Manfred Konigstein

Equity, Efficiency and Evolutionary Stability in Bargaining Games with Joint Production



Contents

An	Ove	erview	.1		
1.	Profit Sharing in an Asymmetric Bargaining Game . 5				
	1.1	Introduction	.5		
	1.2	Ultimatum Bargaining with Advance Production	.7		
		1.2.1 Description of the Game	.7		
		1.2.2 Efficient Production	.8		
		1.2.3 Game Theoretic Solution	9		
		1.2.4 Equity Theory and Multiple Equity Standards	10		
	1.3	Experimental Procedures	12		
	1.4	Description of the Decision Data	.14		
		1.4.1 Production Choices and Acceptance Decisions	14		
		1.4.2 Demanded Shares of Return and Surplus	.15		
	1.5	Aggregate Demand Behavior	.19		
		1.5.1 Regression Model	.19		
		1.5.2 Influence of Cost	.22		
		1.5.3 Experience	.23		
		1.5.4 Decision Preparation	.24		
		1.5.5 Fixed Effects of Matching Groups	.24		
		1.5.6 Summary of Regression Results	.25		
	1.6	Individual Demand Behavior	.25		
		1.6.1 Equity Types as Point Predictors or Area Theories	25		
		1.6.2 Hit Rates of Return Share Predictions	27		
		1.6.3 Hit Rates of Surplus Share Predictions	28		
		1.6.4 Comparison and Discussion of Results	.30		
	1.7	Summary.	.31		
2.	Me	asuring Treatment-Effects in Experimental Cross-			
	Sec	tional Time Series	.33		
	2.1	Introduction	.33		

	2.2	Experimental Data, Repeated Measurement and Strate-	
		gic Interaction	.34
	2.3	Fixed Effects, Identifying Restrictions and Interpretation	36
	2.4	Estimation Procedures	.39
		2.4.1 Restricted Leased Squares or Transformation of	
		OLS-Coefficients	.39
		2.4.2 Nested Effect Coding	.41
	2.5	Summary.	.42
3.	Co	nvergence to Equitable Play in the Repeated Ulti-	
	ma	tum Game with Advance Production	45
	3.1	Introduction	.45
	3.2	Repeated Bargaining with Advance Production	.47
	3.3	Theoretical Analysis	.49
	3.4	Experimental Procedures	.51
	3.5	Considerations of Experimental Design	.51
	3.6	Descriptive Statistics of Base Game Decisions	.52
	3.7	Explanatory Power of Single Predictors	.57
		3.7.1 Hit Rate Analysis	.57
		3.7.2 Hit Rates and Success Measures in RGI	.58
		3.7.3 Hit Rates and Success Measures in RG2	.60
	3.8	Joint Predictions and Convergence to Equitable Play	62
	3.9	Summary.	.64
4.	Equ	uity Anchoring in Simple Bargaining Games with	
	Pro	duction	.67
	4.1	Introduction	<u>.</u> 67
	4.2	Bargaining with Advance Production	.68
		4.2.1 Game Rules	.68
		4.2.2 Game Theoretic Solution	.70
		4.2.3 Equitable Allocations	.71
		4.2.4 Some Properties of the Games and the Experi-	
		mental Design	.73
	4.3	Experimental Procedures	.74
	4.4	Empirical Distributions of Production and Bargaining	
		Decisions	.75
	4.5	Explaining Aggregate Behavior by a Single Equity Stan-	
		dard	78
	4.6	Equity Anchoring and the Tactical Bargaining Margin.	80
		4.6.1 Theoretical Considerations.	.80

		4.6.2 Hit Rate Analysis.	.82 ,
		4.6.3 Equitable Decisions and Equitable Vectors	84
		4.6.4 A Further Look at Treatment Effects.	.87
	4.7	Summary.	.88
5.	Eff	iciency and Evolution of Social Preferences and	
	Pro	social Behavior	.91
	5.1	Introduction	91
	5.2	Ultimatum Bargaining with Subsequent	
		Social Production	.94
	5.3	Game Theoretic Solution	.96
		5.3.1 Stage 3: Production	.97
		5.3.2 Stage 2: Acceptance or Rejection	99
		5.3.3 Stage 1: Demand	99
		5.3.4 Subgame Perfect Equilibria.	100
		5.3.5 Properties of the Game Theoretic Solution	103
	5.4	The Indirect Evolutionary Game	107
		5.4.1 Description of the Model and the Solution Concept	107
		5.4.2 Some Methodological Remarks	10
	5.5	Solution of the Indirect Evolutionary Game.	I11
		5.5.1 Preliminaries	I11
		5.5.2 Existence of Evolutionary Stable Altruistic Pref-	
		erences	115
		5.5.3 Evolutionary Results for All Technologies within	
		the Unit Square.	120
		5.5.4 Properties of the Evolutionary Results	121
	5.6	Summary.	125
A.	Exj	perimental Instructions Chapter 1	129
B.	Exj	perimental Instructions Chapter 3	143
C.	Ex	perimental Instructions Chapter 4	157
n	М-	Abarration Summer To Charter 5	170
D .		Designment to Chapter 5.	173
	D.I	Properties of the functions ASi , $AUlaad AXJ$	1/3
	D.2	Mutations ($3 < a$ are Non-Improving if Candidate a	175
		Supports Efficiency.	1/3
	D.3	Technology 2.a.	1/0
	D.4	rechnology 2.0.	1/9

D.5 Te	chnology 2.C.1	.182
D.6 Te	chnology 2.C.2.	.186
D.7 Te	chnology 2.d	.189
Reference		.193