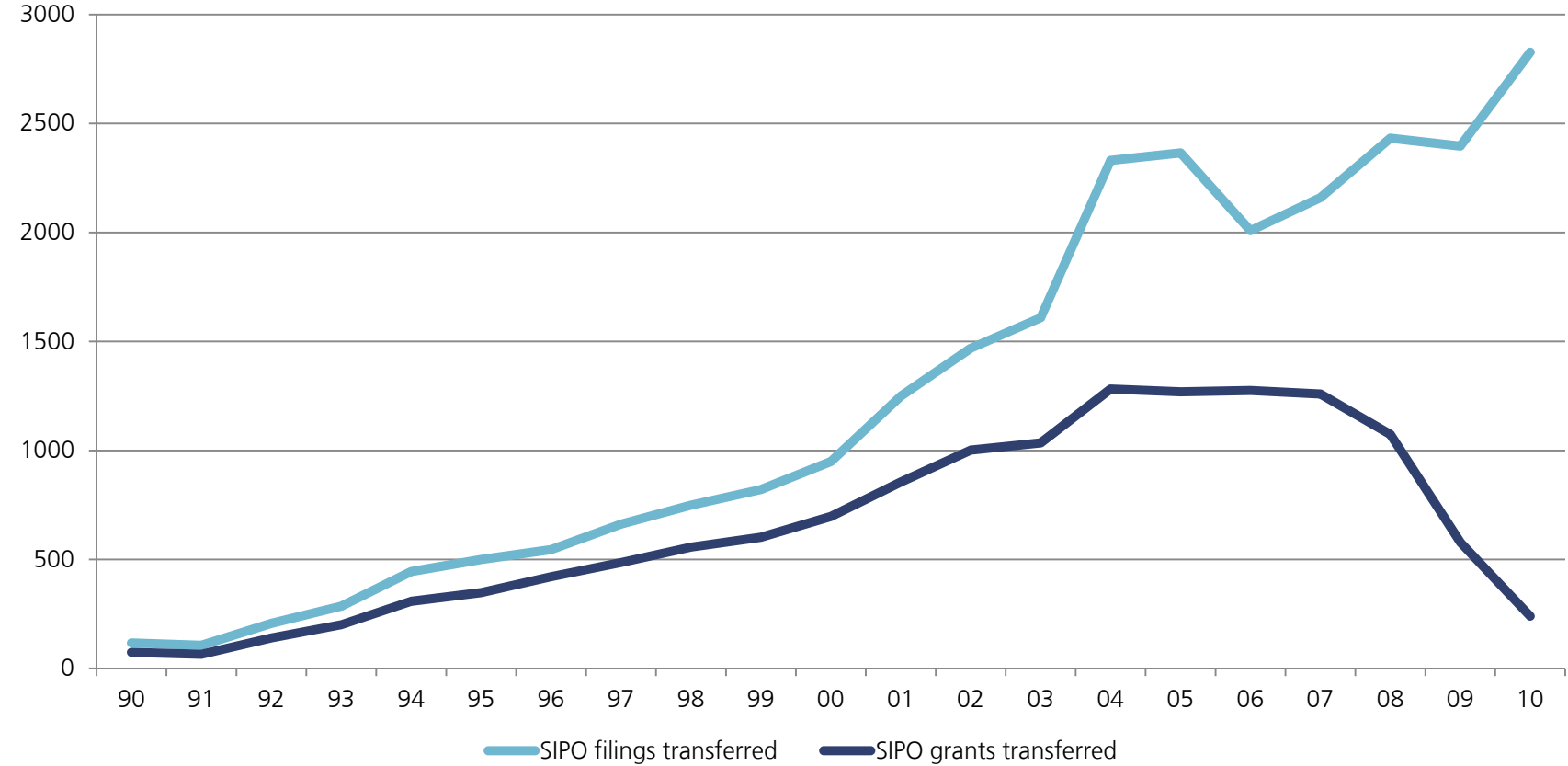
EP RAP1	APPLICANT (CORRECTION)
EP RAP2	PATENT OWNER (CORRECTION)
EP RAP3	APPLICANT (CORRECTION)
EP RAP4	PATENT OWNER (CORRECTION)
EP 33	TRANSFER OF RIGHTS

- Problems:
 - Buyers cannot (easily) be identified
 - Patents are transferred from headquarters to local/national branches of the same company due to processing reasons
 - Transfer of ownership might occur in a rather early phase of the filing processes and then takes place before the effective filing at SIPO (e.g. in case of PCT applications) so that the document might not be classified as C41

Methodology

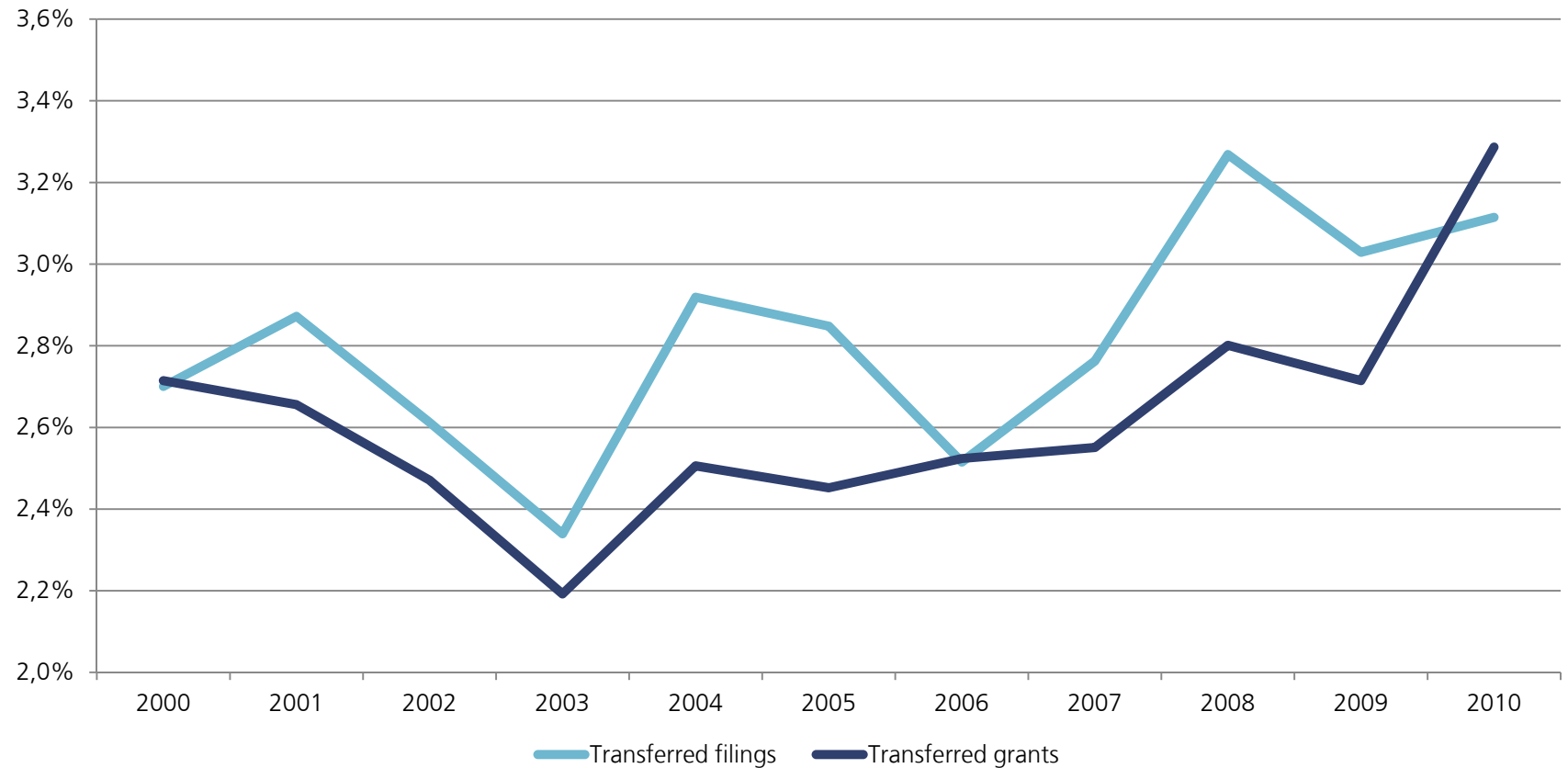
- PATSTAT data between 1990 and 2010 (priority years)
- Instead of using the legal status codes, we employ patent family information
- We are looking at patents fulfilling the following criteria:
 - Filed at the SIPO
 - The office of the priority filing is outside China
 - Original applicant country is different from current applicant country
 - Consolidated company ID (cleaned name) (Du Plessis et al. 2009; Magerman T. et al. 2009; Peeters B. et al. 2009) of original owner is different from current owner
 - Only first owner (if there are more than one) is taken into account

Number of transferred SIPO filings and grants



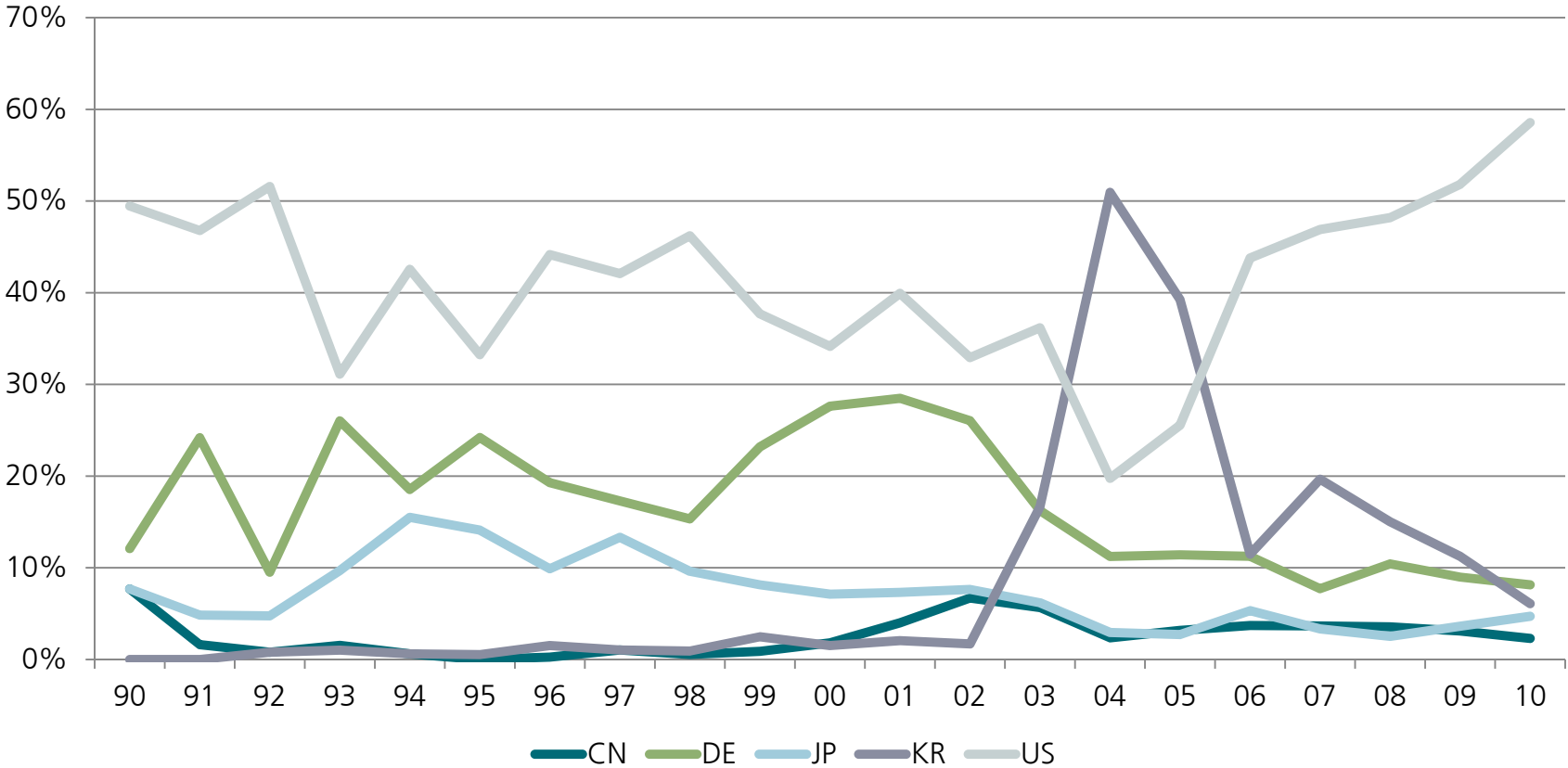
Source: EPO – PATSTAT, calculations of Fraunhofer ISI.

Share of patent ownership transfers in total patent filings and grants at SIPO (with priority office outside China)



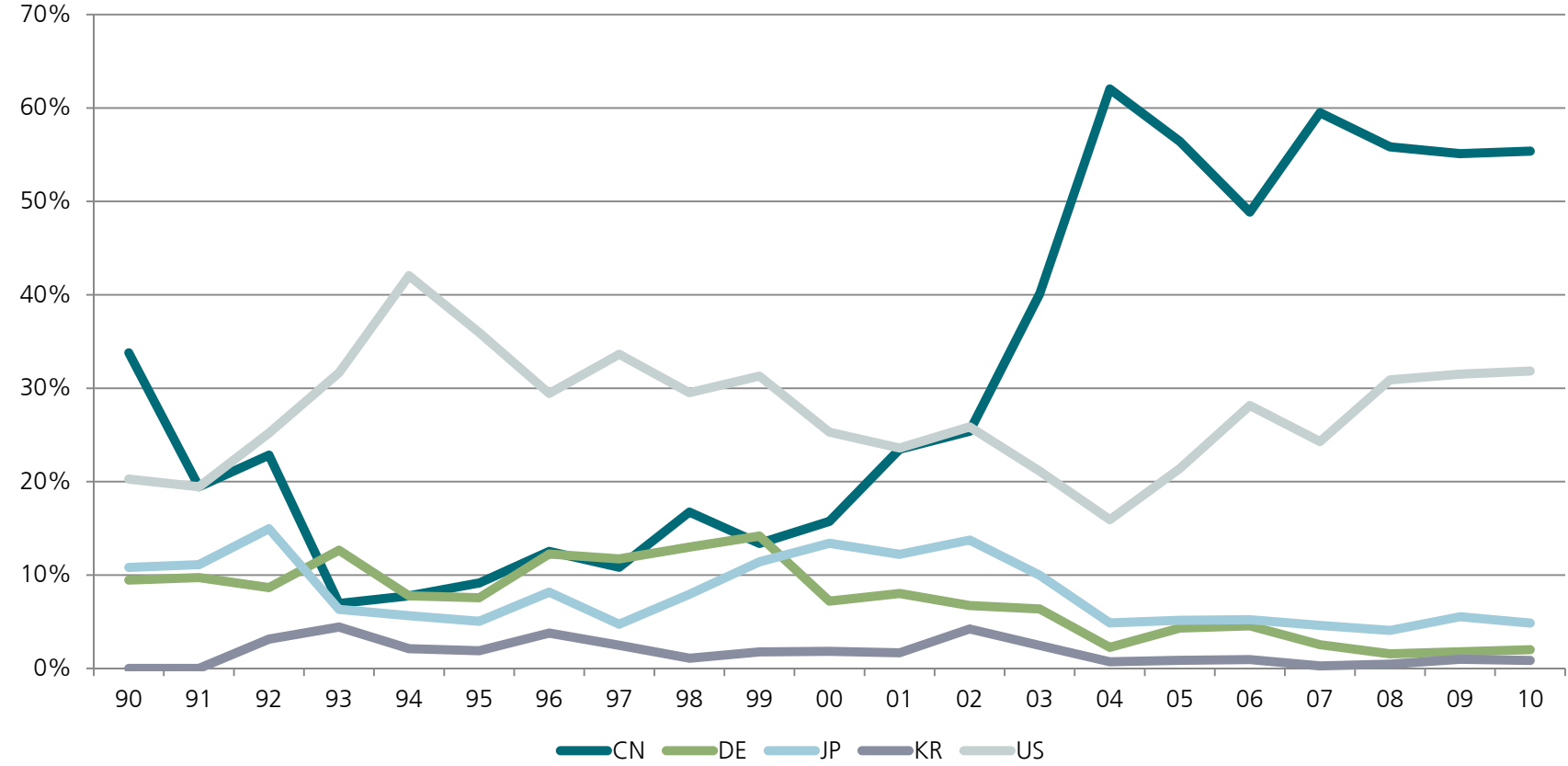
Source: EPO – PATSTAT, calculations of Fraunhofer ISI.

Filings: In which country did the patent originate (country of original owner)?



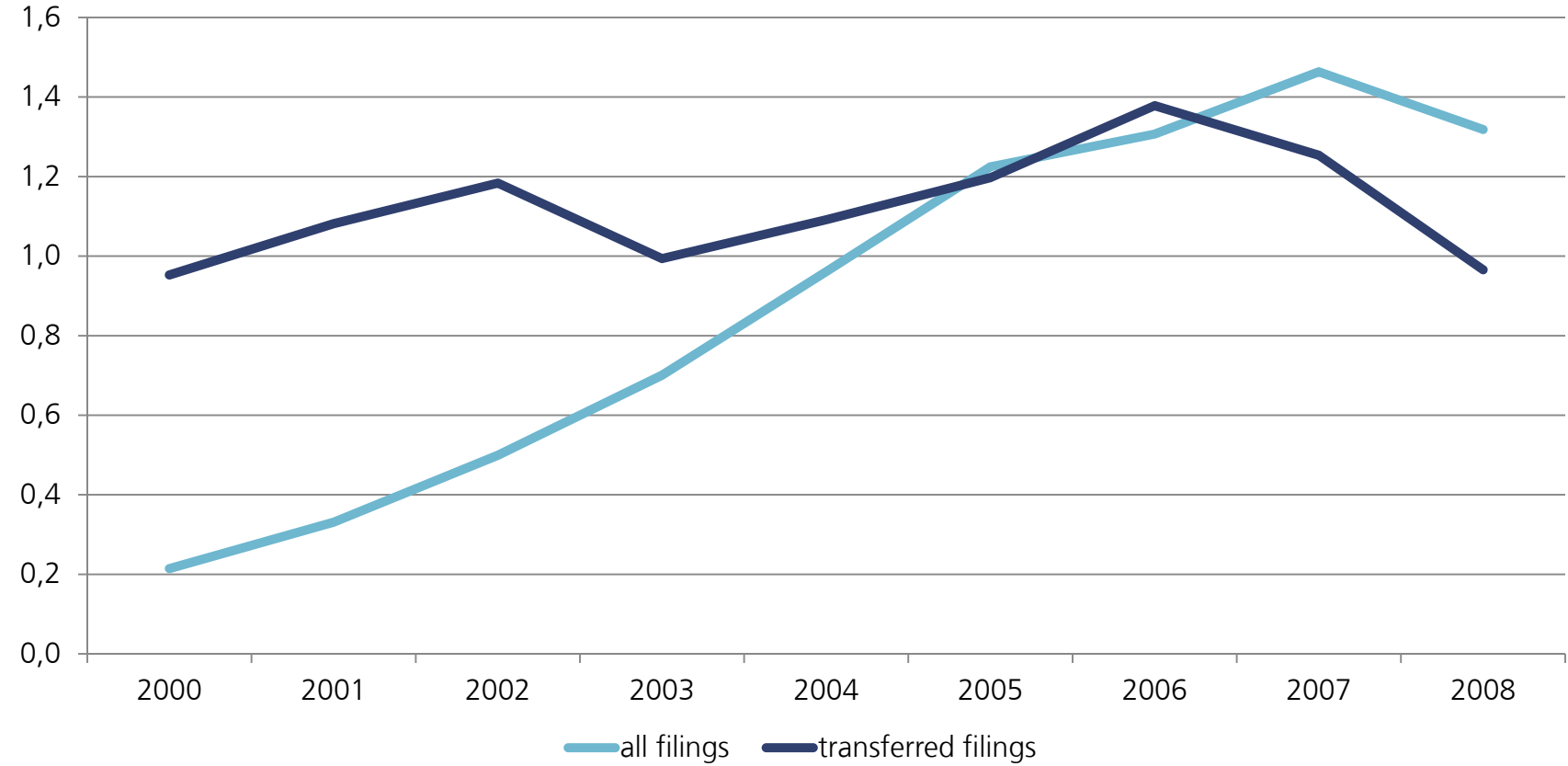
Source: EPO – PATSTAT, calculations of Fraunhofer ISI.

Filings: Companies from which country bought it?



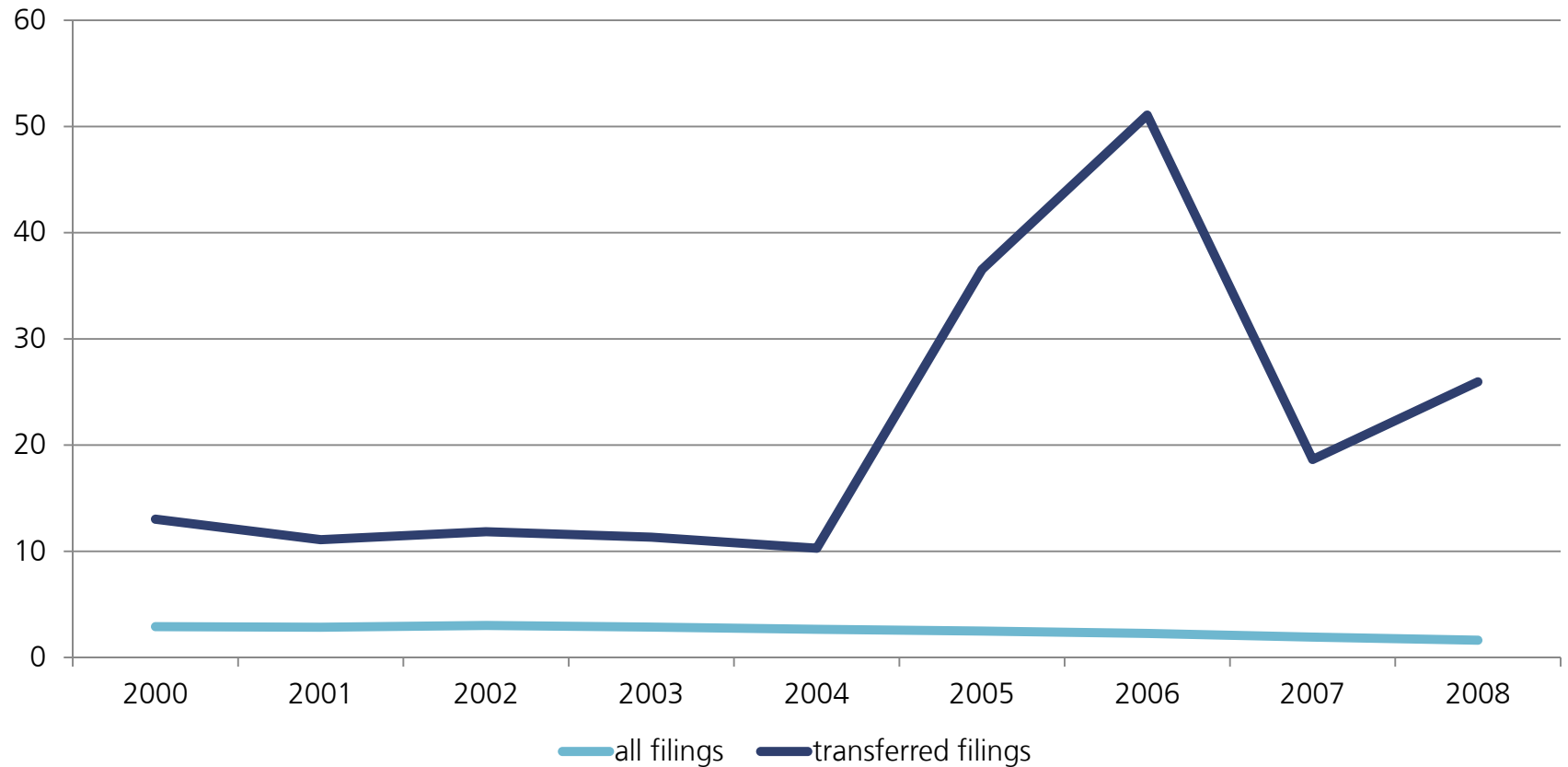
Source: EPO – PATSTAT, calculations of Fraunhofer ISI.

SIPO: Average number of FW-citations



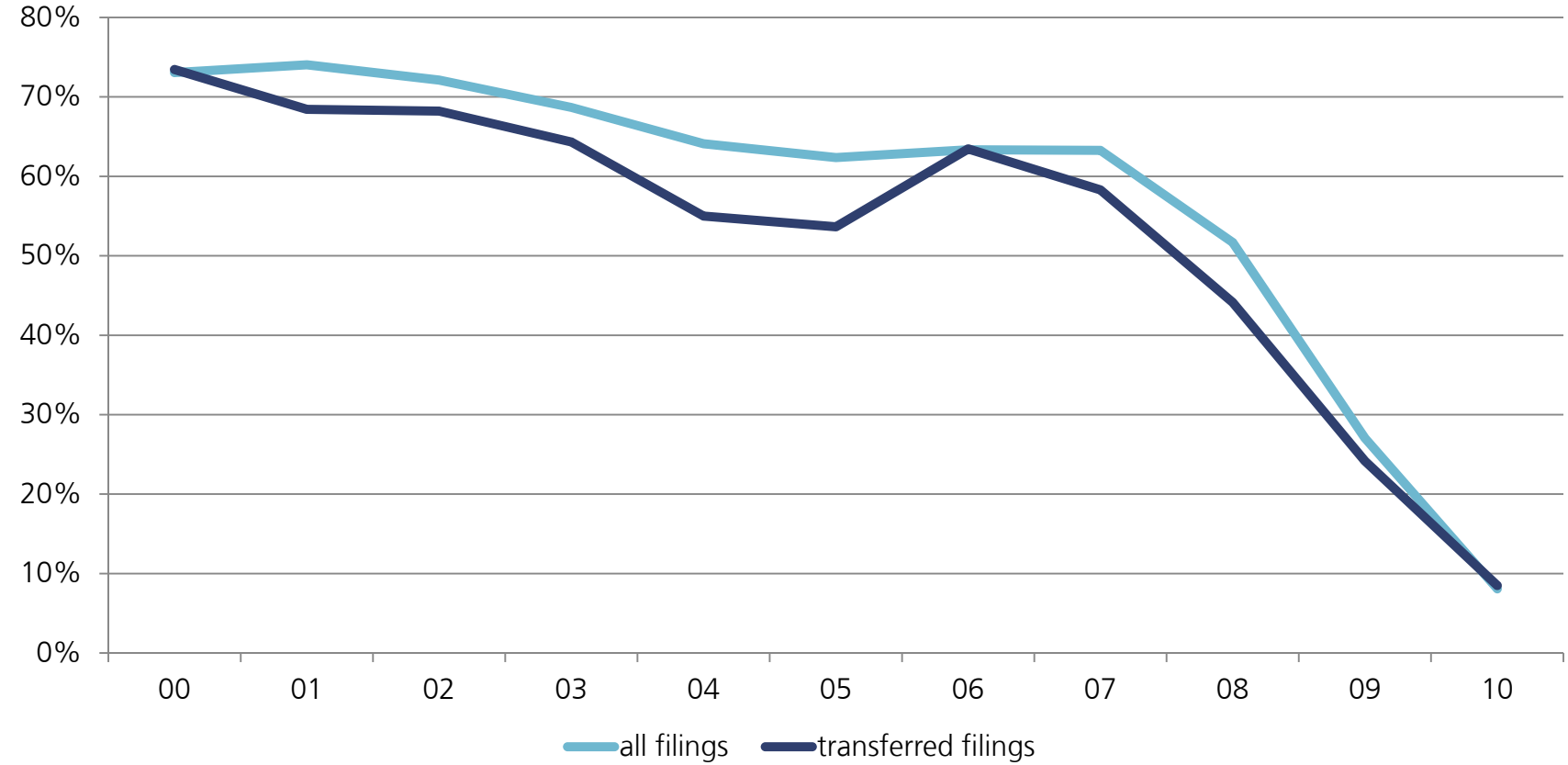
Source: EPO – PATSTAT, calculations of Fraunhofer ISI.

EPO: Average number of FW-citations (all filings)



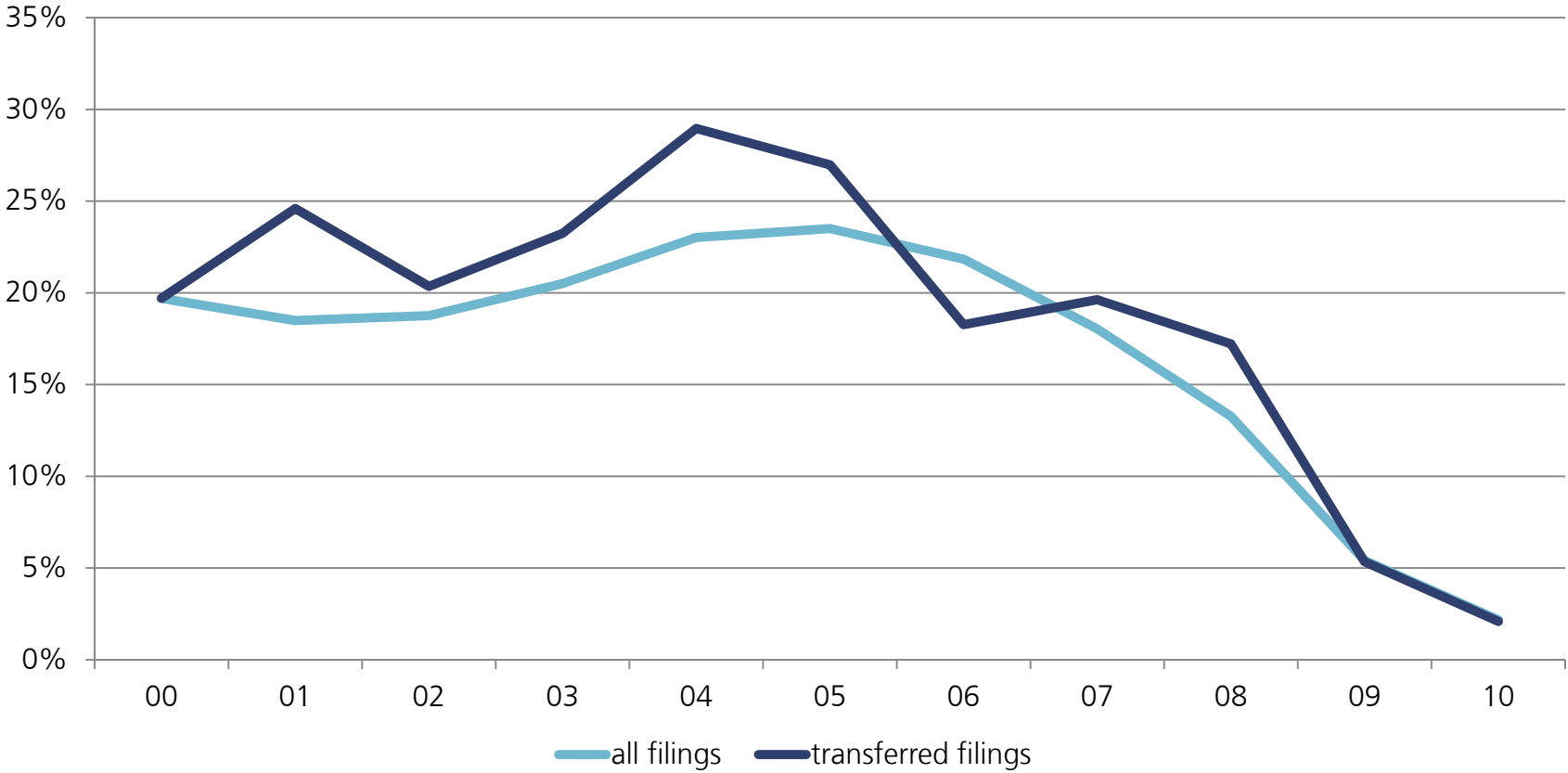
Source: EPO – PATSTAT, calculations of Fraunhofer ISI.

SIPO: Share of patents that were granted



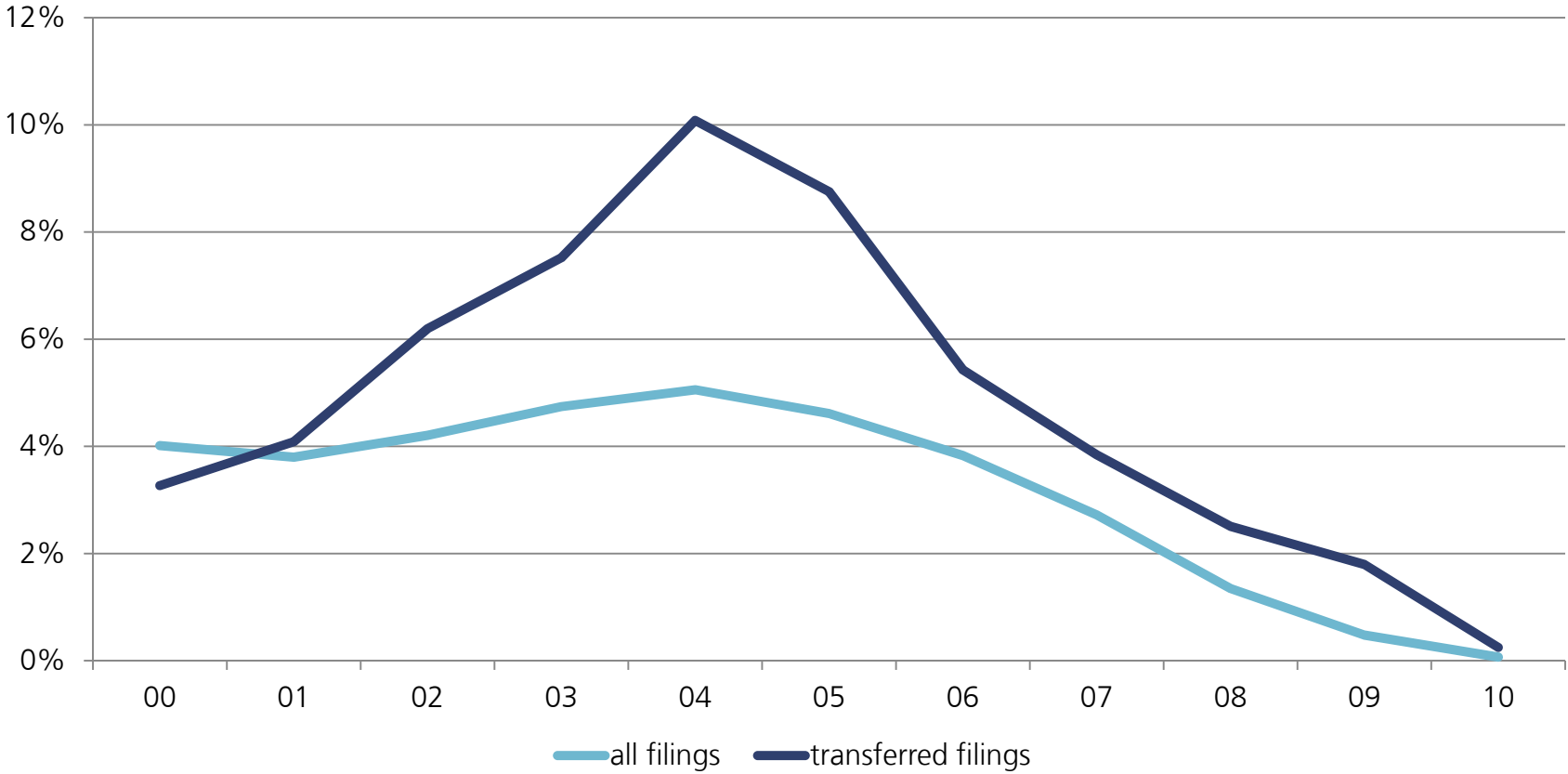
Source: EPO – PATSTAT, calculations of Fraunhofer ISI.

SIPO: Share of patents that were withdrawn



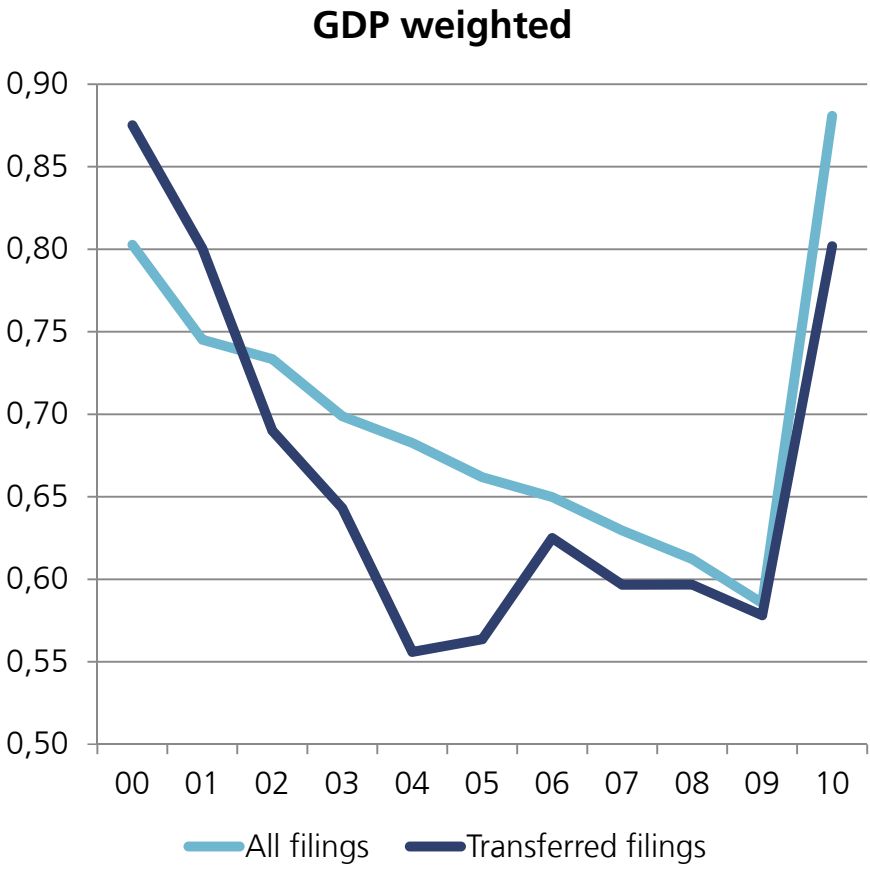
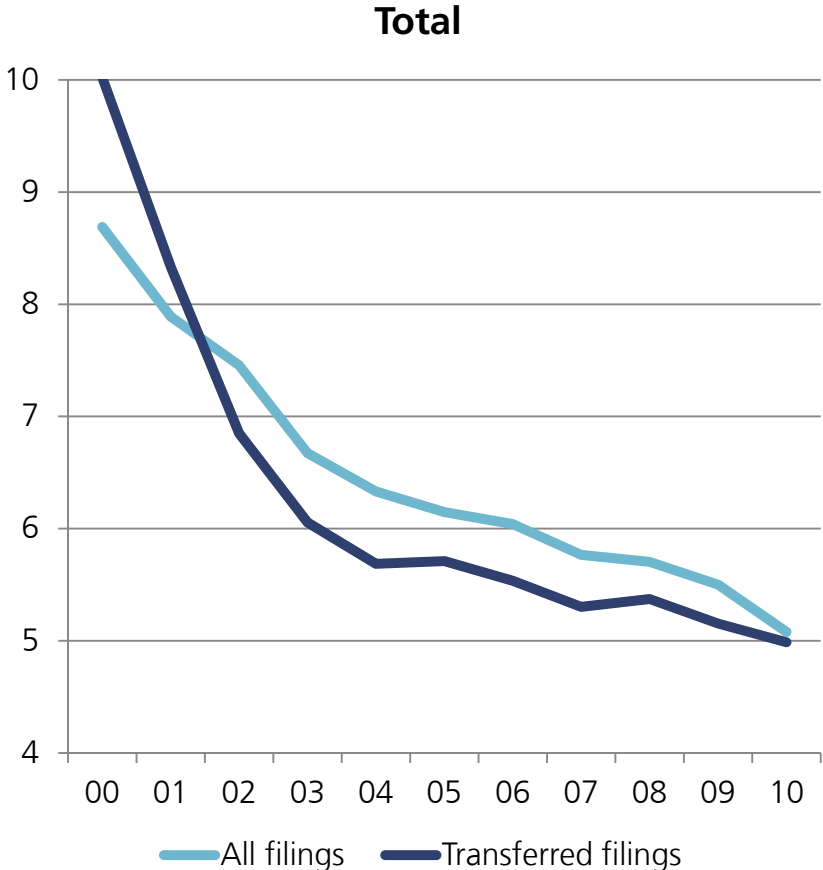
Source: EPO – PATSTAT, calculations of Fraunhofer ISI.

SIPO: Share of patents that were refused



Source: EPO – PATSTAT, calculations of Fraunhofer ISI.

Patent family size (excl. "singletons", at least one SIPO member)



Source: EPO – PATSTAT, calculations of Fraunhofer ISI.

Conclusions

- Patent transfer activities of SIPO filings have increased in absolute as well as relative terms, especially since 2003 → Chinese firms see a market for the commercialization of foreign technologies and/or they try to learn from their foreign counterparts.
- Mostly, filings from US applicants are bought, i.e. the US is the largest seller
- The majority (about 55% in 2010) of transferred filings are bought by Chinese applicants, followed by US (32%), JP, DE and KR (5% and less)
- Until 2005, a trend towards acquiring more highly cited patents could be observed → this does not seem to be the case afterwards → this is different for the EPO
- Transferred SIPO filings are (slightly) less often granted, more often withdrawn and more often refused than average. In addition, the average family size is slightly lower
 - In terms of “patent value” this is counterintuitive from the markets for technology perspective → explanation?

To Do's

- Comparison of the profile of the transferred patents with the existing patent profile of the new owners at the technology field level → do firms acquire technologies they are already familiar with or vice versa?
- Plausibility checks:
 - Do earlier studies report similar figures (maybe also for other offices)?
 - Analyze sub-samples of patents and manually check old vs. new owners
 - Include lists of subsidiary firms to make sure patents are not only transferred from mother-company to subsidiary or vice versa

Thank you!

Dr. Peter Neuhäusler

Fraunhofer Institute for Systems and
Innovation Research ISI

Breslauer Straße 48

76139 Karlsruhe

www.isi.fraunhofer.de

Peter.Neuhaeusler@isi.fraunhofer.de