

Cost – Quality factors in patent systems

Bruno van Pottelsberghe, EPO

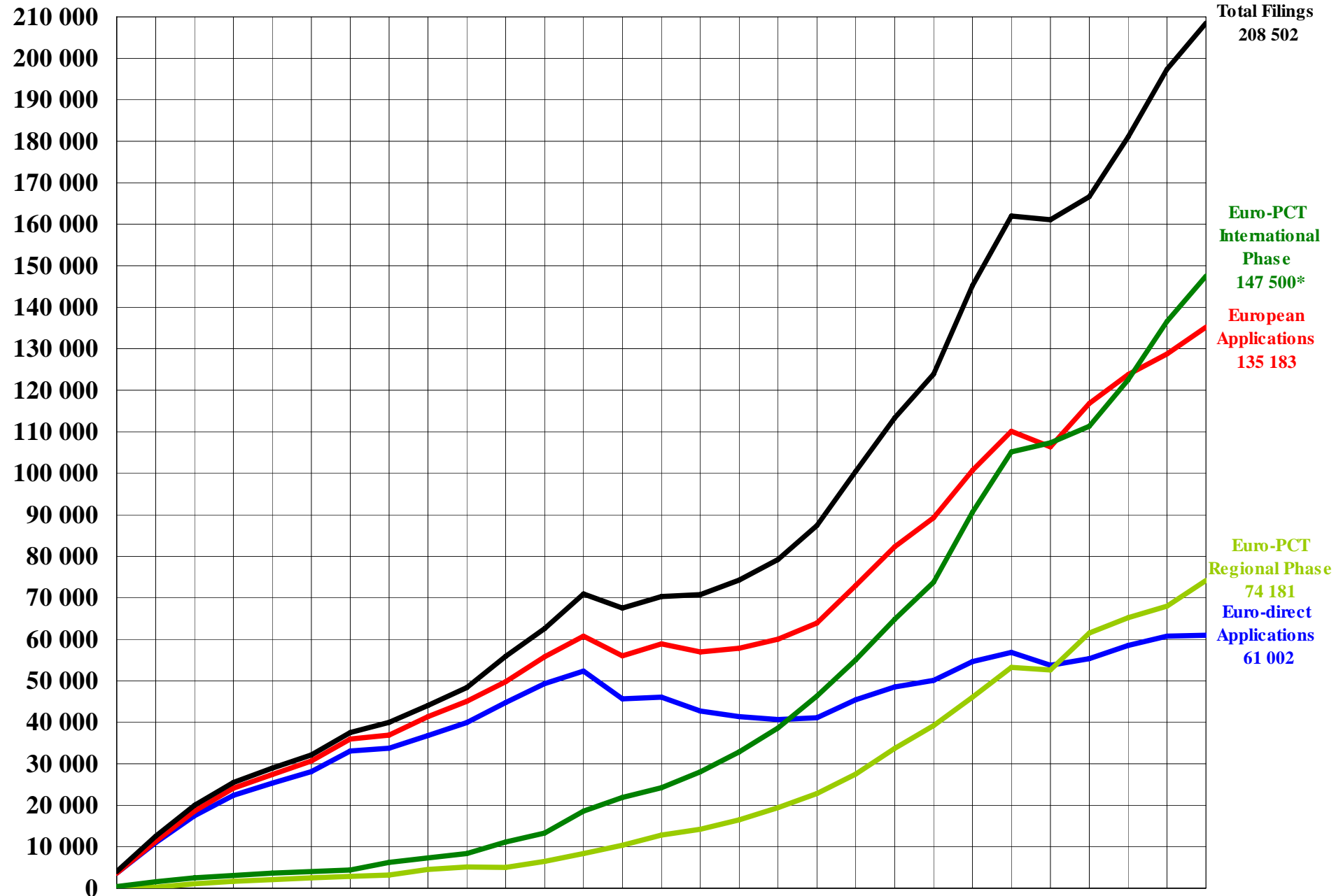
UNECE

Geneva, July 25, 2007

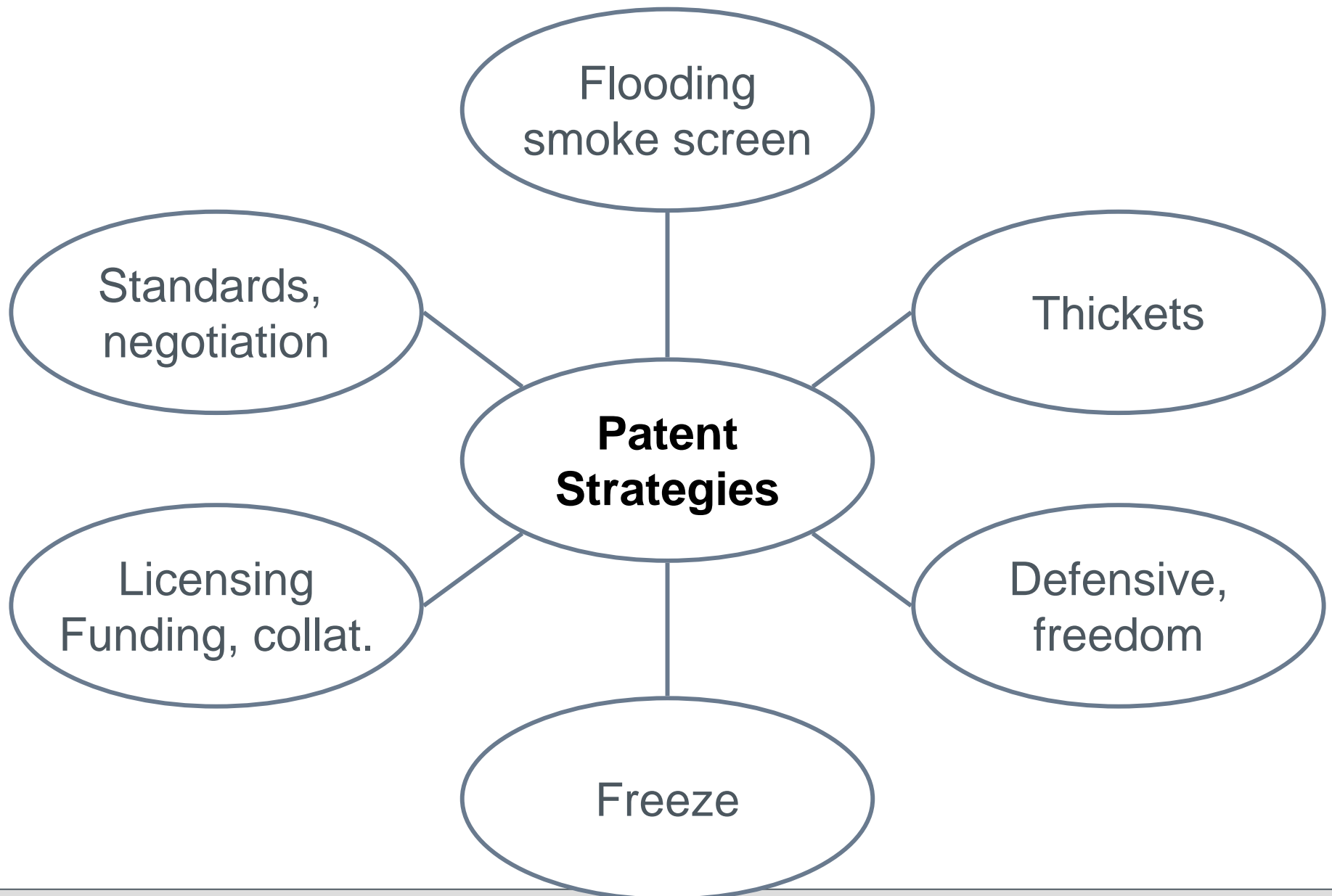


European filings

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006



- **Patent systems face a boom in filings...**
 - Globalization of markets,
 - Harmonization of patent systems (PCT,...)
 - New and dynamic countries in the arena (BRICS)
 - New technologies (Bio, nano...)
 - New actors (SMEs, universities)
 - New management of R&D: open innovation
 - New strategies (portfolio, thickets, flooding, marketing...)



Audi's recent A6 ad campaign claimed:

« To date NASA has filed 6,509 patents. In developing the A6, Audi filed 9,621 ».



Two research questions related to this 'boom'

1. A problem?

Is it associated with a constant 'value' on average?

2. A solution?

Do “fees” play a role?

(19) **United States**

(12) **Patent Application Publication**
St. Clair

(10) **Pub. No.: US 2006/0014125 A1**

(43) **Pub. Date: Jan. 19, 2006**

(54) **WALKING THROUGH WALLS TRAINING SYSTEM**

(22) Filed: Jul. 14, 2004

Publication Classification

(76) Inventor: **John Quincy St. Clair, San Juan, PR**
(US)

(51) **Int. Cl.**
G09B 19/00 (2006.01)

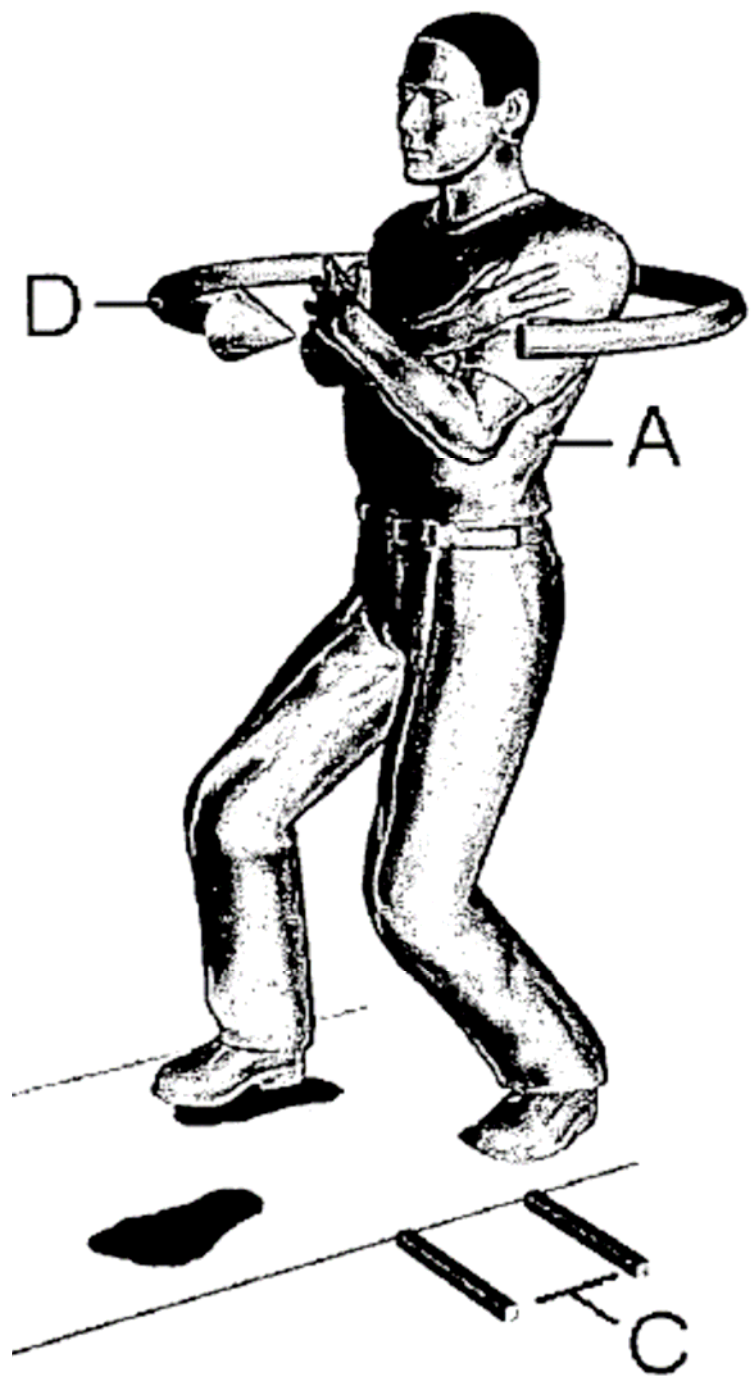
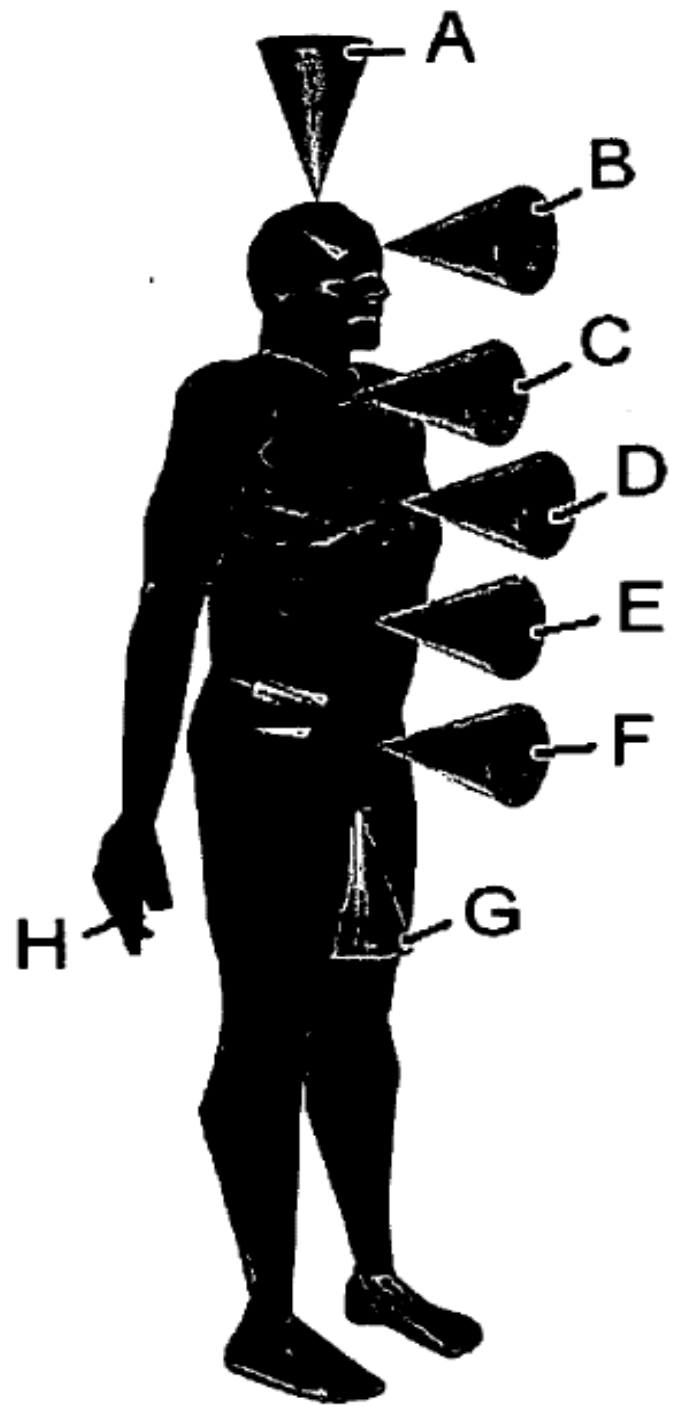
(52) **U.S. Cl. 434/258**

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(57) **ABSTRACT**

(21) Appl. No.: **10/890,635**

This invention is a training system which enables a human being to acquire sufficient hyperspace energy in order to pull the body out of dimension so that the person can walk through solid objects such as wooden doors.



Candidates for value indicators and timeliness

Potential indicator	Rationale	Main limitations
Granted	Limited legal protection if not granted	6 years
Citations received	Subsequent R&D Investments gave rise to further patents in same area + Technological importance	At least 5 years
Family size	Cost / targeted market	
Renewals	Cost of maintaining a patent	Timeliness
Opposition		Timeliness, inter partes settlements Small share
	Market potential Cost and risks associated with legal disputes	
Litigation		Timeliness, inter-partes settlement, data availability, Small share
Firm market value, spin-offs, etc.	Patent value embedded as intangible asset	Not at the patent level
Surveyed value	Patent value is known by inventors or managers	Subjectivity, selection issues, limited samples

Years enforced 

EPC
Countr.

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
C1										
C2										
C3										
C4										
C5										
C6										
C7										
C8										
C9										
C10										

Adds 1 for each country / year:
10 initial EPO member states
First 10 years after the filing date
➔ Maximum score: 100



	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
C1										
C2										
C3										
C4										
C5										
C6										
C7										
C8										
C9										
C10										

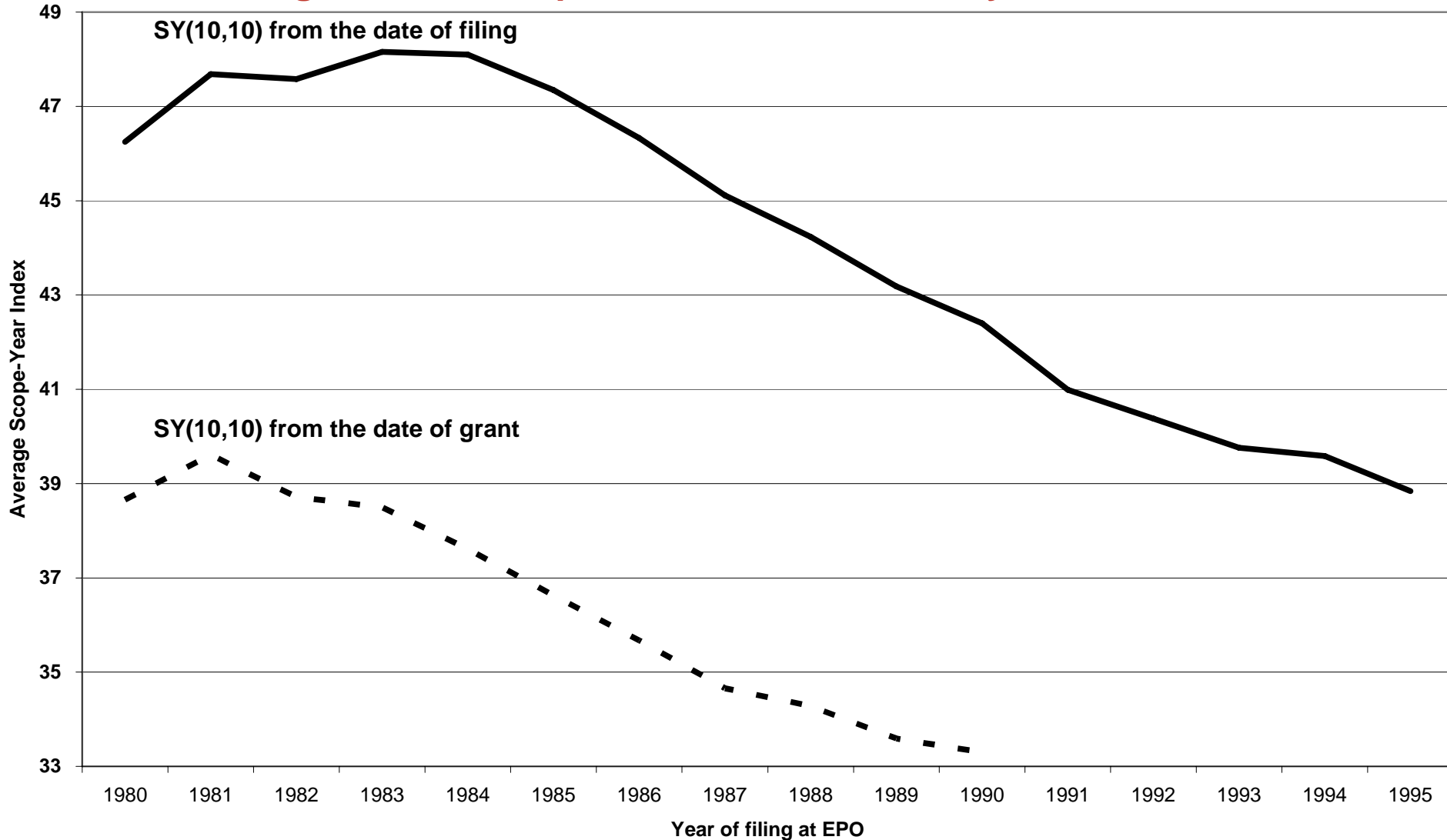
50, or 50%

$$SY_{CT,i} = \frac{\sum_{t=1}^I \sum_{c=1}^C G_i(c,t)}{C.I}$$

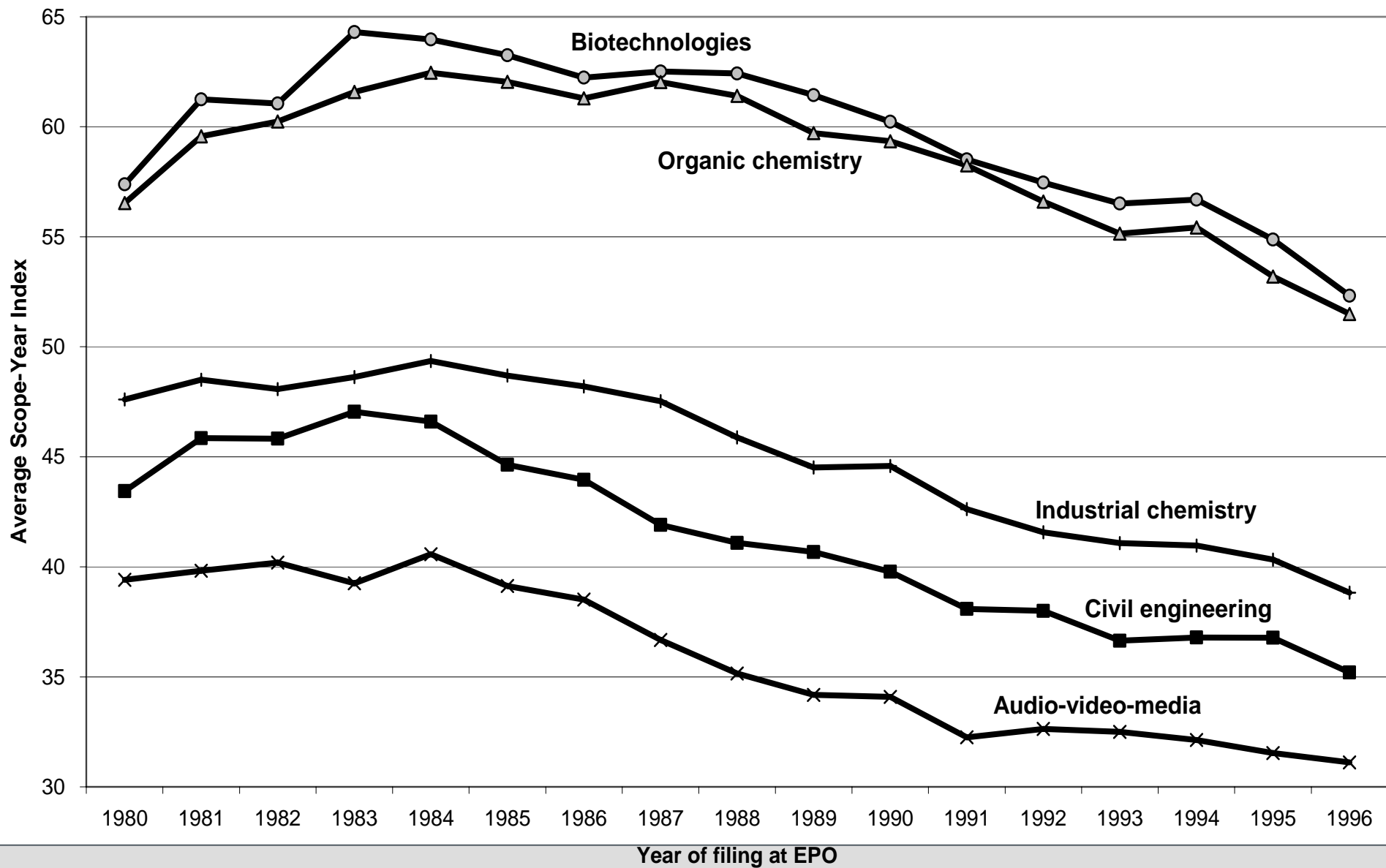
$$WSY_{CT,i} = \frac{\sum_{t=1}^I \sum_{c=1}^C W_c \cdot G_i(c,t)}{C \cdot \sum_{c=1}^C W_c}$$

The Scope-Year index...

The average value of EP patents has decreased by 9 SY



Clear differences across technological fields, but common trends



- The **Scope-Year Index** allows the simultaneous quantification of the geographical scope and renewals of patents into a single value indicator.
- This indicator reveals a **clear decline in the average value** of granted EP patents, from 1985 to 1995....
- There are **strong technological differences**, but similar trends.
- **The decrease was smaller than the growth in patent applications**

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Table 1. EPO, USPTO and JPO: Basic figures, 2003

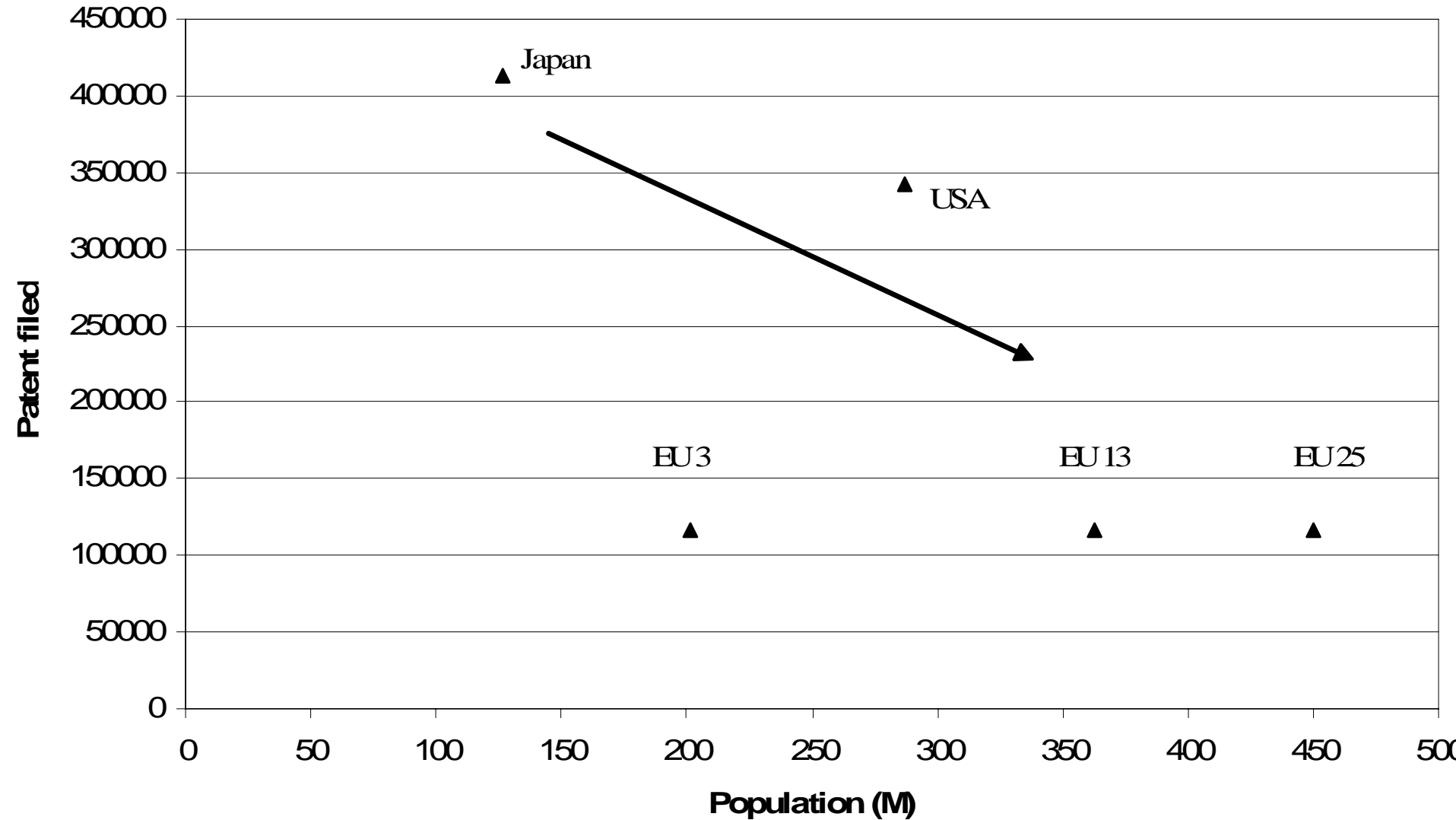
	EPO	USPTO	JPO
Total Patent Filings	116,613 x3	342,441	413,092
Total Patent Granted	59,992	169,028	122,511
Geographical origins of patent filings (%)			
USA	27	55	5
Japan	16	18	88
EPC States	50	15	3
Others	7	13	4

Why? to expensive? Not all domestic patents? different patents?

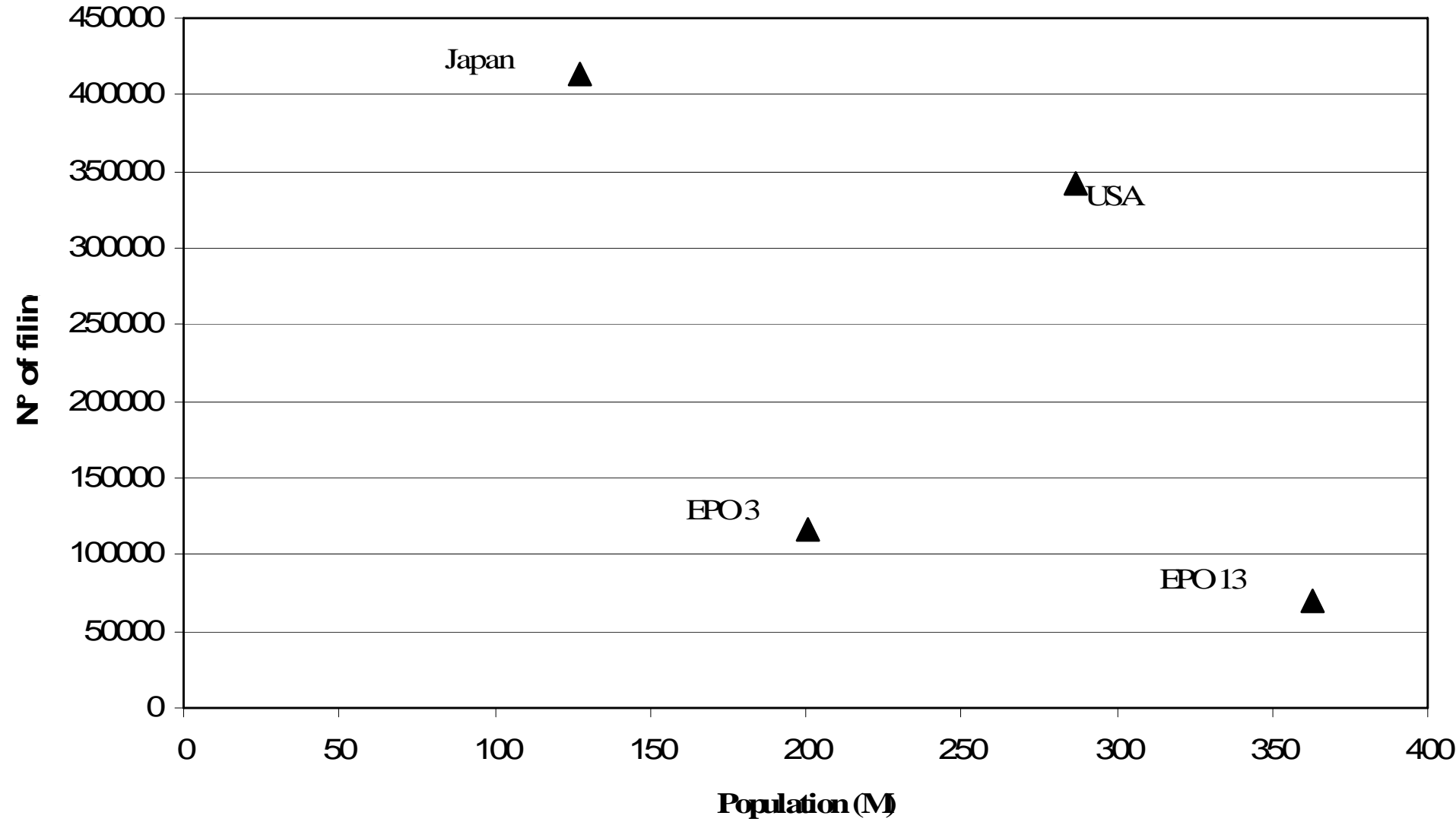
Caveats: EU does not include the domestic priority filings... but

- Similar percentage of filings from abroad at the USPTO and at the EPO, about 50% (2nd filings)
- Similar percentage of filings from Japan at the USPTO and at the EPO, about 18% : (2nd filings)
- They confirm that the US market is three times more attractive than the European market.

Market size and patent filings, 2003



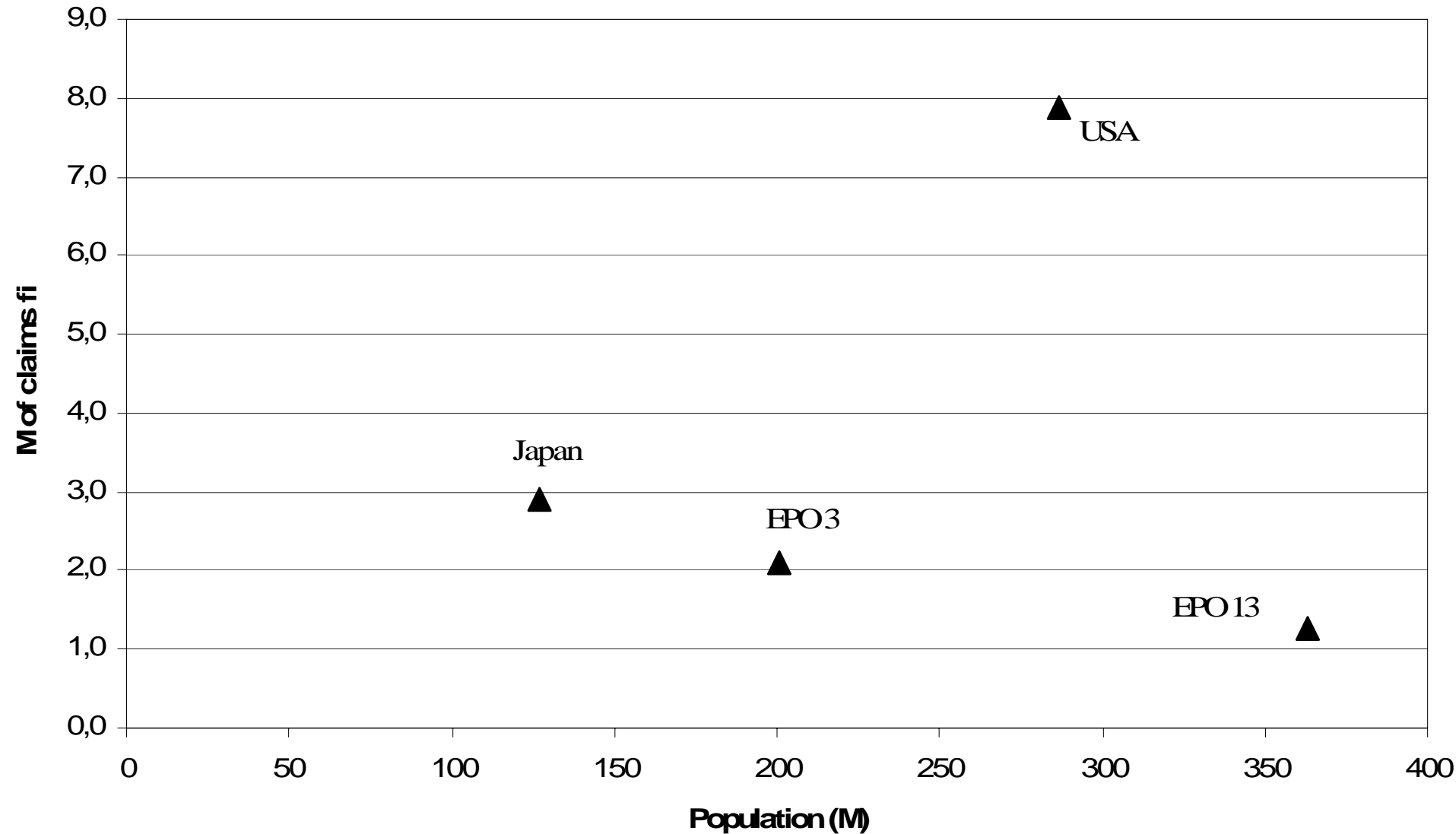
Market size and geographically designated patent filings, 2003



Not all patents are the same

- Number of claims of applications at the USPTO: 23-24
- At the JPO: 7
- At the EPO: 18....
- Many other differences...

Market size and geographically designated filings of claims, 2003



Why - no market size effect?








Why - fewer patents at EPO?

- EPO = second filings (however Japan...)
- Not a European market for technology: once granted the European patent must be validated, translated.... In each individual member country
- A matter of cost?

Cost effect in the literature?

- Surveys always underline the high cost of patenting perceived by firms
- Surveys always underline a lack of confidence in the IP system...
- BUT:
 - No correlation with patenting behaviour
 - Criticisms come from serial patentees...
- IP Professionals generally argue that fees do not affect patent behaviour... self fulfilling prophecy?

The cost of patenting

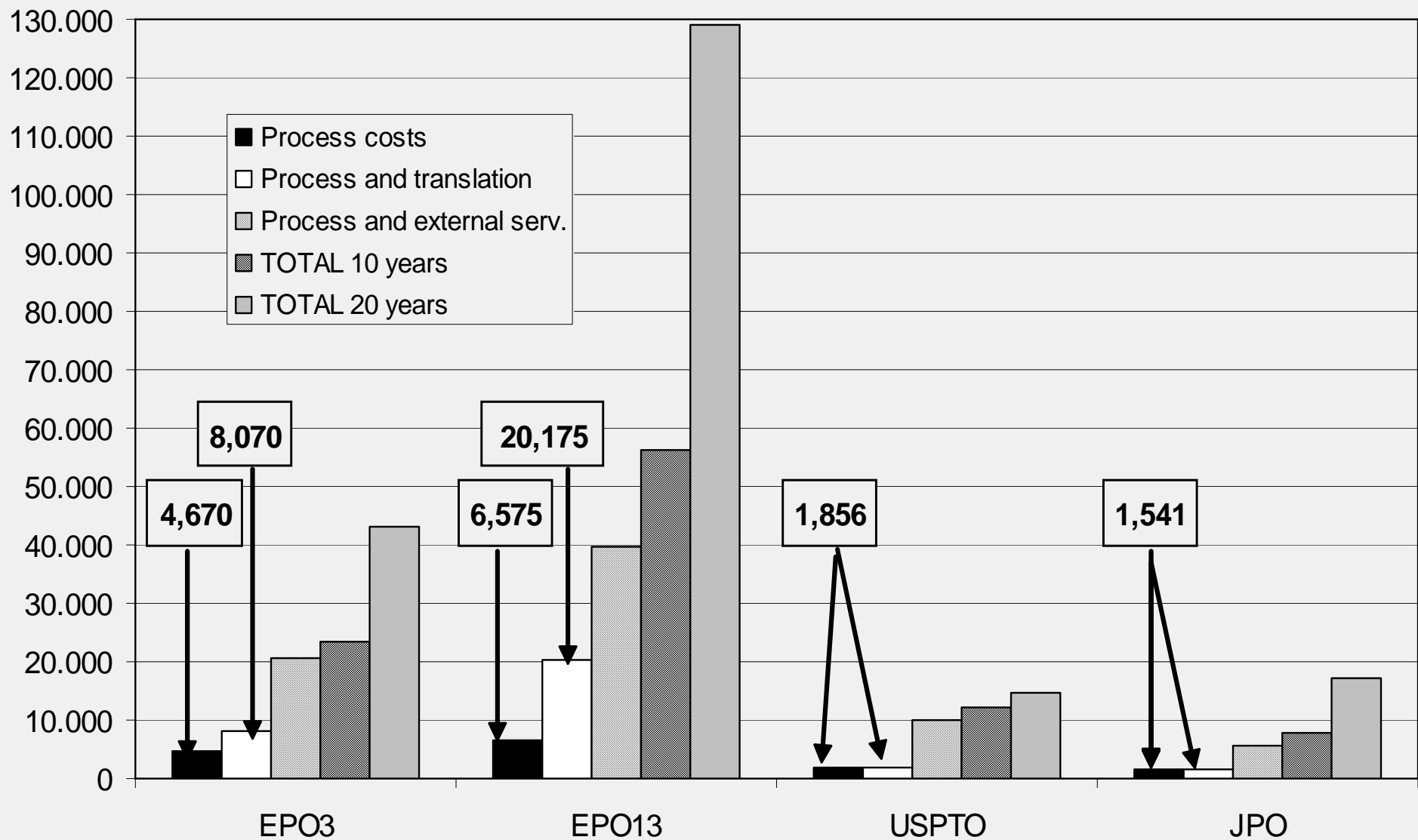
- Official fees 
 - Patent attorney for document 
 - Patent attorney for interaction 
 - Patent attorney for translations 
 - Validation fees 
 - Renewal fees 
-  **In house or outsourced + transaction cost**

Cost is unique for each patent:

- Quality of services
- Number of claims/page
- Desired geographical scope
- Desired speed of services
- Desired route (PCT, Direct...)

- Hypotheses:
 - 3 or 13 EU member countries
 - Average number of claims
 - To grant, to 10 years, to 20 years

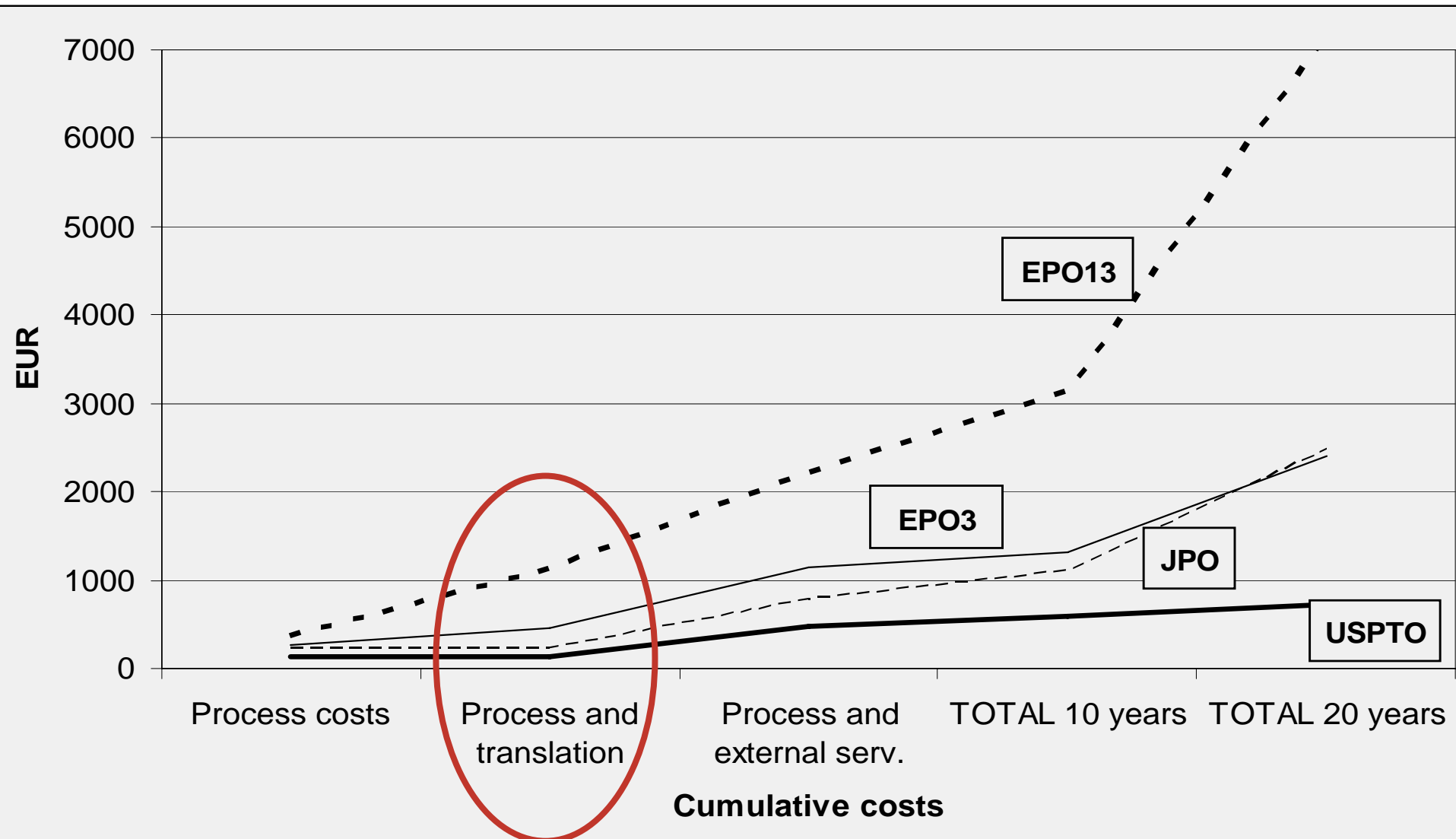
Comparative cost structure of patent applications and maintenance



Proposals for comparative cost analysis:

- Process and translation costs more reliable (but no professional representation costs)
- Analyse the cost per claim
- Analyse the cost per claim per market unit (capita)
: 3C-index

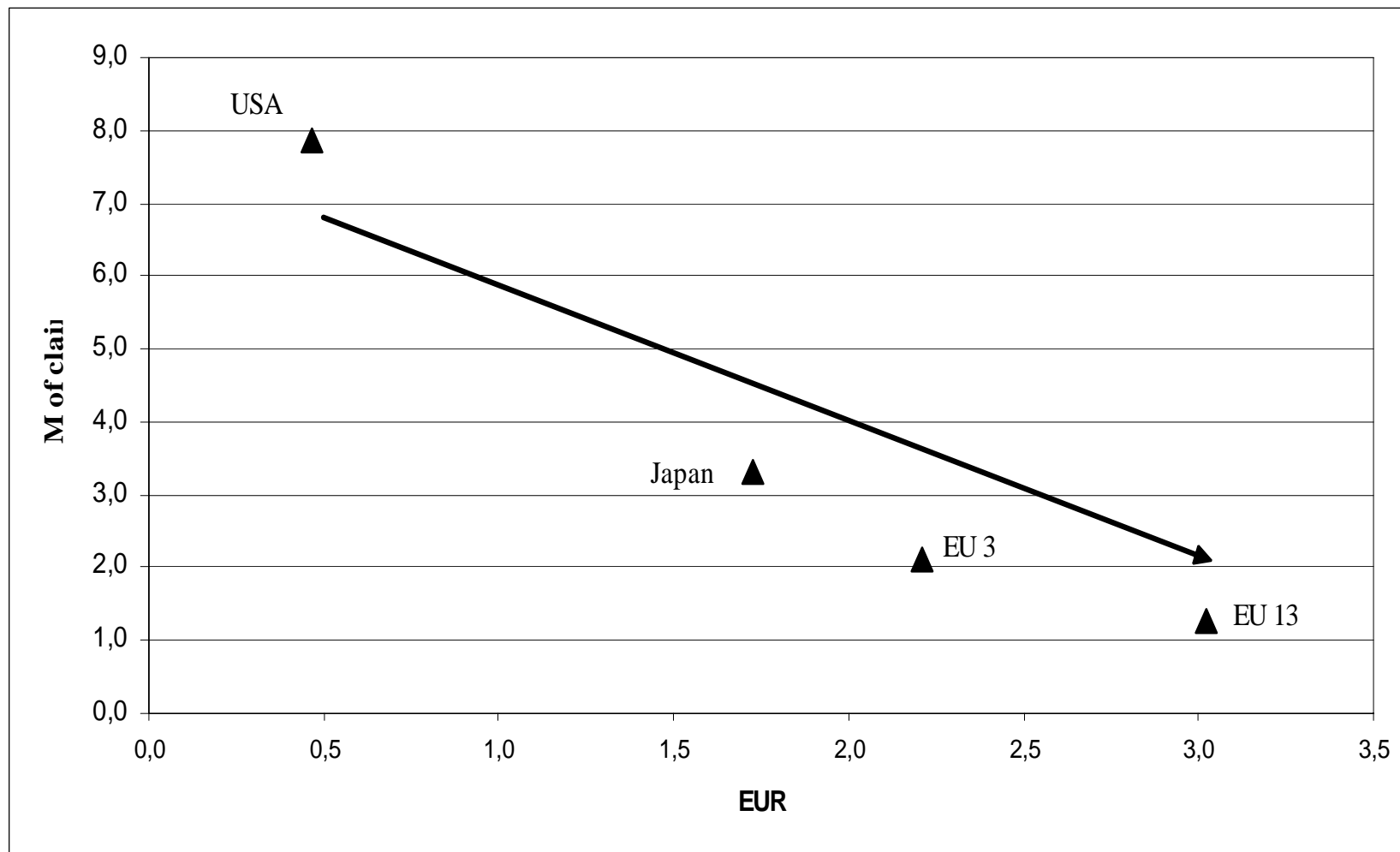
Patent costs per claim in the three offices



European and Japanese costs relative to the US

PATENTS	Process and translation	TOTAL 10 years	TOTAL 20 years
EPO3	2.6	1.7	2.6
EPO13	6.6	4.2	7.8
JPO	0.5	0.6	1.1
CLAIMS			
EPO3	3.4	2.2	3.4
EPO13	8.4	5.3	10.0
JPO	1.7	1.9	3.5

Millions of claims filed vs. process cost per claim per capita : 3C-index



Detailed fees

(estimated impact: current evidence)

- Cumulative fees up to grant: NPOs (---)
- Cumulative fees up to grant: EPO (---)
- Validation fees: EPC (--- on validations)
- Renewal fees: EPC (--- on validations)
- Claim-based fees (--- on size of patents)

Conclusions

- The boom in patenting is associated with a **drop in the average value of patents**, as witnessed by the SY index.
- Fees have a substantial impact, contrarily to common believes
- The higher rigor of the EPO process would justify higher examination fees and explain a smaller demand for patent...
- but not the 'virtually' higher costs related to validation, translation, transactions, renewals in each individual member state

Rereferences: available on RePEc website

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