

Alexandra Zaby

# The Decision to Patent



Physica-Verlag

# Contents

<b>1</b>	<b>Introduction</b> .....	1
1.1	The Patent System .....	6
1.1.1	Disclosure Requirement .....	10
1.1.2	Research Exemption .....	12
1.1.3	Patent Duration .....	13
1.1.4	Patent Scope .....	13
1.1.5	Inventive Step .....	14
1.2	The Economic Analysis of the Propensity to Patent .....	17
1.2.1	The Decision to Patent in the Light of the Protective Effect .....	18
1.2.2	The Decision to Patent in the Light of the Disclosure Effect .....	20
1.3	A New Theoretical Approach to the Propensity to Patent ...	25
1.4	Empirical Insights on the Propensity to Patent .....	29
1.5	Outline of the Book .....	34
<b>2</b>	<b>The Decision to Patent with Vertical Product Differentiation</b> .....	37
2.1	The Model Setup .....	38
2.2	Price Competition .....	40
2.3	Quality Choices .....	42
2.3.1	Quality Choices if the Invention is Kept Secret .....	45
2.3.2	Quality Choices if the Invention is Patented .....	50
2.4	The Patenting Decision .....	53
2.5	Licensing .....	57
2.6	Welfare Considerations .....	63
2.6.1	Welfare with Secrecy .....	64
2.6.2	Welfare with a Patent .....	64
2.6.3	Welfare with Licensing .....	65
2.6.4	Welfare Maximizing Appropriation Choice .....	65
2.7	Concluding Remarks .....	67

<b>3</b>	<b>An Empirical Investigation of the Decision to Patent with Vertical Product Differentiation</b> .....	71
3.1	Hypotheses and Their Empirical Implementation .....	71
3.2	Sample Definition .....	74
3.3	Variable Definition .....	76
3.4	Empirical Results .....	80
3.5	Concluding Remarks .....	85
<b>4</b>	<b>The Decision to Patent with Horizontal Product Differentiation</b> .....	87
4.1	The Model Setup .....	89
4.2	Price Competition .....	91
4.3	Market Entry .....	97
4.4	The Patenting Decision .....	102
4.5	Licensing .....	109
4.6	Welfare Considerations .....	112
4.6.1	Welfare with Secrecy .....	112
4.6.2	Welfare with a Patent .....	113
4.6.3	Welfare with Licensing .....	117
4.6.4	Welfare Maximizing Appropriation Choice .....	117
4.7	Concluding Remarks .....	120
<b>5</b>	<b>An Empirical Investigation of the Decision to Patent with Horizontal Product Differentiation</b> .....	123
5.1	Hypotheses and Their Empirical Implementation .....	123
5.2	Sample and Variable Definition .....	126
5.3	Empirical Results .....	127
5.4	Concluding Remarks .....	130
<b>6</b>	<b>Summary and Discussion</b> .....	133
<b>A</b>	<b>Appendix to Chapter 2</b> .....	143
<b>B</b>	<b>Definition of Industry Dummies</b> .....	149
<b>C</b>	<b>Appendix to Chapter 4</b> .....	151
	<b>References</b> .....	159