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Roundtable:

Patent Geography: Global applications é Regional Protection

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Decoding Patent Examination Services

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iCites Working Paper, ULB, just released, available on RePEc

Issue at stake with globalization of patent systems:

- › Sharing examiners' already in the DNA of the PCT
- › Global Patent Dossier project: share everything in order to speed up examination in IP5 offices (USPTO, JPO, EPO, SIPO, KIPO)
- › Certainly a legitimate process, allowing to avoid duplicating efforts, but...
 - › Quality issue?
 - › Similar practices?
 - › Need stylized facts on international differences...
- › Patent offices operate as autonomous territorial jurisdictions offering distinct levels of thoroughness and certainty.

New methodology to compare examination services across patent offices, Gimeno and van Pottelsberghe (2017):

- › Services requested by applicants is related to the relevancy and speed of information sharing, more particularly, issues of
 - › search completeness (classification and citation practices),
 - › certainty,
 - › speed,
 - › Stringency (grant rate)
- › Methodology tested on a sample of 100 random patent families (heavy metallurgical industry), including EPO, JPO and USPTO
- › Results show profound differences across offices

Methodology:

- › typology of key examiner actions at various stages of the patent procedure

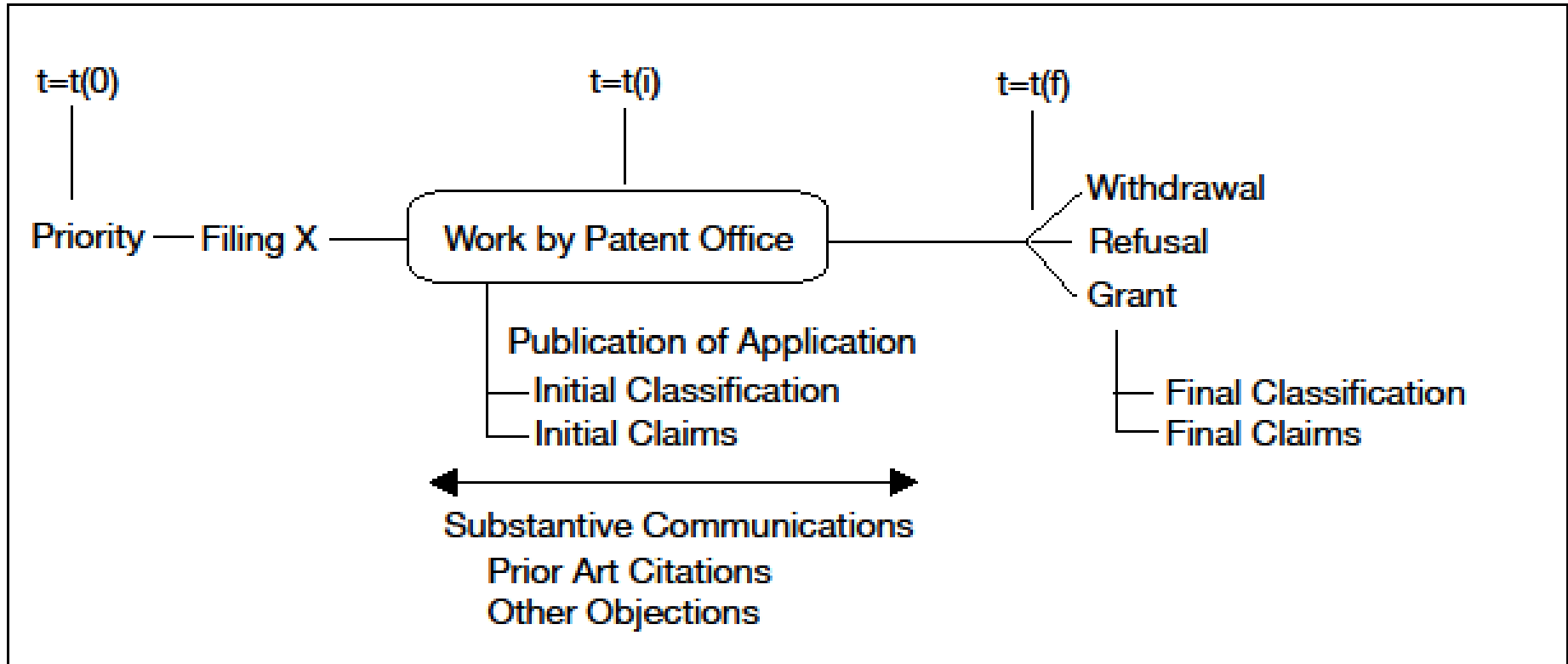


Table 2: Definition of metrics for key examiner actions

Key Examiner Actions	Characterizing indexes	Measured at (point in time)		
		Publication ¹	Examination ²	Decision ³
Workload or input	- N° of independent claims - N° of claims	0		0
1. Classification	- N° of allocated IPC-4 digit - N° of Searched IPC ⁴	0	0	0
2. Citation of prior art by the examiner	- N° of citations against patentability - Geographical coverage ⁵		0 0	0 0
3. Speed of key examiner actions	- Time to first citations from earliest priority (number of days) - Number of Communications till outcome ⁶ - Time to end of procedure from earliest priority (number of days)			
4. Procedural outcome, or grant decision	- Decision to grant, withdraw or refuse			

Table 3: Two datasets – pure random & identical PCT-isa share

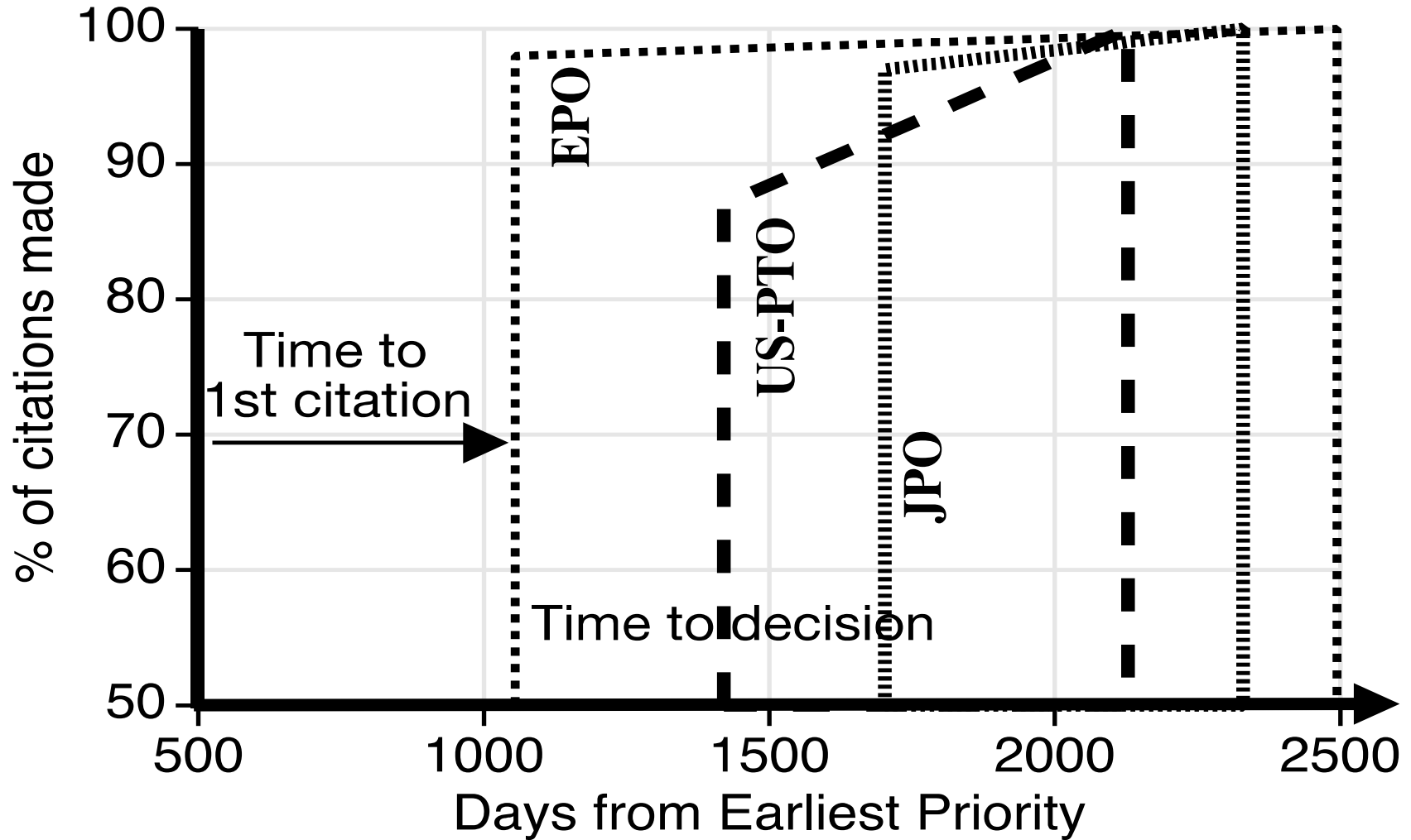
	EPO	JPO	US-PTO
Priority Date (earliest)	2004-2007		
IPC-4 digit condition	OR: C21B, C21C, F27B, F27D, B22D		
N° Families in fields	1434		
DATASET I (Random selection)			
N° of families in Dataset I	100		
Priority distribution:	EPC Member: 42%, JPO: 26%, US-PTO 28%, Others: 5%		
Dataset I: PCT-ISA %	34	18	12
Pending %	8	3	1
DATASET II (Random selection, final selection with equal PCT-ISA share)			
N° of families in Dataset II	100		
Priority distribution:	EPO 35%, JPO 30%, US-PTO 33%, Others 2%		
Dataset II: PCT-ISA %	22	22	22

Similar results with the two datasets

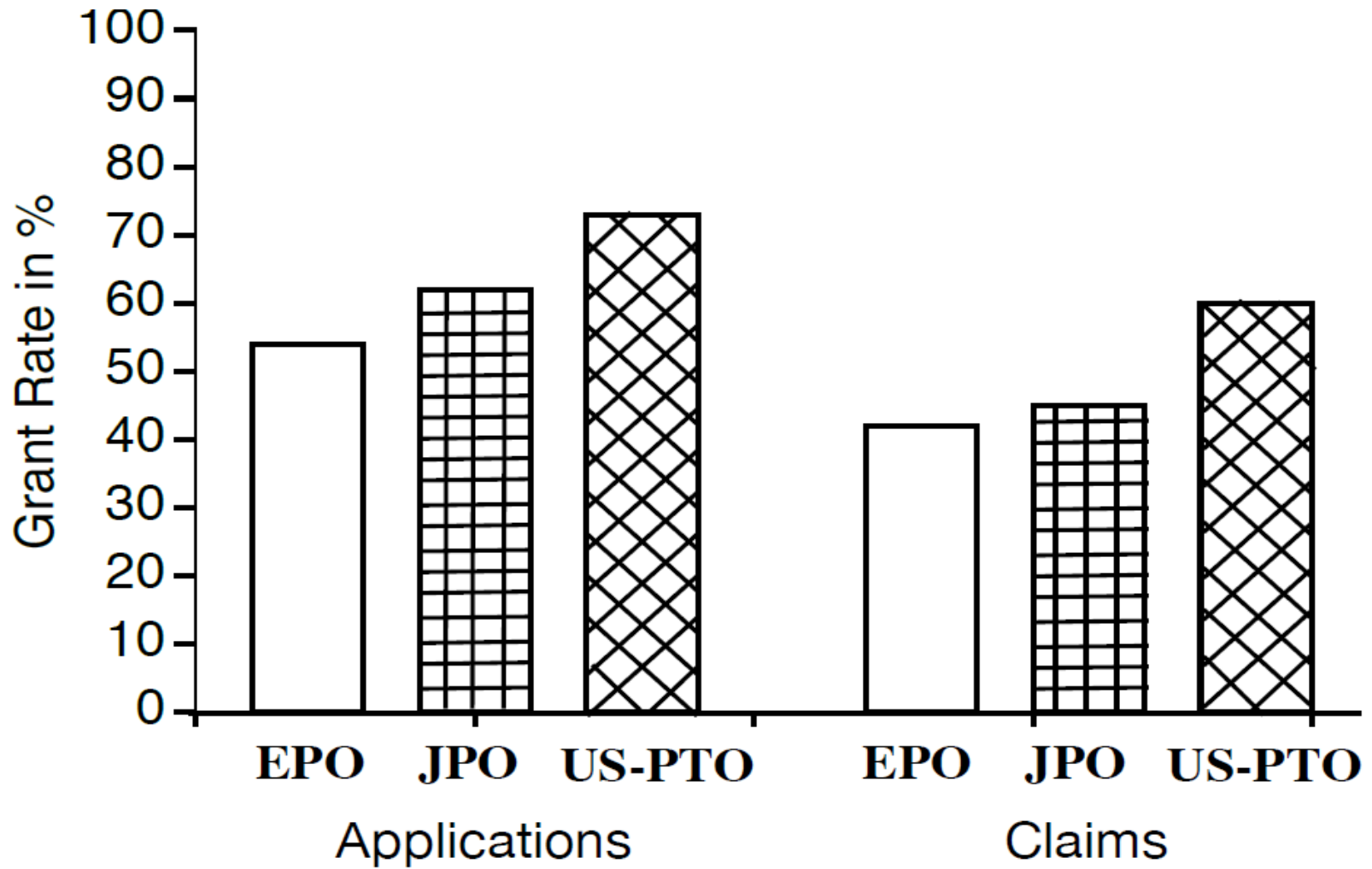
Table 4: Two datasets – pure random & identical PCT-isa share

Patent office	EPO	JPO	USPTO
Initial applications			
Num. of ind. claims of published application	1,9	2,0	2,0
Total number of claims of published application	16,4	17,6	19,7
Search completeness and certainty			
Key Examiner Action 1. Classification practice			
Average number of IPC 4-digit classes in the family	3,3		
% of family IPC allocated to published application	66	61	40
% of family IPC allocated to granted patent	76	65	50
% of family IPC used in search during procedure	75	55	7 (*)
Key Examiner Action 2. Citations			
	EPO	JPO	USPTO
Number of final citations per procedure	4,5	4,4	5,0
% of citations made after 1 st citations	2	4	23
% of procedures with citations added after 1 st cit.	3	3	44
Geographic coverage (number of country codes of said citations (All EPC together =1)	2,4	1,3	1,3
Speed			
Time to 1 st Cit. (days from earliest priority date)	1055	1702	1420
Time to decision in days	2494	2330	2128
N ^o of communication to decision (excl. final notice)	2,0	1,7	2,5
Stringency			
Independent Claims of published patent	1,6	1,5	1,9
Total number of claims of published patent	12,8	13,0	16,2
Grant Rate in % (grants/applications)	54	62	73
Allowance of Claims in %	42	45	60

Speed of delivery of the first citations - time to decision – and percentage of citations added during the procedure



Stringency – real grant rates (patents and claims)



In a nutshell (for a small sample, and back to 2004-7)

- › **EPO**: high level of completeness and certainty from 1st citations; cites the highest amount of (non-EU) Country Codes (effectively considers prior art at a global scale), hence highest stringency (lowest grant rate or claims grant rate).
- › **USPTO** incremental approach to certainty, with highest grant rate and relatively limited use of IPC when retrieving prior art. Cited prior art is essentially national.
- › **JPO** similar classification practice than EPO, Citation practice is stable yet essentially national, grant rate is intermediate but closer to EPO with the claims.

Bottom line & next stage

- › Drastic differences across patent offices in operations, speed, certainty and stringency....
- › Should be taken into account for implementation of global dossier
- › Beware: sample and depth of procedure (patenting routes)
- › Next stage: sample of 3,500 patents from all fields except the most controversial ones.

References: (cfr. also RePEc website)

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