

Bargaining Theory and Fairness

A Theoretical and Experimental Approach
Considering Freedom of Choice and the Crowding-out
of Intrinsic Motivation

By

Arwed Crüger



^c
Duncker & Humblot · Berlin

List of Contents

A. Introduction	15
I. Motivation and Research Objectives	15
II. Overview and Contents	17
B. Research on Bargaining Games	19
I. Bargaining Games and Related Games	19
1. The Ultimatum Game	20
2. The Dictator Game	20
3. The Impunity Game	21
4. The Cardinal Impunity Game	21
5. Cardinal Ultimatum Games	22
6. The Best Shot Game and the Best Shot Mini Game	23
7. An Auction Market Game	23
8. Prisoner's Dilemma	24
II. Comparisons Between Related Types of Games	24
1. Experimental Results on Ultimatum and Dictator Bargaining	26
2. Basic and Advanced Designs for Ultimatum Experiments	27
3. Experiments with Dictator Games and Other Games	31
III. A Summary of Research Results	36
C. Fairness and Intrinsic Motivation	41
I. The Concept of Intrinsic Motivation	41
II. Experimental Approaches Towards Intrinsic Motivation	42
III. Aspects of Fairness	42
IV. Referring to a Fairness Norm	44
V. Relevant Factors for a Social Norm of Fairness	48

1. The Level of Competitiveness.....	48
2. The Level of Social Distance	49
3. Annoyance as a Key Factor.....	50
4. Determinants for a Level of Annoyance.....	52
VI. Another Implementation of Fairness.....	53
VII. Putting the Factors Together	55
D. Freedom of Choice.....	58
I. The Basic Concept.....	58
1. Instrumental and Intrinsic Importance	58
2. Negative and Positive Freedom	59
3. Alternative Spaces, Functionings, and Capabilities	60
4. The Famine Example	60
II. Axiomatic Modeling of Freedom of Choice.....	63
III. Modeling Freedom of Choice with a Simple Game	63
IV. A Summary on Freedom of Choice	64
E. The Two Games and Their Experimental Realization.....	66
I. Freedom to Punish.....	68
1. The Structure of the Game	68
2. The Game Theoretic Solution of the FTP Game.....	70
II. Right and Choice to Punish.....	71
1. The Structure of the Game	72
2. The Game Theoretic Solution of the RAP Game	73
III. Differences and Similarities Between the Two Games	74
IV. The Experimental Realization.....	74
V. The Experimental Procedure.....	76
F. Experimental Design for the FTP Game.....	77
I. Design Approach for the Experiment	78
1. Treatment Variables.....	79
2. Designs with a Low Proportional Bonus: A and B	79

3. The Design Without a Bonus: C	80
4. The Design with a Low Constant Bonus: D	81
5. The Design with a High Constant Bonus: E	82
6. Designs with a Constant Price: F, G and H	82
II. Alternative Designs	83
G. Experimental Results for the FTP Game	85
I. An Overview of the Decisions in the FTP Game	85
1. The Veto Power Decisions	85
2. The Proposals	87
3. The Acceptance Decisions	93
4. Payoffs and Efficiency	95
II. Design Background and Hypothesis Approach	96
III. Statistical Analysis for the FTP Game	97
1. The Veto Power Decisions	97
a) General Tendencies for the Veto Power Decisions	97
b) Analysis of the Veto Power Decisions	98
c) Graphical Illustration of the Veto Power Decisions	103
2. The Proposals	105
a) General Tendencies for the Demand Decisions	105
b) Analysis of the Demand Decisions	106
c) Graphical Illustration of the Demand Decisions	110
3. The Acceptance Decisions	111
IV. General Results of the FTP Game	113
1. Interpretation of the Behavior Towards Freedom of Choice	113
2. Overall Outcomes of the FTP Game	114
H. Experimental Design for the RAP Game	116
I. Design Approach for the Experiment	117
1. Treatment Variables	118
2. Design I with a Small Bonus, a Fair and a Greedy Distribution	119

3. Design II with a Small Bonus, a Greedy and a Very Greedy Distribution	121
4. Design III with a High Bonus, a Fair and a Greedy Distribution	122
5. Design IV with a High Bonus, a Greedy and a Very Greedy Distribution....	123
6. Playing a Subgame.....	124
II. Alternative Designs	125
I. Experimental Results for the RAP Game	127
I. An Overview of the Decisions in the RAP Game	127
1. The Veto Power Decisions.....	127
2. The Proposals.....	129
3. The Acceptance Decisions	133
4. The Subgames.....	135
5. Behavior Types for Proposers and Receivers.....	136
6. A Strategy Tournament	139
7. Payoffs and Efficiency	144
II. Design Background and Hypothesis Approach	146
III. Statistical Analysis for the RAP Game.....	147
1. Differences Between the FTP Game and the RAP Game.....	148
2. The Veto Power Decisions.....	149
3. The Proposals.....	151
4. The Acceptance Decisions	158
5. The Subgames.....	159
IV. General Results of the RAP Game.....	161
1. Interpretation of the Behavior Towards a Crowding-Out	161
2. Overall Outcomes of the RAP Game	162
J. Summary.....	164
Bibliography	166
Subject Index	174