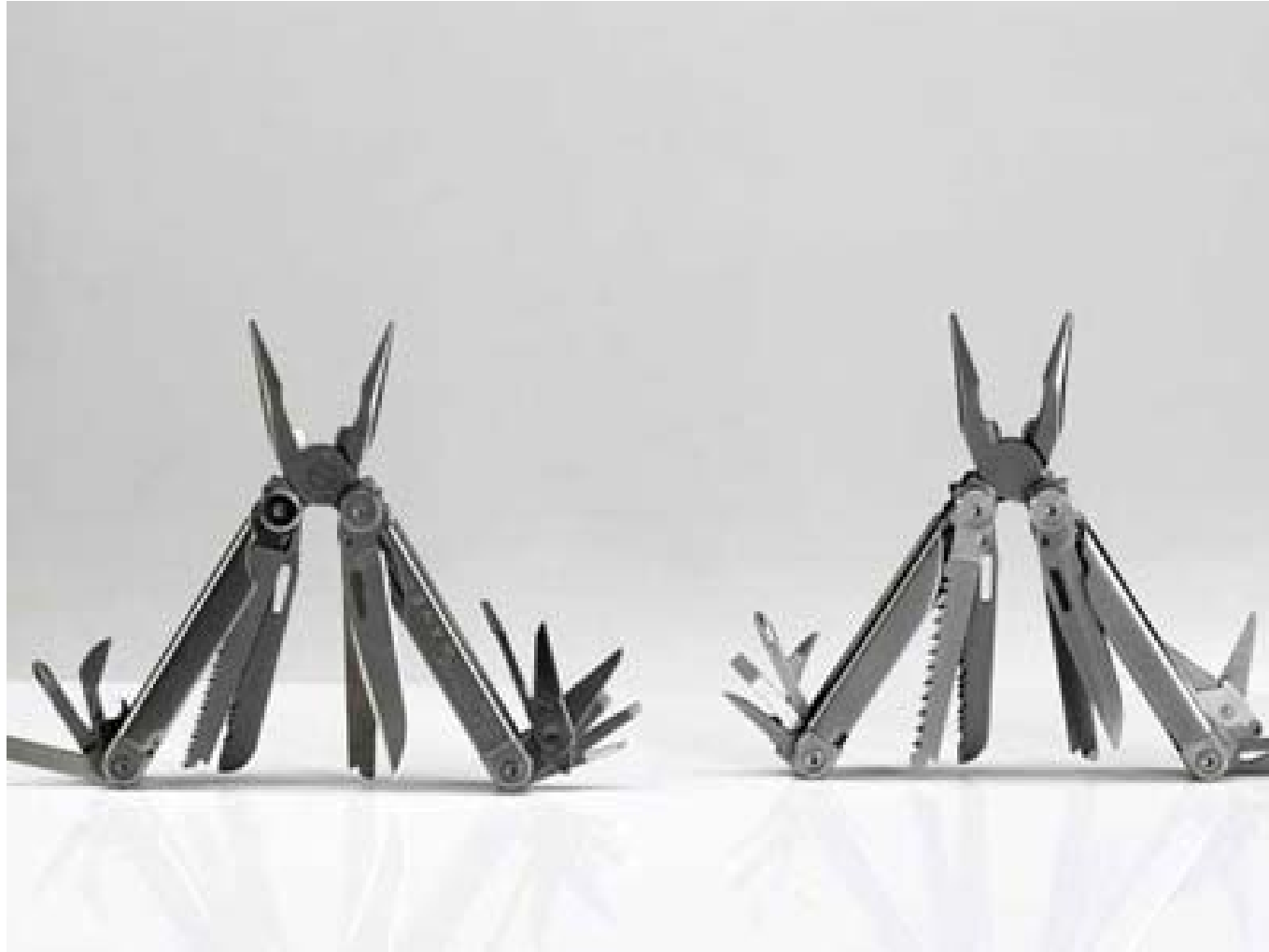


Do German Courts like Europeans more than Germans?

- A comparison of infringement cases of patent application at the German and the European Patent Office -

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ASIGO Conference
Nuremberg
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Leatherman
(Authentic version)

Retas
(Plagiate)



Brake disk Volkswagen
(Authentic version)



Plagiate



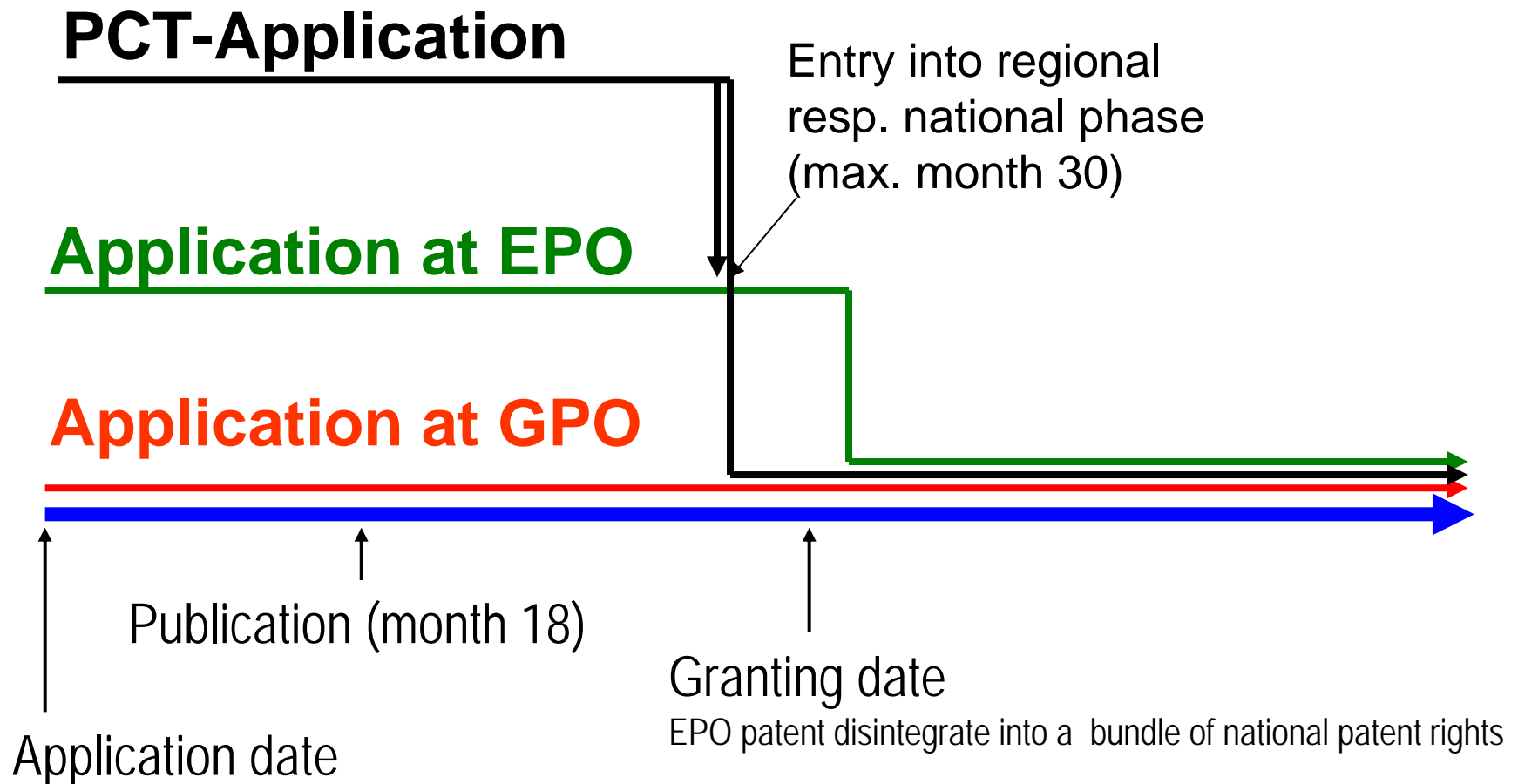
- Detecting infringement
- Uncovering that „your“ patent right is infringed in Germany
- Going to court?
- Settlement without court?

Introduction

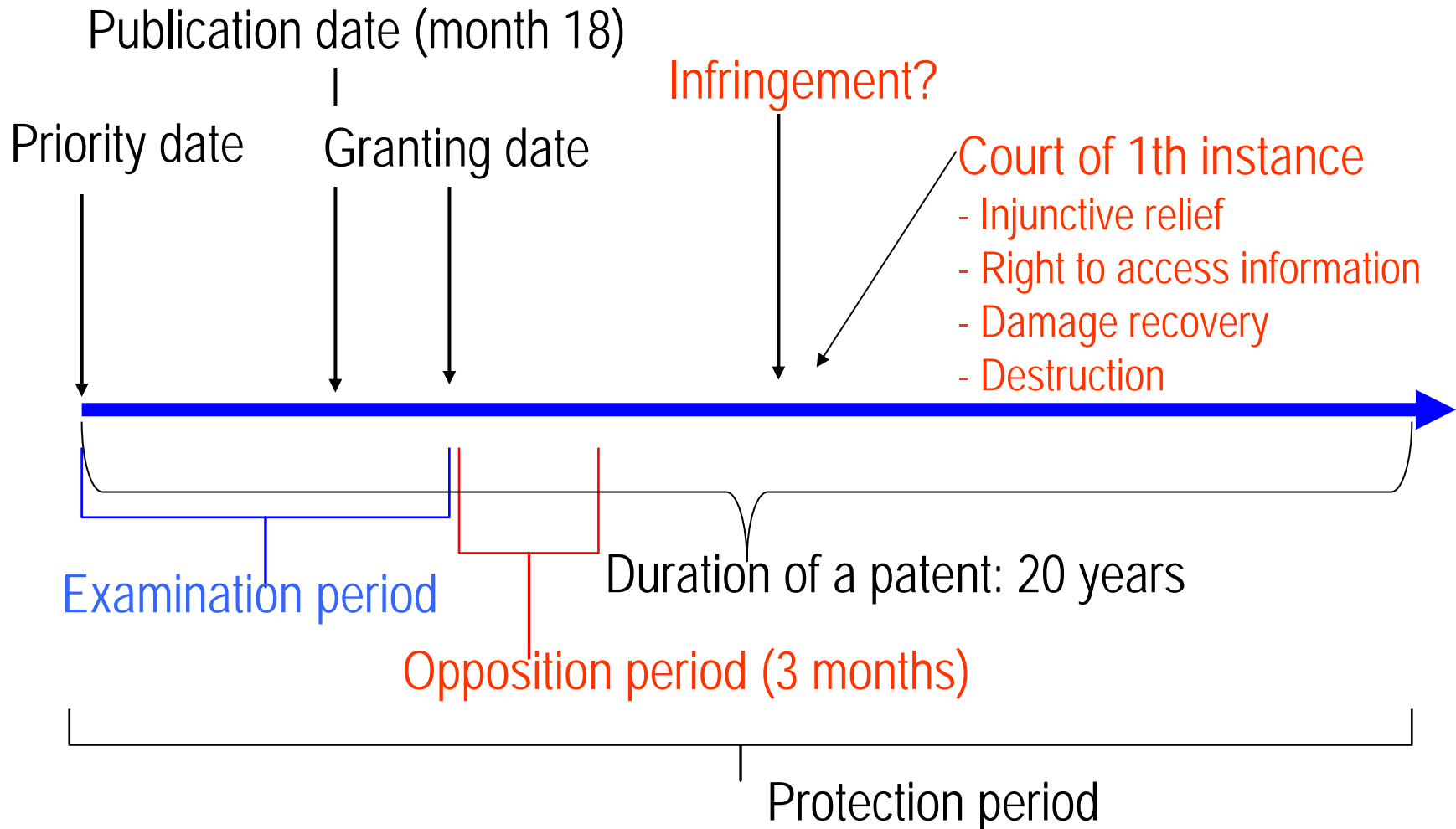
- ❖ Rapid increase in patent applications - national and even stronger increase of international applications
- ❖ Changes in the motives to patent and the use of patents
- ❖ Increased variety of ways to receive patent protection in Germany (GPO vs. EPO vs. PCT)
- ❖ Stability/Survival of patents in disputes as a measurement of quality of patent rights/patent examination
- ❖ Current discussion about a „European litigation“ system



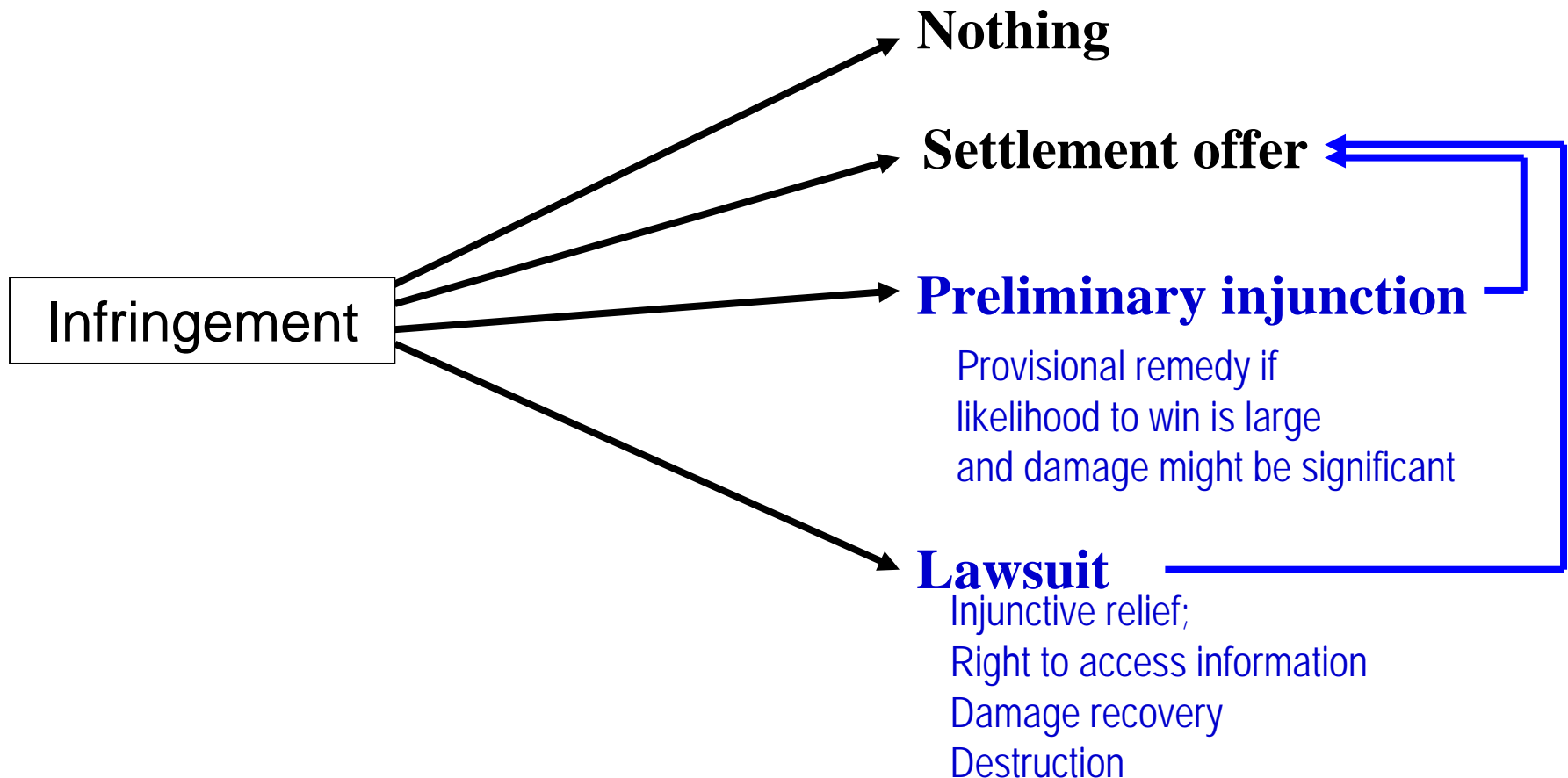
Ways to Patent Protection in Germany



Timing and Events of the Application Process



What a patent holder can do when his patent is infringed?



Research Questions

1. Do German patents differ from European patents in their economic value?
2. Is the probability of patent violation lawsuits for patent applications at the German patent office larger than for applications at the EPO?
3. Do EPO applications provide stronger protection than applications at the German patent office?

Predictions based on the Theory of Disputes

- ❖ If the expected profits are very high, the probability of patent violation processes will increase.
(*Economic value*)
- ❖ If the expectations of parties about the outcome of the lawsuit are very different, the probability of patent violation lawsuits will increase (i.e. likelihood of settlement will decrease).
(*Power of the patent law*)

Data & Methodology

DATA FROM LAWSUITS

- ❖ 714 lawsuits in Mannheim and Düsseldorf in 1993 to 1995
- ❖ 910 patents involved

CONTROL GROUP

- ❖ Random selection of 850 patents with the same priority year and IPC-class which were not litigated

DATA BASED ON PATENT INFORMATION

- ❖ Value correlates (citations, opposition, family size, claims)

LINKING PATENT DATA WITH FIRM DATA

- ❖ Firm size, industry, ownership, credit rating

Patents by IPC groups („Technology“)

Technology groups	All patents	Litigated
Pharmaceuticals	6,1	7,7
Chemicals / Materials	16,8	7,0
Mechanical and transport tech.	28,4	14,2
Electrical Tech./Electronics/Telecom	36,8	49,9
Others	11,9	16,2

Litigated Patents vs. Control Group

	All	Litigated	Control group
European Patents	727 (41,3 %)	279 (30,7 %)	448 (52,7 %)
German Patents	1033 (58,7 %)	631 (69,3 %)	402 (47,3 %)
<i>Total</i>	1760 (100 %)	910 (100 %)	850 (100 %)

Proxies for Patent Value (Value correlates)

- ❖ Number of citations received from subsequent patents
(Forward Citations)
- ❖ Number of references on preceding patents
(Backward Citations)
- ❖ Number of patent claims **(Claim)**
- ❖ Survived of an opposition procedures **(Opposition)**
- ❖ Size of the patent family **(Famsize)**

Mean Values of Value Correlates for European and German patents

	Total sample		Litigated patents		Control group	
	EPO	DPMA	EPO	DPMA	EPO	DPMA
Forward Citations	6,021*	11,635*	12,010	16,306	2,292**	4,302**
Backward Citations	2,368***	4,980***	1,299***	6,276***	3,033	2,946
Claims	16,340	17,064	20,609	20,820	13,680	11,168
Opposition ¹	0,163	0,152	0,333***	0,223***	0,058	0,040
Family size*100	10,614	12,165	11,377	16,795	10,139	4,898

¹ Share; ***, **, *: 1, 5, 10% significance level.

Litigated Patents show higher values! (Forward citations, Opposition)
 EPO and DPMA applications do not differ in value correlates!

Other Characteristics

	Total sample		Litigated patents		Control group	
	EPO	DPMA	EPO	DPMA	EPO	DPMA
EPO-Application (0/1)	0.41	-	30.7	-	52.7	-
PCT-Application	0.106	0.003	0.086	0.005	0.118	0.001
Individual Owner	0.205	0.254	0.215	0.222	0.199	0.303
Small Firm	0.072	0.183	0.093	0.212	0.058	0.137
Medium Size Firm	0.253	0.288	0.272	0.284	0.241	0.293
Large Firm	0.470	0.276	0.419	0.282	0.502	0.266
Owner DE	0.400	0.857	0.649	0.818	0.241	0.918
Owner EU	0.287	0.094	0.194	0.127	0.346	0.042
Owner US	0.188	0.035	0.118	0.048	0.232	0.015
Owner JP	0.100	0.004	0.032	0.005	0.143	0.002
Owner other	0.026	0.011	0.007	0.003	0.038	0.022
Portfolio Size / 10000	0.161	0.154	0.062	0.259	0.220	0.257
Share patents in IPC class (technological competition)	0.520	0.462	0.500	0.474	0.532	0.444
Observations	727	1033	279	631	448	402

Determinants of Patent Litigation

– Marginal effects based on probit estimation –

	marg. effect	st. error	marg. effect	st. error	marg. effect	st. error	
Patent value	Forward Citations		0.439***	(0.093)	0.350***	(0.106)	
	Share EPO Citations		-0.021	(0.036)	-0.028	(0.037)	
	Backward Citations		0.326	(0.252)	0.348	(0.252)	
	Claims		0.102**	(0.041)	0.108**	(0.042)	
	Opposition		0.407***	(0.028)	0.400***	(0.029)	
	Family Size		0.230***	(0.079)	0.225***	(0.079)	
PCT-Application	-0.057	(0.065)	-0.066	(0.068)	-0.062	(0.069)	
Applicant characteristics	Small Firm	0.138***	(0.049)	0.102**	(0.044)	0.140***	(0.050)
	Medium Size Firm	0.053	(0.044)	0.002	(0.037)	0.020	(0.046)
	Large Firm	0.174***	(0.051)	0.067*	(0.039)	0.131***	(0.049)
	Portfolio Size / 10000	-0.211***	(0.059)	-0.206***	(0.062)	-0.218***	(0.063)
	Owner Foreigner EU	-0.137***	(0.037)	-0.127***	(0.039)	-0.130***	(0.039)
	Owner Foreigner US	-0.207***	(0.043)	-0.235***	(0.047)	-0.236***	(0.047)
	Owner Foreigner JP	-0.359***	(0.049)	-0.352***	(0.056)	-0.344***	(0.058)
	Owner Foreigner Other	-0.424***	(0.051)	-0.393***	(0.071)	-0.399***	(0.070)
Share of patents in IPC 4			-0.041	(0.032)	-0.042	(0.032)	
EPO effects	EPO-Application	-0.158***	(0.047)	-0.123***	(0.035)	-0.199***	(0.050)
	EPO*Forward Citation					0.343*	(0.203)
	EPO*Small Firm	0.142**	(0.067)			0.145**	(0.069)
	EPO*Medium Firm	0.053	(0.094)			0.005	(0.099)
	EPO*Large Firm	0.126**	(0.064)			0.094	(0.068)
LR-statistic on joint significance of technology dummies	chi2(13) = 13.88		chi2(13) = 13.02		chi2(13) = 13.1		
	Prob >0.38		Prob >0.44		Prob >0.41		
Number of observations	1711		1711		1711		
Mc Fadden R ²	0.09		0.18		0.18		

***, **, *, ., 1, 5, 10% significance level. Standard errors in paranthesis

Summary of Determinants of Litigation

- ❖ Litigation is more likely for valuable patents
- ❖ Probability of litigation do not differ by broad technology classes (But remember the construction of control group!)
- ❖ Firms with large patent portfolio are less often involved in patent litigation cases
- ❖ Small and very large firms more often involved in lawsuits
- ❖ Probability of litigation varies by country of origin of the patent holder
- ❖ EPO patents are less likely involved in litigation cases
- ❖ Small firms show significantly higher involvement in patent suits. This effect is even stronger for EPO patents

Outcome of lawsuits

What can happen when a litigation suit is started

- ❖ Judicial or extrajudicial settlement („gerichtlicher/außergerichtlicher Vergleich“)
- ❖ Or litigator/plaintiff stop to pursue the case
- ❖ Or court ruling

Result: No systematic relation of outcome of a litigation suit to patent value, firm and technology characteristics, or type of patent (EPO vs. DPMA)

Does the court ruling differ by type of patent?

- ❖ In 75% of cases the court hold up the patent („patent holder wins“)
- ❖ However, no influence of patent value, firm or technology characteristics or type of patent on court decisions was uncovered

Decision of courts depends on facts other than the ones which can be easily observed by both parties (e.g. type of infringement)

Back to Research Questions

1. Do German patents differ from European patents in their economic value?
No; but
2. Is the probability of patent violation lawsuits for patent applications at the German patent office larger than for applications at the EPO?
EPO application less likely involved in lawsuits
3. Do EPO application provide stronger protection than applications at the German patent office?
**If an infringement case is brought to court:
no difference between EPO and DPMA applications**

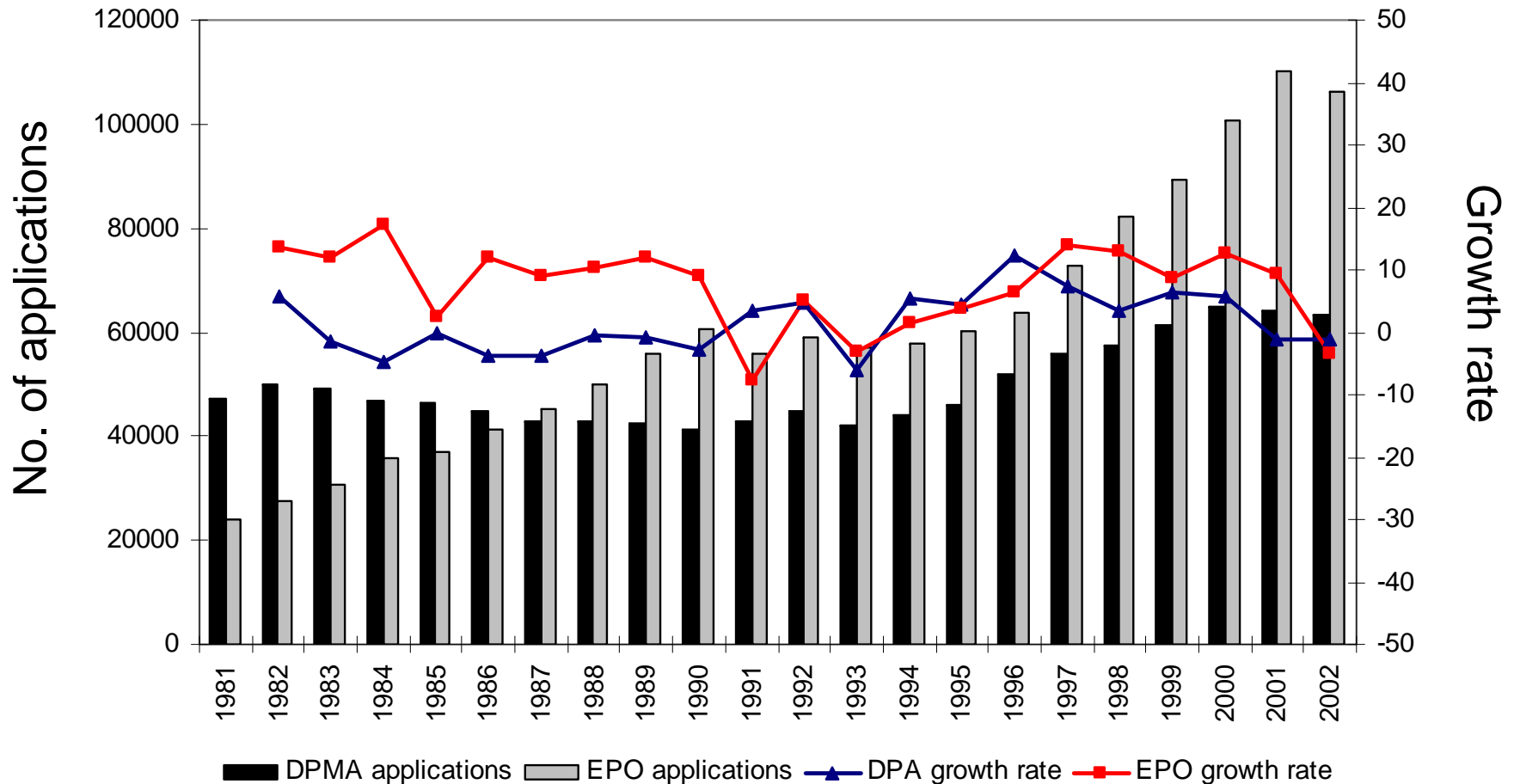
Interpretation of Results

- ❖ Litigation probability is linked to the expectations of patent holder and patent infringer about the strength of the patent right
- ❖ Smaller EPO litigation probability (esp. large firms) means that the strength of EPO patent right is obvious to both parties (assuming that the likelihood of infringement is the same for EPO and DPMA applications)
- ❖ **„All sorting is done before trial“** (Lanjouw/Schankerman)
 - The result and the success at courts depend on „unobservable“ patent or party characteristics
- ❖ At courts, EPO and DPMA patents are equal



**Thank you very much
for your attention!**

Number of Applications and Growth Rates of DPMA und EPO Applications



DPMA: Direct applications at the DPMA and PCT application in national phase
 EPO: Direct EPO and PCT application in regional phase

Ratio of the Share of Litigated Patents to the Share of all Patents by Patent Office

