

## Table of Contents

<b>Preface</b>	<b>V</b>
<b>Table of Contents</b>	<b>VII</b>
<b>List of Figures</b>	<b>IX</b>
<b>List of Abbreviations</b>	<b>XI</b>
<b>List of Tables</b>	<b>XIII</b>
<b>1. Introduction</b>	<b>1</b>
1.1. Motivation.....	1
1.2. Overview and Structure.....	4
<b>2. Fundamentals of Prediction Markets</b>	<b>6</b>
2.1. History.....	6
2.2. Definition.....	6
2.3. Theoretical Foundations.....	7
2.4. Operational Principle.....	9
<b>3. Key Design Elements of Prediction Markets</b>	<b>11</b>
3.1. Contracts.....	11
3.2. Trading Mechanisms.....	14
<i>Existing mechanisms and their areas of application.....</i>	<i>15</i>
<i>Comparison.....</i>	<i>18</i>
3.3. Incentives.....	23
3.3.1. <i>Description of the Field Experiment on Monetary Incentives.....</i>	<i>24</i>
3.3.2. <i>Trading Activity.....</i>	<i>26</i>
3.3.3. <i>Trading Prices.....</i>	<i>27</i>
3.3.4. <i>Predicting Accuracy.....</i>	<i>29</i>
3.3.5. <i>Discussion of Results.....</i>	<i>32</i>
3.4. Traders.....	35
3.4.1. <i>Field Study on Traders' Biases.....</i>	<i>36</i>
3.4.2. <i>Traders' Nationality and Shareholdings.....</i>	<i>37</i>
3.4.3. <i>Traders' Nationality and Trading Behavior.....</i>	<i>39</i>
3.4.4. <i>Discussion of Results.....</i>	<i>42</i>
3.5. Trading Software.....	43
3.5.1. <i>User Interface.....</i>	<i>44</i>
3.5.2. <i>Software Specification.....</i>	<i>45</i>
3.5.3. <i>Hardware Specification.....</i>	<i>46</i>
3.5.4. <i>General Requirements.....</i>	<i>47</i>
<b>4. Applications of Prediction Markets</b>	<b>48</b>
4.1. Previous Fields of Application.....	48
4.1.1. <i>Short and Medium Term Forecasts.....</i>	<i>48</i>
4.1.2. <i>Long Term Forecasts and Evaluation of Concepts.....</i>	<i>54</i>

4.2.	Results from Selected Field Experiments .....	61
4.2.1.	<i>STOC CER – A Sports Prediction Market</i> .....	61
4.2.1.1.	<i>The FIFA World Cup 2006</i> .....	61
4.2.1.2.	<i>The STOC CER Exchange</i> .....	63
4.2.1.3.	<i>Prediction Accuracy</i> .....	75
4.2.1.4.	<i>Arbitrage Opportunities</i> .....	86
4.2.1.5.	<i>Market-Making Traders</i> .....	87
4.2.2.	<i>PSM – The Political Stock Market</i> .....	91
4.2.2.1.	<i>Software Platform</i> .....	91
4.2.2.2.	<i>PSM and Irregular Activities</i> .....	93
4.2.2.3.	<i>Fraud: The 2004 Ukrainian Presidential Elections</i> .....	93
4.2.2.4.	<i>Manipulation: The 2007 Federal Swiss Elections</i> .....	97
4.2.2.5.	<i>Absorption speed of Events: The Euro '08</i> .....	100
4.2.3.	<i>AKX – The Australian Knowledge eXchange</i> .....	102
4.2.3.1.	<i>Water Availability in Australia</i> .....	103
4.2.3.2.	<i>Trading Platform</i> .....	104
4.2.3.3.	<i>Trading Activity and Prediction Accuracy</i> .....	108
4.2.3.4.	<i>Conclusion</i> .....	111
4.3.	Creating Value with Prediction Markets in Service Industries .....	112
4.3.1.	<i>Service Innovation with Idea Markets</i> .....	112
4.3.1.1.	<i>Idea Market Concept</i> .....	113
4.3.2.	<i>Market and Opinion Research</i> .....	115
<b>5.</b>	<b>Conclusion</b> .....	<b>118</b>
	<b>Information about the authors</b> .....	<b>120</b>
	<b>Appendix A</b> .....	<b>123</b>
	<b>Bibliography</b> .....	<b>131</b>