

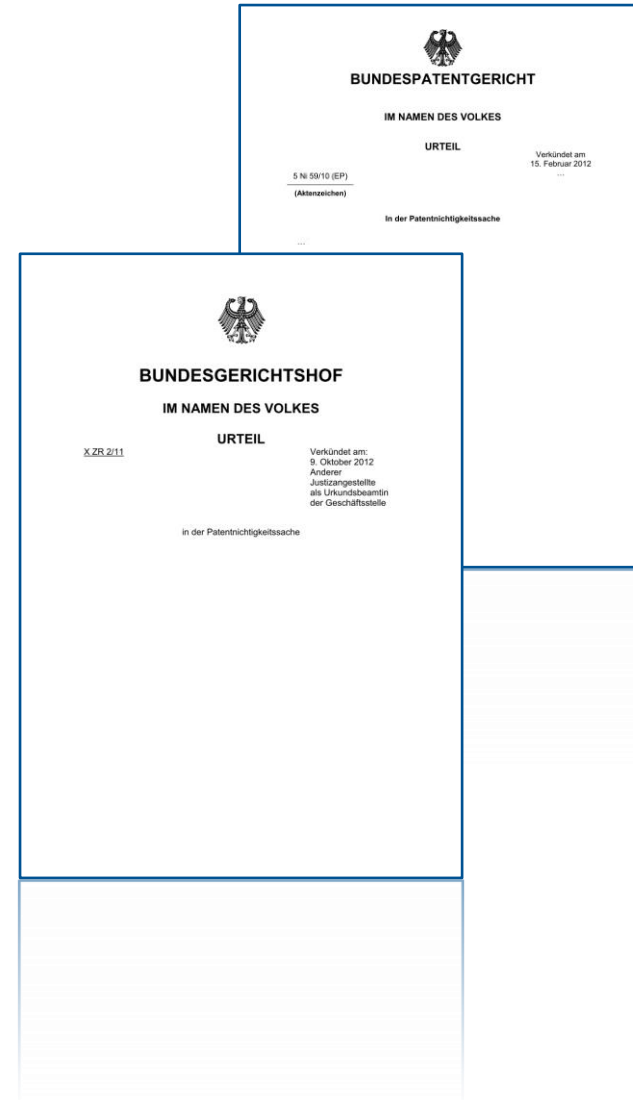
Why most patents are invalid

Extent, reasons, and potential remedies of patent invalidity

Joachim Henkel, Hans Zischka

TUM School of Management
Technische Universität München

IP Scholars Conference
UC Berkeley, 08 August 2014



- To promote innovation, the patent system needs to provide certainty
- However, there is considerable uncertainty
- Uncertainty has negative consequences for...
 - Patentees
 - Third parties
 - Policy makers

- Grant, scope
 - Brimelow: *“If you spend several years waiting for a decision, you and others can play ‘rich man’s poker’, taking a bet on what your rights are going to be...”*
- Validity
 - e.g., Lemley, Shapiro (2005), “Probabilistic patents”

patent

- Infringement
 - e.g., Bessen, Meurer (2008) : many patents do not fulfill notice function
- Damages, injunctions
 - e.g. NTP vs. Research in Motion, 2006

patent & product

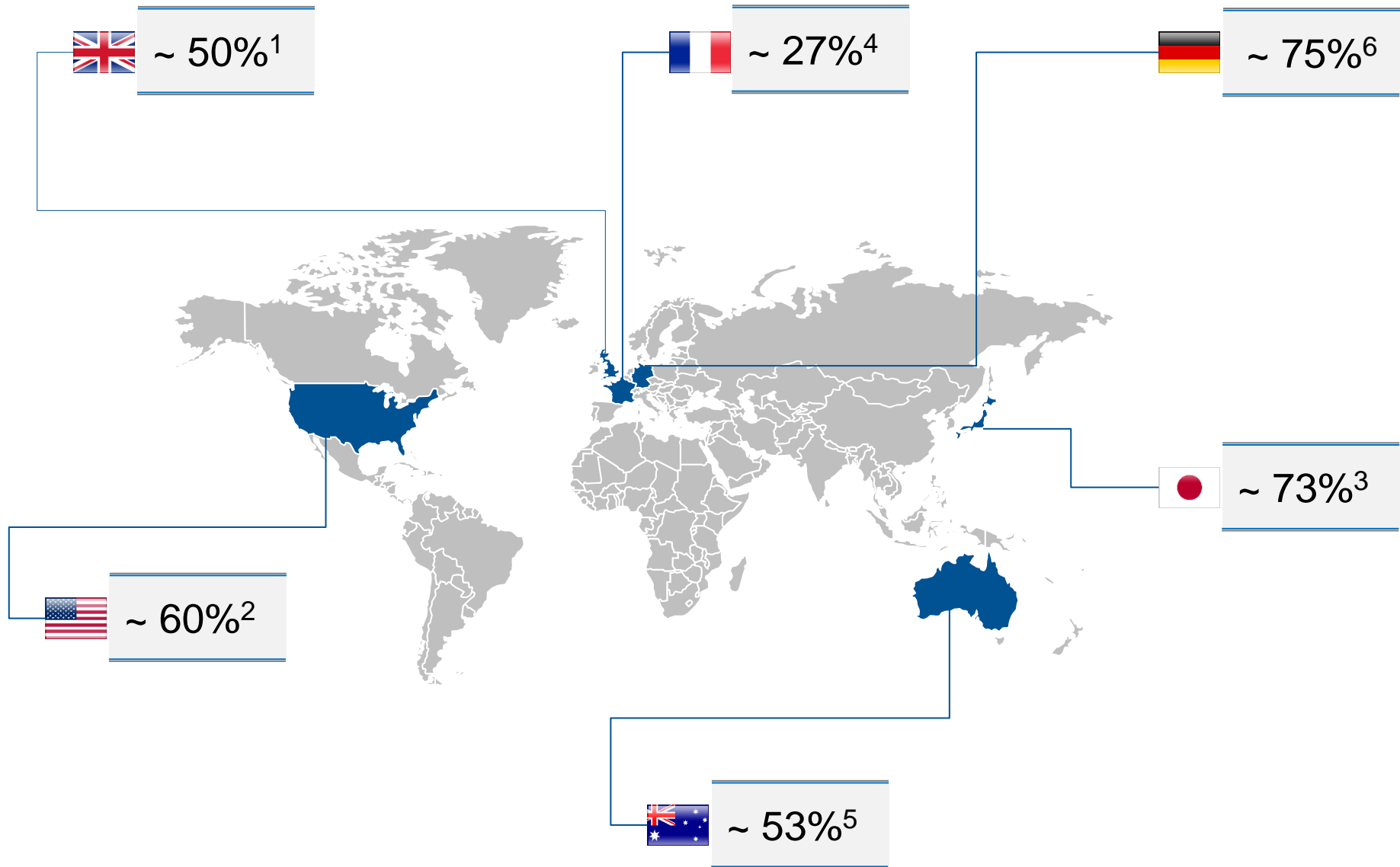
*Uncertainty regarding **validity** is particularly serious:*

- ends only with patent expiry
- should be avoidable – examination!
- harder to assess than infringement
- likely a matter of deep purse in search for prior art
- affects every third party, not only individual products



How serious is the issue of patent (in)validity?

Invalidation rates around the world

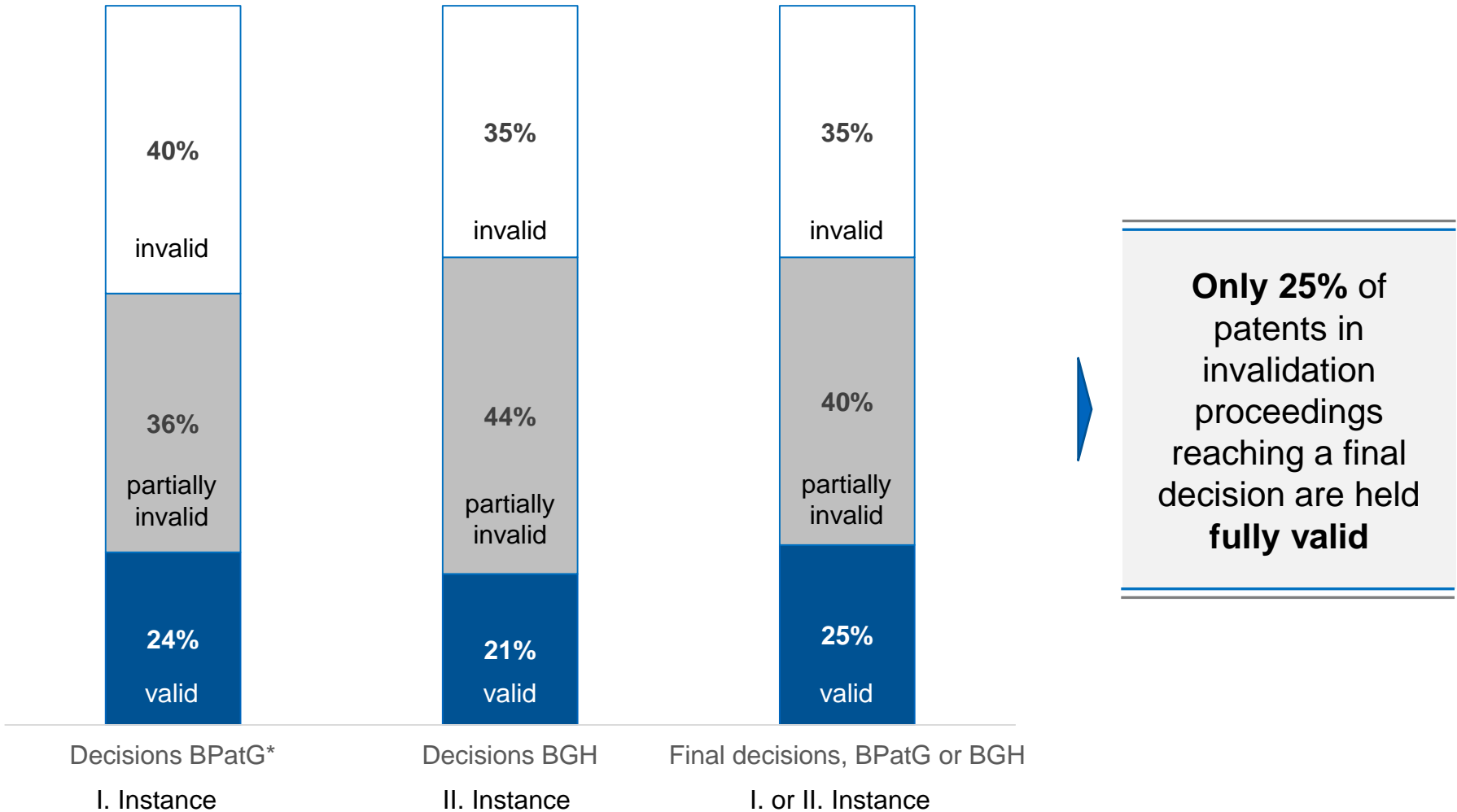


Sources: 1: Helmers & Mc Donagh 2013; 2: Mann & Underweiser 2012; 3: Oyama 2012; 4: Véron 2010; 5: Weatherall & Webster 2005; 6: Own Research

Author	Titel	Invalidation Rate	Period
P.J. Federico	Adjudicated Patents	- 1925 - 1954: 60-70%	1925-1954
Matthew D. Henry & John L. Turner	<i>The Court of Appeals for the Federal Circuit's Impact on Patent Litigation</i>	- 1953 - 1982: - 1982 - 2002: 55% 27%	1953-2002
Gloaria K. Koenig	<i>Patent Invalidation: A statistical and Substantive Analysis</i>	- 1953 - 1978: - 1968 - 1978: 65% 69%	1953-1978
Dunner, Donald R., J. Michael Jakes, & Jerrey D. Karceski	<i>A Statistical Look at the Federal Circuit's Patent Decisions: 1982-1994</i>	- 1982 - 1994 42%	1982-1994
Mark A. Lemley	<i>An Empirical Study of the Twenty-Year Patent Term</i>	- 1989 - 1994: 44%	1989-1994
John R. Allison & Mark A. Lemley	<i>Empirical Evidence on the Validity of Litigated Patents</i>	- 1989 - 1996: 46%	1989-1996
Alan C. Marco	<i>Learning by Suing: Structural Estimates of Court Errors in Patent Litigation</i>	- 1977 - 1997: 42%	1977-1997
Kimberly A. Moore	<i>Judges, Juries, And Patent Cases - An Empirical Peek Inside The Black Box</i>	- 1983 - 1999: 33%	1983-1999
Ronald J. Mann	<i>A New Look at Patent Quality: Relating Patent Prosecution to Validity</i>	- 2003 - 2009: 60%	2003-2009

On average, roughly **50%** of the patents in invalidation proceedings are ruled invalid

:



* Share "valid" among those BPatG decisions that are then appealed at BGH: 29%

Source: Own research

What **share of all patents** would,
if they went through invalidation proceedings,
be ruled partially or fully invalid?

for German patents:

>75%

1 Motivation

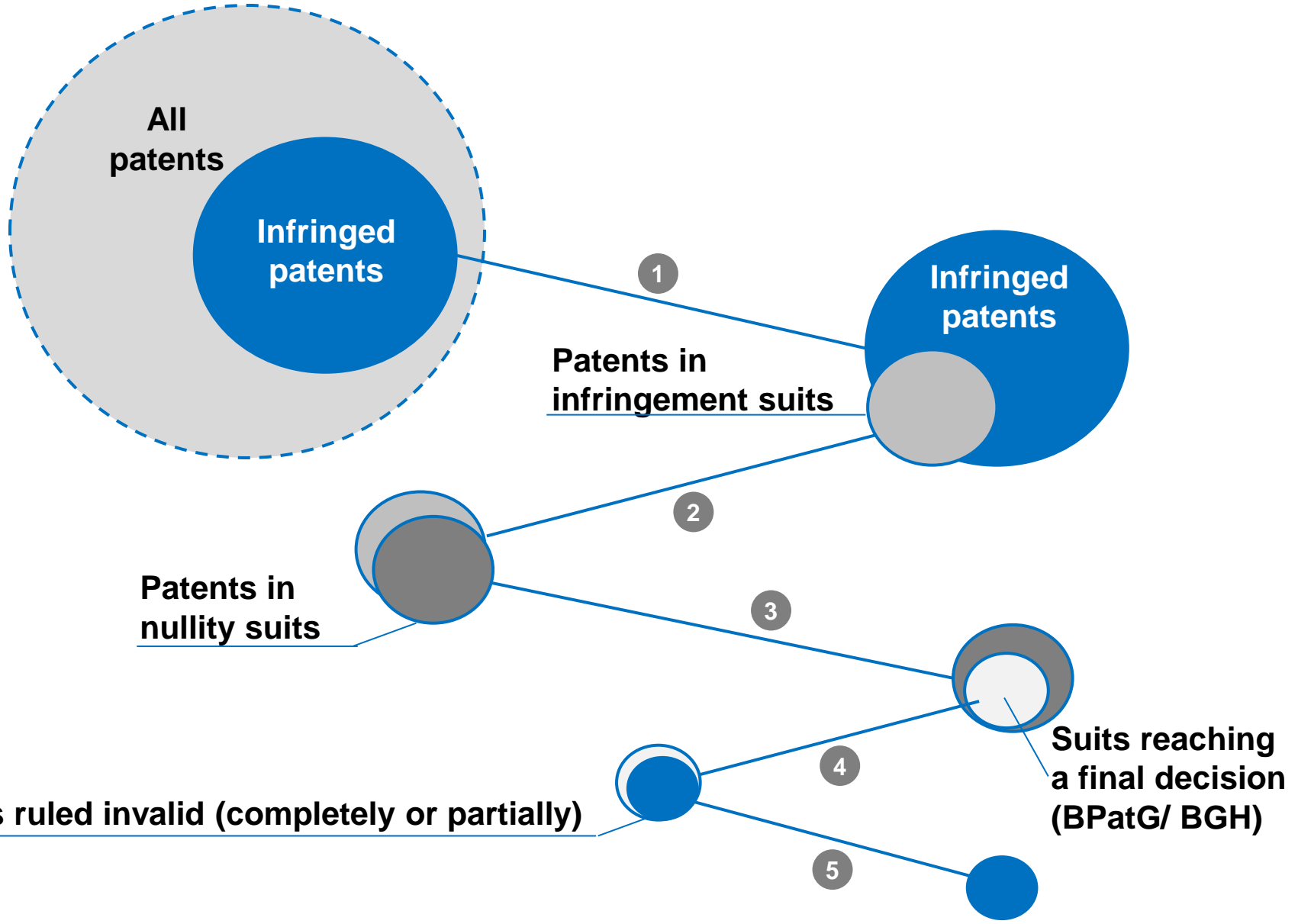
2 Selection stages

3 Approach and data

4 Results

5 Discussion

6 Conclusion



1 Motivation

2 Selection stages

3 Approach and data

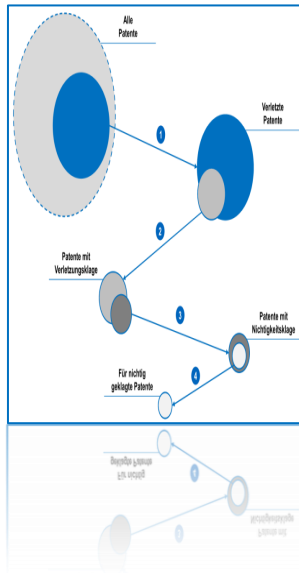
4 Results

5 Discussion

6 Conclusion

Data sources

Interviews



Survey

Die folgenden Fragen beziehen sich auf Ihre/ihren/ihre Patent- und Nichtigkeitsklagen in Deutschland.

A. Frage zur Patent-

A1. Seit wie vielen Jahren beschäftigen Sie sich mit Patentangelegenheiten?
 0-10 11-20 21-30 31-40 41-50

A2. In wie viele Nichtigkeitsklagen waren Sie bisher involviert?
 0 1-10 11-20 21-30 31-40

A3. In wie viele Berufungsverfahren in Patentnichtigkeitsklagen waren Sie bisher involviert?
 0 1-10 11-20 21-30

A4. Welche Professionsgruppen gehören Sie an?
 Rechtsanwalt Patentanwalt

A5. Mit welchem Tätigkeitsfeld befasst Sie sich überwiegend? Auf diesen Tätigkeitsfeld wird im Folgenden die „Ihre“ zugehörige „Kategorie“ festgelegt.
 Maschinenbau und Mechatronik Chemie und Biotechnologie Elektrotechnik und IT Sonstige

A6. In Nichtigkeitsklagen vertreten Sie ...
 ...einer der Kläger ...einer der Beklagten ...eines gleich häufig Klägers und Beklagten
 ...einer der Kläger ...einer der Beklagten ...einer der Beklagten

A7. In Nichtigkeitsklagen vertreten Sie überwiegend / ausschließlich ...
 1-10 11-20 21-30 31-40 41-50 51-60 61-70 71-80 81-90 91-100 Mitarbeiter Eine Person auf hohem Entscheidungsniveau

Decisions

BUNDESPATENTGERICHT

IM NAMEN DES VOLKES

URTEIL

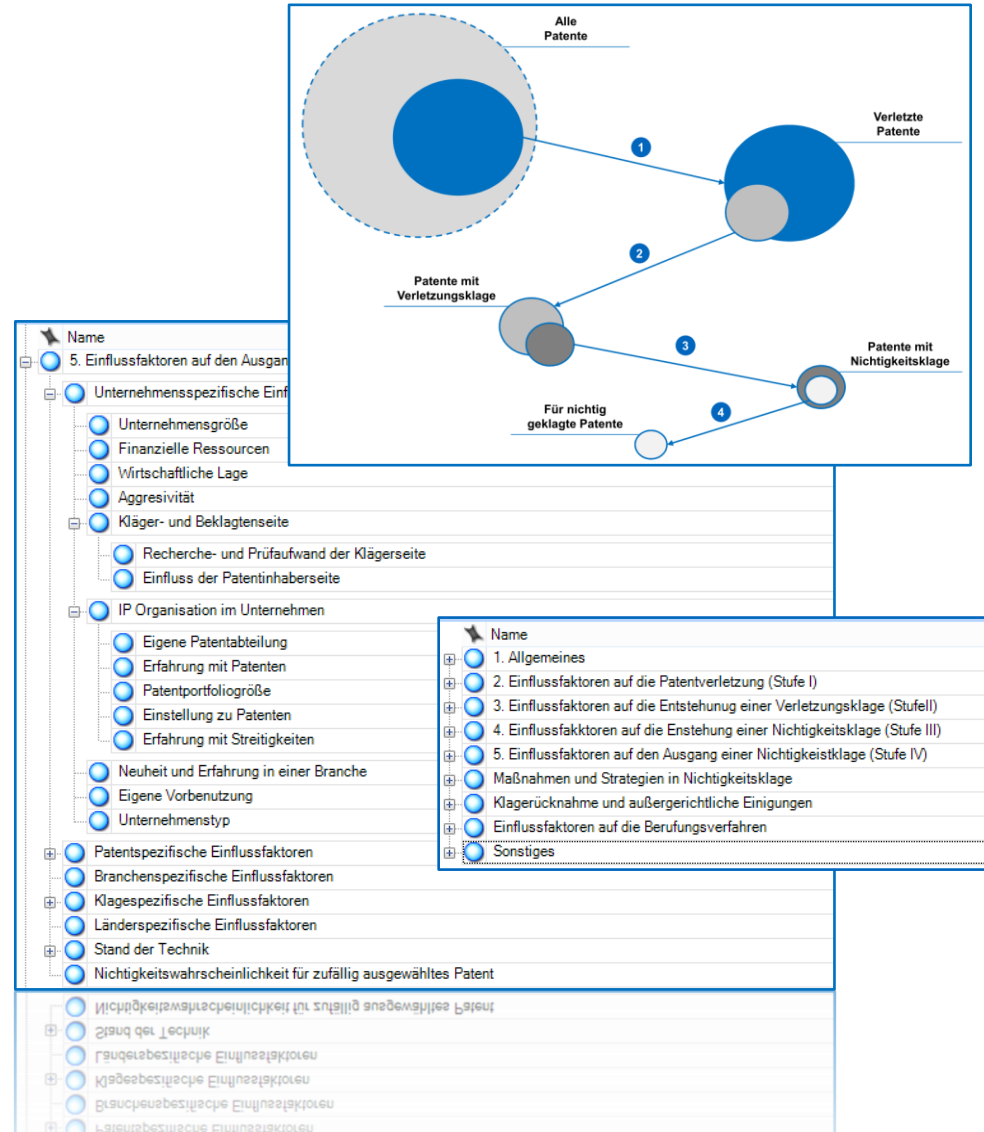
Verhandelt am 15. Februar 2012

5 74 59 10 (EP)
(Athenansehen)

In der Patentnichtigkeitssache

BR 01/2012
16 02

- 19 hours
- 12 interviews
- 15 interviewees
 - patent attorneys
 - lawyers
 - judges

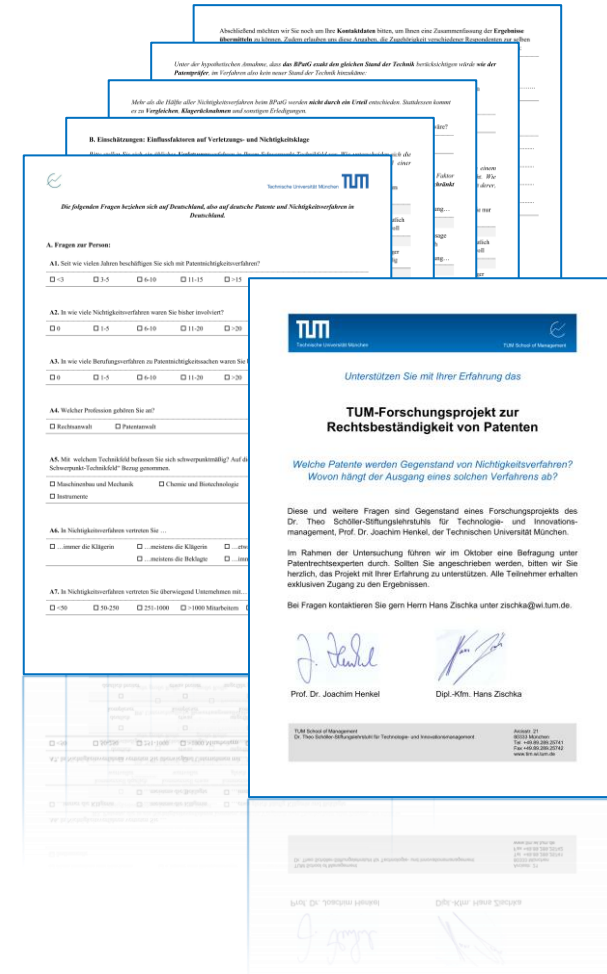


325 Participants

- Identification of relevant law firms according to JUVE-ranking „Patentrecht/ Patentprozesse“
- 1163 potential contacts in 100 law firms
 - Patent attorneys (75%); lawyers (25%)
 - Response rate: 28%

Implementation

- Several pretests
- Announcement placed in „Rundschreiben der Patentanwaltskammer“ (KRS 5-13)
- Paper questionnaires sent out
- Online questionnaire available
- Two follow-up emails
- Conducted November 2013



Descriptive analysis

- BPatG: 1145 decisions (00-12)
- BGH: 302 corresponding decisions (00-13)

Multivariate analysis

- BPatG: 310 decisions (10-12)
- BGH: 52 corresponding decisions (10-13)

Details Beklagter	Beschrankung durch Klagen	Details Kläger	Mehrere Beklagte	Mehrere Kläger	Rücknahme	Sonstige
	0					

1. Instanz						
Urteil codiert (I-N, Z-TN, S-M)	Klagejahr	Urteilsdatum	Gründe	Beschrankung durch Beklagte	Hilfsantrag durch Beklagte	
1	99	25.01.2000	mangelnde Patentfähigkeit (erfinderische Tätigkeit)	0	0	Die Klage (3) Nr. 23/01 (EU) wird 6. März in 2005 noch. Die Klage (4) Nr. 25/01 (EU) wird nochmal so

Id	Aktenzeichen	EP/DE	Patentnummer EP	Patentnummer DE	Patentnummern	Urteil
1	1 Ni 8/99	0		DE 36 31 716	DE 36 31 716	nichtig
2	4 Ni 18/98 (EU)	EP	EP 0 165 245	DE 34 79 019		
3	2 Ni 8/99 (EU)	EP	EP 0 592 712	DE 592 07 999		
7	3 Ni 23/99 (EU)	EP	EP 0 358 132	DE 589 08 765		
8	4 Ni 4/99 (EU)	EP	EP 0 789 648	DE 595 02 066		
9	3 Ni 11/99 (EU)	EP	EP 0 005 129	DE 29 60 293		
12	3 Ni 8/99 (EU)	EP	EP 0 247 983	DE 37 83 394		
15	3 Ni 8/99 (EU)	EP	EP 0 541 983	DE 31 93 394		
8	3 Ni 18/99 (EU)	EP	EP 0 002 259	DE 59 80 533		
5	4 Ni 15/99 (EU)	EP	EP 0 188 810	DE 59 80 509		

BUNDESPATENTGERICHT

IM NAMEN DES VOLKES

URTEIL

Verkündet am 15. Februar 2012

5 Ni 59/10 (EP)
(AttENZEICHEN)

In der Patentnichtigkeitssache

BPatG 253/08 05

08 02
BL/NrO 512

- 1 Motivation**
- 2 Selection stages**
- 3 Approach and data**
- 4 Results**
- 5 Discussion**
- 6 Conclusion**

Legal stability of patents in infringement/ invalidation proceedings, compared to avg. patent:

Infringement suits: more robust patents

- *"I wouldn't have proceeded on the basis of a non-robust patent [...]."* (patent attorney 2)

Nullity suits: less robust patents

- *"Well, I assume after all that there would have been some sort of tangential result, affecting the granted patent [...] And this in turn indicates to me that the suits which are filed are not without any prospect of success."* (patent attorney 2)
- *"So, because of this, [the patents in revocation suits] will be a little more robust, statistically speaking. But it would surprise me now if they were twice as robust as standard patents."* (patent attorney 1)

But: many infringement suits trigger nullity suit

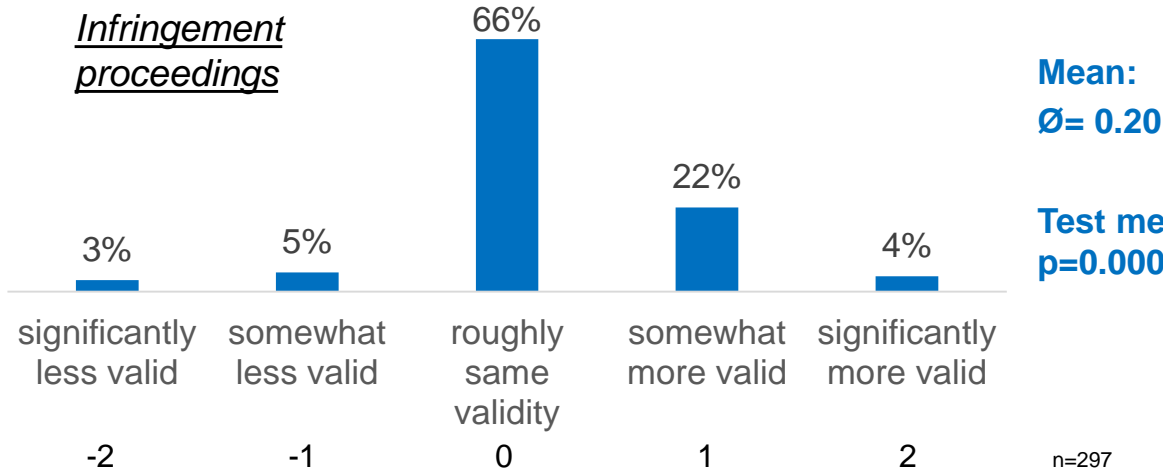
- *"So I would actually state quite brutally: The revocation suit is the immediate response to the infringement suit"* (patent attorney 2)
- *"In chemistry, I feel that there is almost always a suit for revocation if an infringement suit is pending. It's tantamount to malpractice not to [...]."* (patent attorney 6)

More robust patents
seen to enter
infringement
proceedings

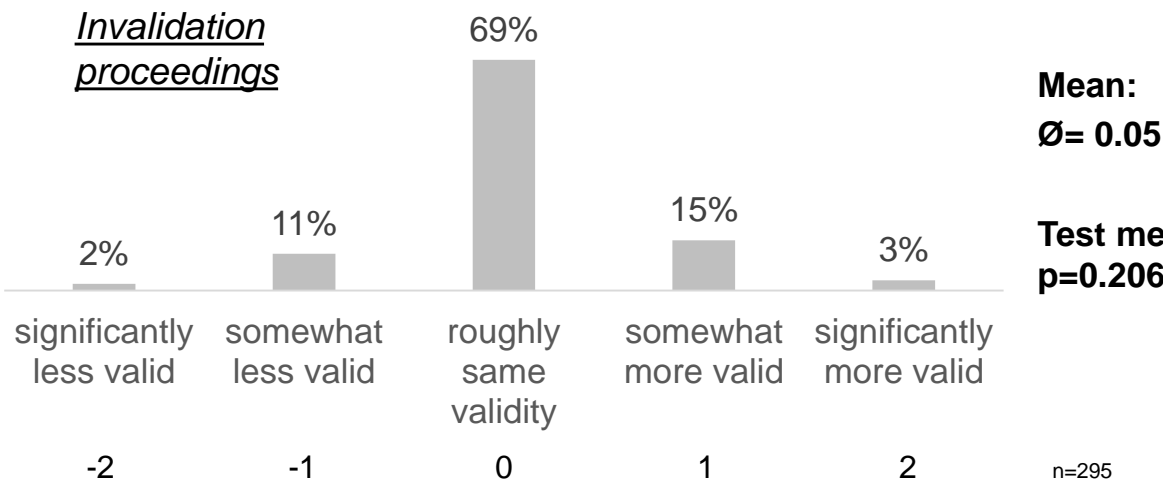
Counteracting
selection effect

For nullity
proceedings, positive
selection effect **partly
reversed**, but should
hold overall

Legal stability of patents in infringement/ invalidation proceedings, compared to avg. patent:



Survey confirms:
more robust patents
involved in
infringement
proceedings



Survey:
legal stability of
patents in invalidation
proceedings
not different from
that of average patent

Influence of *firm size/budget* on likelihood of invalidation

Size plaintiff/ defendant


- *“The little guy has an even chance if he deploys equal means. And what is unfortunately observable time and again is that they do not do this. Either they are poorly represented or they’re not willing to invest the money in decent research.”* (Patent attorney 2)
- *“Not necessarily. Well, size doesn’t really confer any premium in itself.”* (judge 1)



Larger litigants are not necessarily more successful

Budget plaintiff

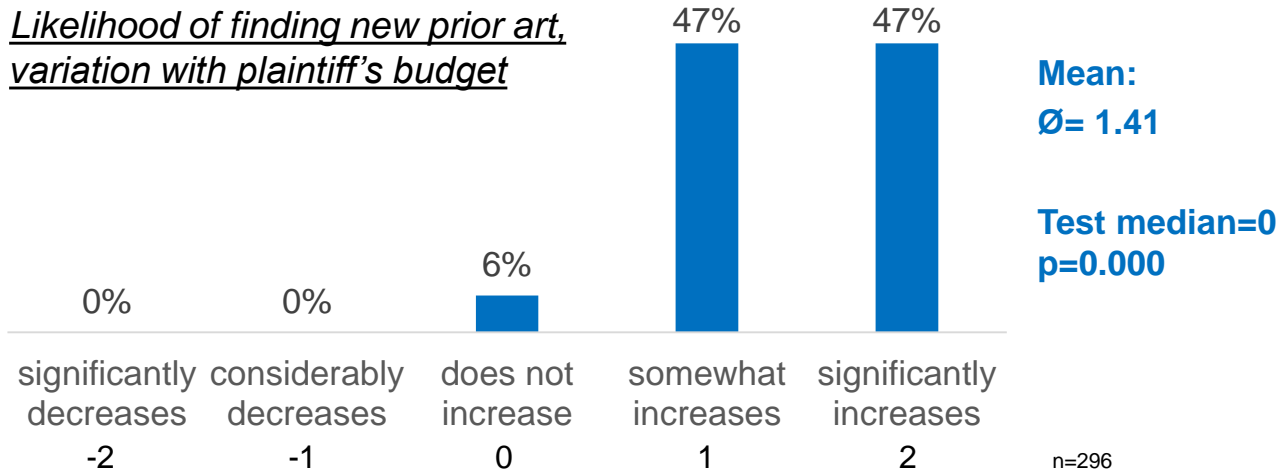
- *“If you search long enough and with sufficiently large amounts of money, that you put into the thing, you’ll eventually find something.”* (patent attorney 4)
- *“Well, as regards the success of revocation suits, I do think that the investment in good lawyers pays off to some extent”* (patent attorney 6)



However, they are **able to invest more money** into the proceedings, leading to an **increased probability of success**

Influence of plaintiff's budget on likelihood of finding relevant prior art:

Likelihood of finding new prior art, variation with plaintiff's budget




Larger plaintiff budget seen to increase probability of invalidation

Note: Varying numbers of respondents picked the response option "no answer possible."

For cases that settle: what would have been the outcome in case of a decision?

Settled cases

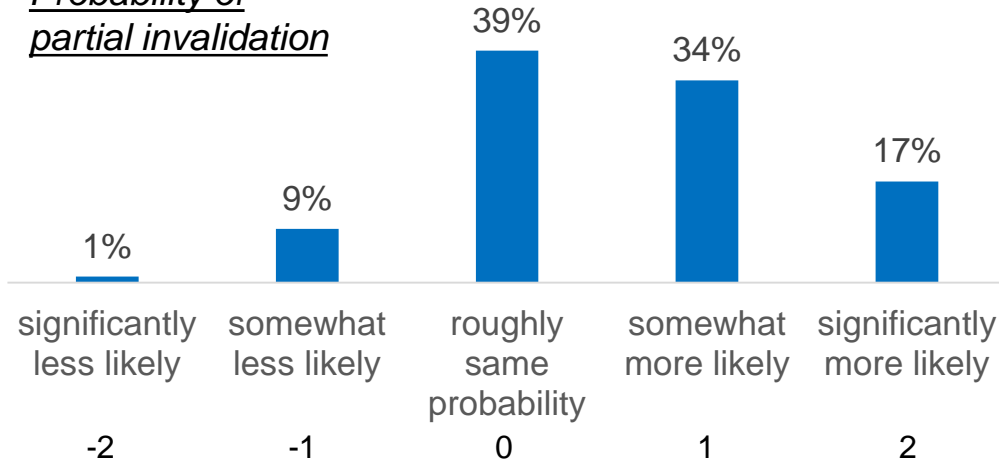
- *“In my opinion, this means that behind these very high figures there are, in essence, potentially successful revocation suits.”(patent attorney 6)*
- *“They would probably also all have been revoked, or many would have been revoked.” (judge 2)*
- *“These certainly are the weak patents. If one’s pretty sure of one’s position, then one sees it through.” (Patent attorney 1)*



Patents in settled proceedings would **likely** have been ruled **(partially) invalid** if the suit had reached a final decision

Expected outcomes: **settled proceedings compared to proceedings ending with a dec.?**

Probability of partial invalidation

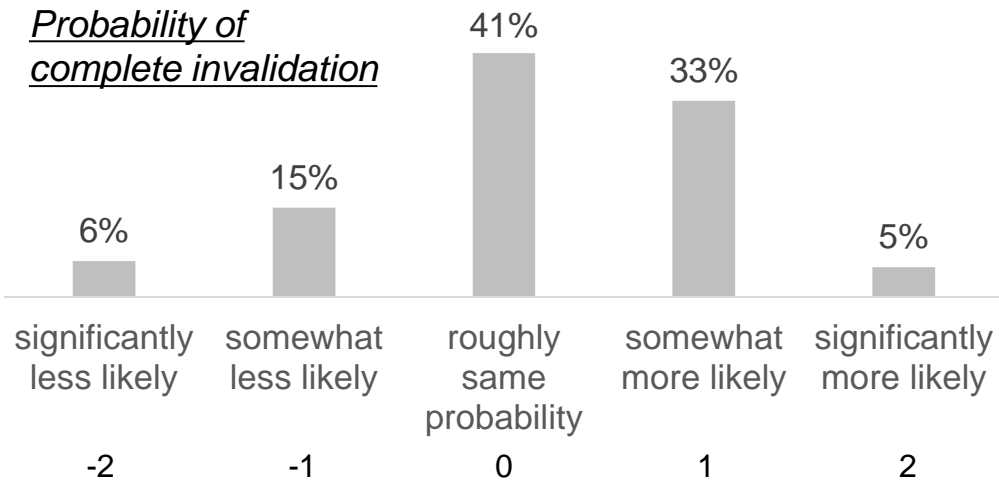


Mean:
Ø= 0.57

Test median=0:
p=0.000

n=206

Probability of complete invalidation



Mean:
Ø= 0.18

Test median=0:
p=0.002

n=206

Survey **confirms** interview results that **settled proceedings would more likely have led to “(partially) invalid” decision** than proceedings that ended with a decision

- Patents in invalidation suits: same legal stability as average patent
- In the invalidation suit, the plaintiff's budget increases the probability of invalidation
- Invalidation suits that settle would more likely have led to invalidation than those that reach a decision

- 1 Motivation**
- 2 Selection stages**
- 3 Approach and data**
- 4 Results**
- 5 Discussion**
- 6 Conclusion**

- Share of all German patents that would be ruled (partially) invalid if they went through invalidation proceedings, with thorough search for prior art?
 - Actual invalidity rulings, final decision: 75%
 - Selection: patents entering invalidation proceedings as robust as average: +/- 0
 - Assuming thorough search for prior art (~ large plaintiff budget): $+\Delta_1$
 - Selection: patents reaching a decision (rather than settlement) are more robust : $+\Delta_2$
- Hard to quantify Δ_1 , Δ_2 , but both are positive



More than 75% of active patents in Germany should not have been granted as they are, or not at all, *by the standards of the patent system.*

- Lemley (2001) argues for “rational ignorance at the patent office”
- However, that “the overwhelming majority of patents are never litigated or even licensed” does not mean they are innocuous
- They...
 - deter others from using the patented invention
 - create cost for invent-arounds
 - create a risk of being litigated for others
 - provide only uncertain protection for the patentee
 - cause cost for application, examination, grant, monitoring
 - obscure the patent system by their quantity



“Rational ignorance” is no satisfactory explanation

- ***Spending more on examination:***

- Will not fix the problem.

- ***Increasing fees for examination and maintenance:***

- Would reduce number of patents, in particular low value patents.
- However, it would...
 - ... not necessarily be specific to less stable patents
 - ... affect financially constrained applicants more than others.

- ***Increasing required inventive step:***

- Would reduce number of patents.
- Would affect trivial patents more than others.
- *Would affect “invalid” patents more than others, since those with smaller inventive step will more easily be invalidated through prior art not found by the examiner.*
- Difficult to define; however, it is difficult to define *at any level* (also the current level).

1 Motivation and research question

2 Background

3 Approach and data

4 Results: Interviews and survey

5 Results: Regression analysis

6 Discussion

7 Conclusion

- The large majority of all German patents (> 75%) should, by the standards of the patent system, not have been granted as they are, or not at all.
- “Rational ignorance at the patent office” is no satisfactory explanation.
- These patents cause problems to the economy and to innovators in particular.
- Increasing examiners’ time or raising patent fees offer no remedy.
- **Suggested solution:** significant increase of the required inventive step.

Thank you

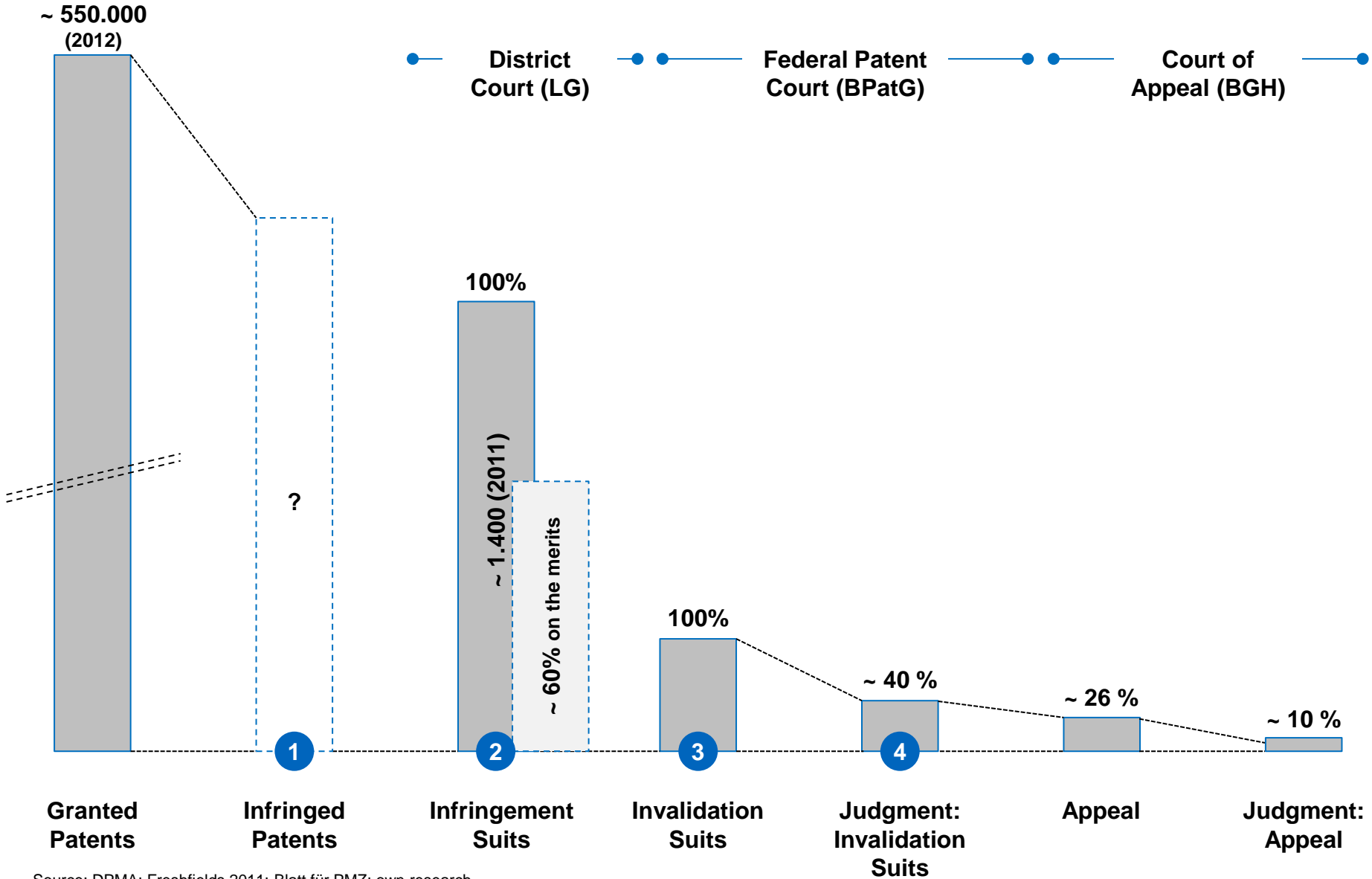
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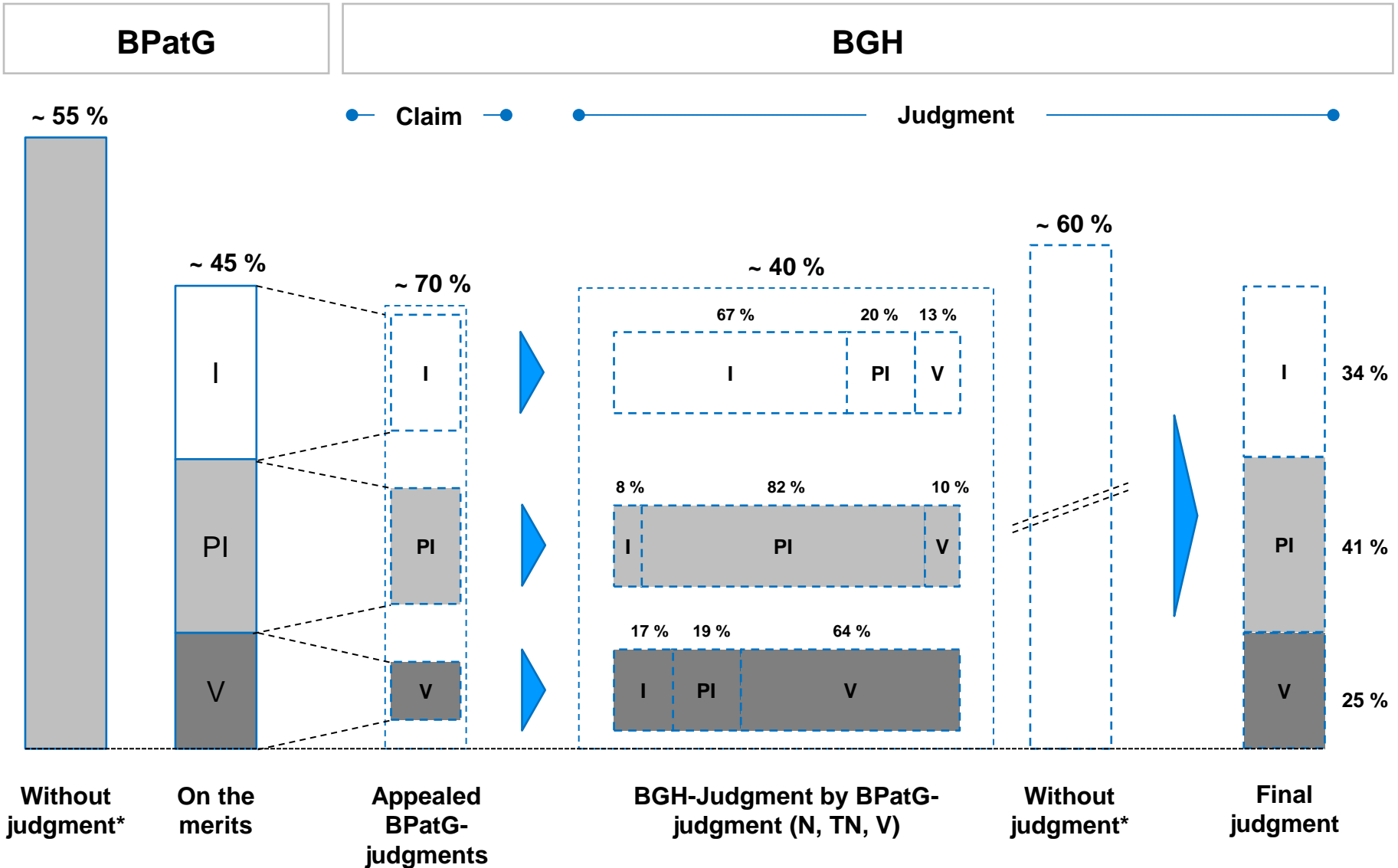
BACKUP

Patents in infringement & nullity proceedings



Source: DPMA; Freshfields 2011; Blatt für PMZ; own research

Proceeding to a final decision (2000-2012)

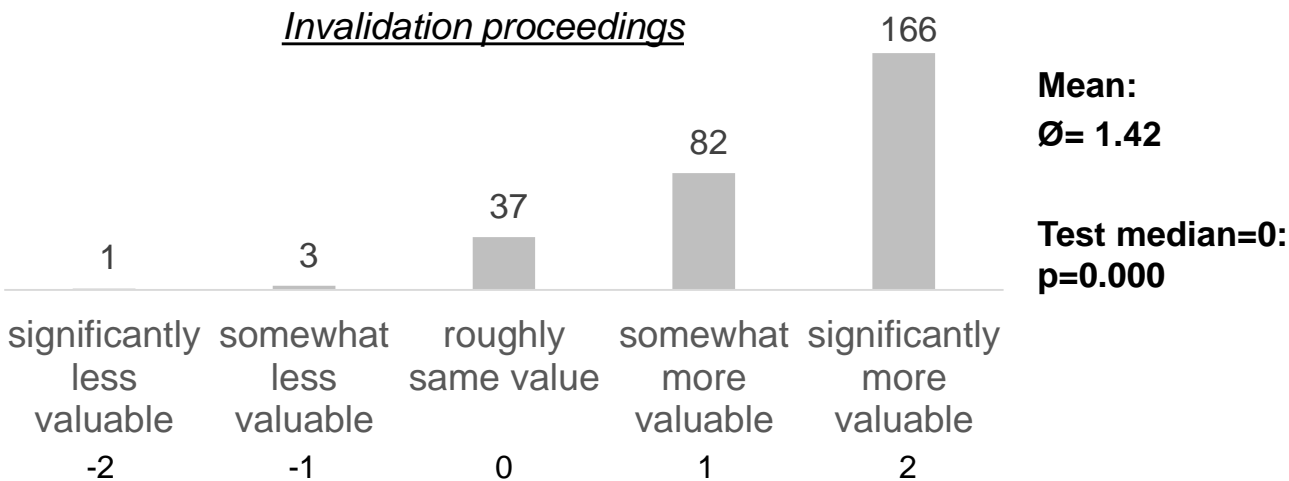
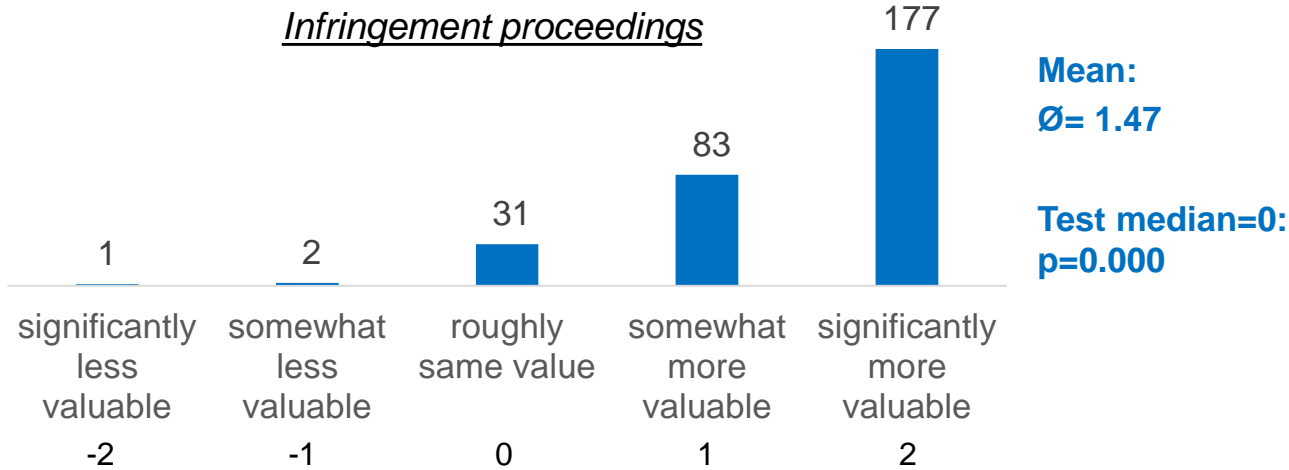


Source: Blatt für PMZ; own research

*Including withdrawals of the claim, settlements and pendings

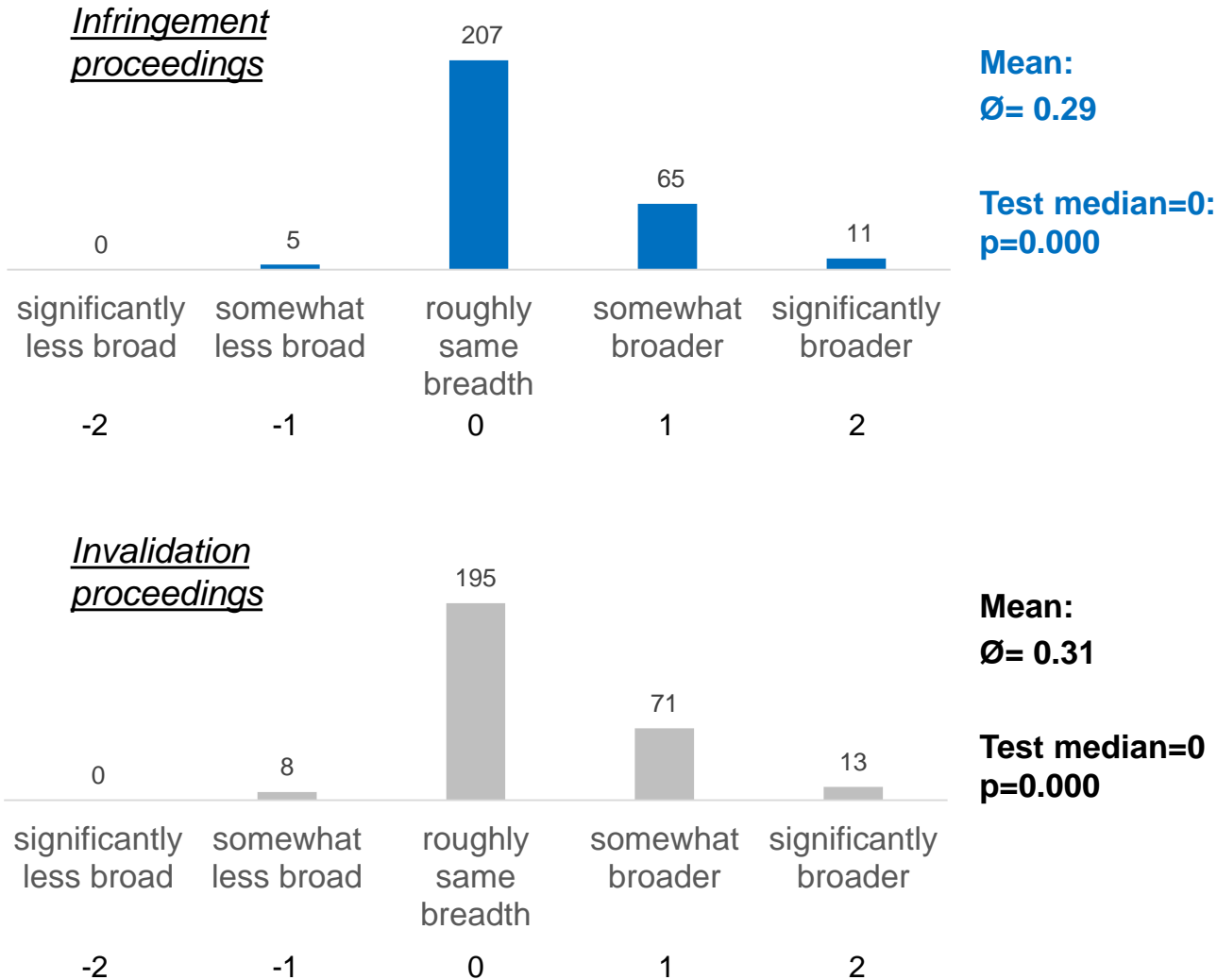
I=Invalid; PI=Partially Invalid; V=Valid

Value of patents in infringement/ invalidation proceedings, compared to average patent:



**Survey confirms:
More valuable
patents involved in
infringement and
invalidation
proceedings**

Breadth of patents in infringement/ invalidation proceedings, compared to average patent:



Survey confirms: **broader patents** involved in **infringement** and **invalidation** proceedings