

# Contents

<b>1</b>	<b>Introductory Remarks</b>	<b>1</b>
	A. Methodology	3
	B. Research Questions and Scientific Interest	5
	C. Content	7
	References	8
<b>2</b>	<b>Overuse of Exclusivity in Patent Law</b>	<b>11</b>
	A. Analytical Framework and Status Quo	12
	1. Calabresi and Melamed's Categorisation and Critique	13
	a. Calabresi and Melamed's Categorisation	13
	b. Critique Regarding the Categorisation	15
	c. Evaluation	16
	2. Modification of the Categorisation and Identification of Its Elements	17
	a. The Question of Entitlement and Emergence of a Right	17
	b. Enforcement of Entitlements by Property Rules	20
	c. Enforcement of Entitlements by Liability Rules	22
	(1) Concretisation of the Definition Under Patent Law	22
	(2) Sub-categorisation	23
	(3) Application of the Modified Definition and the Sub-categorisation	24
	(a) Compulsory Liability Rule	24
	(b) Private Liability Rule Regimes	26
	i. Option to Declare the Willingness to License (Licence of Right)	27
	ii. Possibility to Form or Join Patent Pools	27
	iii. Royalty Collection Clearinghouses	29
	iv. Fair, Reasonable and Non-discriminatory Declaration?	30
	(c) Liability Rule by Default	31
	3. Results	32

<b>B. Property Rules, Liability Rules and Economic Efficiency . . . . .</b>	<b>33</b>
1. The Contribution of Calabresi and Melamed . . . . .	35
2. Challenges and Extensions to Calabresi and Melamed's Concept . . . . .	36
a. Importance of Assessment Costs Under Liability Rule Protection . . . . .	36
b. Importance of Enforcement Costs Under Property and Liability Rule Protection . . . . .	37
c. Liability Rules in Low Transaction Cost Settings? . . . . .	38
(1) Arguments in Favour of Liability Rules in Low Transaction Cost Settings . . . . .	38
(a) More Efficient Contracting Under Liability Rules? . . . . .	38
(b) Lesser Chance of Failure for Efficient Bargains Under Liability Rules? . . . . .	39
(c) Lower Endowment Effects Under Liability Rules? . . . . .	39
(d) Inefficient Hold-Out Situations Under Property Rules? . . . . .	40
(2) Arguments Against Liability Rules in Low Transaction Cost Settings . . . . .	40
(a) Do Liability Rules Lead to Inefficient Bargaining? . . . . .	41
(b) Risk of Under-Compensation Under Liability Rules? . . . . .	41
(c) Endowment Effects Lower Under Property Rules? . . . . .	42
(d) Are Parties Acting Fairly Under Property Rules? . . . . .	42
3. Interim Results and Evaluation . . . . .	43
4. The Particularities of Patent Law . . . . .	44
a. Arguments for Property Rules . . . . .	45
(1) Risk of Under-Compensation Under Liability Rules . . . . .	45
(2) Risk of Under-Use Under Liability Rules . . . . .	46
(3) Risk of Free-Riding and Inefficient Entries Under Liability Rules . . . . .	47
(4) Right Holders in Best Position to Lower Transaction Costs . . . . .	47
b. Arguments for Liability Rules . . . . .	48
(1) Uncertainty About Boundaries of a Patent . . . . .	49
(2) Uncertainty About Validity of a Patent . . . . .	50
(3) Risk of Inefficient Hold-Out, Hold-Up and Anticompetitive Effects Under Property Rules . . . . .	51
(4) Risk of Negative Effects due to Tragedy of the Anticommons and Patent Thickets . . . . .	53
(5) Endowment Effects with Property Rules . . . . .	54
c. Evaluation . . . . .	55
5. Results . . . . .	57

C. Property Rules or Liability Rules: Other Perspectives . . . . .	57
1. Distributive and Other Justice Aspects . . . . .	58
a. The Influence on the Choice Between Property and Liability Rules . . . . .	58
b. Distributive and Other Justice Aspects in Patent Law . . . . .	59
c. Evaluation . . . . .	61
2. Legal Aspects . . . . .	61
a. Legal Constraints due to the Paris Convention, the Agreement on Trade-Related Aspects of Intellectual Property Rights and Directive 2004/48/EC . . . . .	62
(1) Paris Convention . . . . .	62
(2) Agreement on Trade-Related Aspects of Intellectual Property Rights . . . . .	63
(3) Directive 2004/48/EC . . . . .	64
(4) Evaluation . . . . .	64
b. Legal Constraints due to Constitutional Law and Fundamental Rights . . . . .	65
(1) German Basic Law . . . . .	65
(a) Liability Rule by Default Mechanisms . . . . .	66
(b) Compulsory Liability Rule Mechanisms . . . . .	68
(c) Implementation of Liability Rules . . . . .	69
(2) The European Convention on Human Rights and the European Union Charter . . . . .	69
3. Interim Results . . . . .	71
D. Evidence from the German and European Patent Law System . . . . .	71
1. Uncertainty About Boundaries . . . . .	72
2. Uncertainty About Validity . . . . .	72
a. Interpretation of Vague Law Necessary . . . . .	74
b. Organisation in the Patent Offices and Courts . . . . .	75
c. Incentives to Challenge Validity . . . . .	76
d. Interim Results . . . . .	78
3. Patent Thickets, Tragedy of the Anticommons . . . . .	78
a. Empirical Evidence . . . . .	78
b. Interim Results . . . . .	80
4. Hold-Out, Hold-Up and Patent Trolls . . . . .	80
a. Inefficient Hold-Out . . . . .	80
b. Hold-Up and Patent Trolls . . . . .	82
(1) <i>IPCom v. Nokia and HTC</i> . . . . .	83
(2) Factors Benefiting Patent Trolls . . . . .	84
c. Hold-Up and Patent Ambush . . . . .	84
d. Interim Results . . . . .	85
E. Results . . . . .	85
References . . . . .	86

<b>3 Private Liability Rule Regimes</b>	<b>97</b>
A. Declaration of Willingness to License and Licences of Right	99
1. Introductory Consideration Regarding Section 23 Patent Act	99
a. Explanation of Section 23 Patent Act	100
(1) The Declaration of Willingness to License and the Withdrawal	100
(2) The Effects of the Declaration and the Withdrawal	101
(3) The Legal Situation Between the Patent Owner and the User	101
(4) Determination of the Amount of Remuneration	103
b. Theoretical Considerations Regarding Section 23 Patent Act	104
(1) The Aim of the Legislature	104
(2) Criticism of Section 23 Patent Act and Its Explanatory Memoranda	106
(3) Additional Theoretical Considerations	107
(a) About the Construction of Section 23 Patent Act	107
(b) The Procedural Rules of Section 23 Patent Act	107
2. Theoretical Economic Considerations Regarding the Use of Section 23 Patent Act	108
a. Non-exclusive Licensing Strategies	110
(1) Complementary Assets Theory	110
(2) Diffusion of Innovation	111
(3) Licensing as a Commitment Device	112
b. Cost-Saving Strategies	113
(1) Large Patent Portfolio	114
(2) Cross-Licensing	114
(3) Non-core Technology	115
c. Patent Litigation and Settlement Outcome Strategies	115
3. Empirical Results Regarding Section 23 Patent Act	116
a. Overview	116
b. The Users	118
(1) Users Across Technology Classes	118
(2) Users Across Applicant Types	120
c. Time of Declaration and Patent Lifetime	120
d. Notification, Licensing and Determination of the Amount of Remuneration	122
e. Withdrawal of the Willingness to License	123
f. Empirical Specifications (Regression Analysis)	123
g. Interim Results	125
4. Licences of Right in the Proposal for a European Patent with Unitary Effect, France and the United Kingdom	125
a. Licences of Right Under Regulation (EU) No. 1257/2012	126
b. Licence de Droit in France	127
(1) Comparison with Section 23 Patent Act	127
(2) Reasons for the Repeal	129

c. Licences of Right in the United Kingdom . . . . .	129
d. Interim Results and Additional Information . . . . .	131
5. Evaluation . . . . .	132
6. European Interoperability Patent . . . . .	134
a. The Concept and Advantages Mentioned by Its Advocates . . . .	134
b. Evaluation . . . . .	135
7. Results . . . . .	136
B. Patent Pools with Liability Rule Mechanisms . . . . .	136
1. Existence of Patent Pools and Important Variants . . . . .	137
2. General Economic Advantages, Disadvantages and Risks . . . . .	138
a. Advantages . . . . .	139
b. Disadvantages and Risks . . . . .	141
3. Current Legal Environment . . . . .	143
a. Commission Notice . . . . .	144
b. Decisions of the European Commission . . . . .	145
4. Evaluation of the Legal Environment and Suggestions . . . . .	146
a. Regulation Under European Antitrust Law . . . . .	146
b. Differentiation Between Complements and Substitutes . . . . .	147
c. Differentiation Between Essential and Non-essential Patents . . .	149
d. Determination of the Amount of Remuneration . . . . .	150
e. Pool-Openness, Grant-Back Obligations and Independent Licensing . . . . .	151
f. Validity of Patents . . . . .	153
g. Institutional Framework . . . . .	154
h. Raising Incentives for Forming and Joining Even Further? . . .	154
5. Results . . . . .	156
C. Royalty Collection Clearinghouses . . . . .	157
1. Basic Aspects and Decisions Based on Economic Considerations . . . . .	158
a. General Advantages and Disadvantages . . . . .	158
b. In General: Incentives for Joining and Using a Clearinghouse . . .	161
c. Degree of Involvement in the Licensing Process . . . . .	162
d. Ownership, Degree of Specialisation and Coverage . . . . .	163
e. Pricing of the Services . . . . .	164
f. Determination of the Amount of Remuneration . . . . .	165
g. Interim Results . . . . .	165
2. Some Further Legal Considerations and Suggestions . . . . .	166
a. Similar Legal Regulation to Collecting Societies? . . . . .	166
b. Implementation in European Law? . . . . .	168
c. Connecting with the Possibility to Declare the Willingness to License? . . . . .	168
3. Results . . . . .	170
D. Results . . . . .	170
References . . . . .	172

#### 4 Compulsory Liability Rule and Liability Rule by Default

<b>Regimes</b>	177
<b>A. Current Legal Situation and Its Disadvantages</b>	178
1. Mechanisms Inside the Patent Law System	178
a. Compulsory Licence in the Public Interest	178
b. Compulsory Licence Regarding Dependent Inventions	181
c. Common Rules	182
(1) Conditions for Compulsory Licences	182
(2) Reasonable Remuneration	183
(3) Relevant Procedural Rules	184
d. Limitation of the Effect in the Case of National Emergency	186
2. Antitrust Law	187
a. European Antitrust Law	187
(1) Dominant Position	188
(2) Abuse of a Dominant Position	189
(3) Important Procedural Aspects	191
(4) Evaluation of the Situation	192
b. German Antitrust Law	194
(1) The Jurisprudence	195
(2) Evaluation of the Situation	196
3. Interim Results	198
<b>B. Different Mechanisms, Practical Relevance and Evaluation</b>	200
1. Compulsory Licence	201
2. Automatic Compulsory Licence	203
3. Limitation of the Effect of a Patent	205
4. Compulsory Patent Buyout	206
5. Limitation of Injunctive Relief	207
6. Liability Rule by Default	209
7. Evaluation and Interim Results	211
<b>C. Some Perspectives for Improvement of the Patent System</b>	212
1. More Economic Interpretation of Existing Provisions	214
a. Less Restrictive Interpretation of General Terms in Patent Law?	214
b. Facilitating the Grant of Preliminary Decisions?	216
c. More Flexibility with Limitation of Injunctive Relief?	216
d. Improving Legal Certainty and Less Strict Rules in Competition Law?	217
2. Alteration of the German and European Patent System	219
a. Alteration and Unification of the Instance Deciding About the Application of Compulsory Liability Rules?	219
b. Providing the Possibility of Licensing Know-How?	221
c. Automatic Compulsory Licences for Specific Constellations?	221
d. Liability Rule by Default Mechanisms in Specific Industry Sectors or Constellations?	222
<b>D. Results</b>	224
<b>References</b>	225

<b>5 Overall View and Conclusion . . . . .</b>	<b>229</b>
A. General Remarks and Concrete Suggestions . . . . .	229
B. Shortcomings and Room for Further Research . . . . .	231
References . . . . .	233