

A Sample Instructions and Screenshots

A.1 Example Instructions: A-3-Action

Welcome

You are about to participate in a session on decision making, and you will be paid for your participation with cash vouchers, privately at the end of the session. What you earn depends partly on your decisions, partly on the decision of others and partly on chance.

Please turn off pagers and cellular phones now, and place them in your bag or on the floor. Please do not have them in your pocket or on the table. Throughout the session, do not open any programs on the computer, other than the one currently running (zLeaf), unless otherwise directed to do so by the experimenter.

The entire session, including all interaction between you, will take place through computer terminals. Please do not talk or in any way try to communicate with other participants during the session.

We will start with a brief instruction period. During the instruction period you will be given a description of the main features of the session and will be shown how to use the computers. If you have any questions during this period, raise your hand and your question will be answered so everyone can hear.

General Instructions

The session is structured as follows:

1. You will be asked to make decisions in several rounds. You will be randomly paired with another person for a sequence of rounds. Each sequence of rounds is referred to as a *match*.
2. The length of a match is randomly determined. After each round, there is an 80% chance that the match will continue for at least another round. This is as if we were to roll a 10-sided die and end if the number 1 or 2 came up and continue if 3 through 10 came up. Notice that, if you are in round 2, the probability that there will be a third round is 80% and if you are in round 9, the probability that there will be a tenth round is also 80%. That is, at any point in the match, the probability that there will be at least one more round is 80%.
3. Once a match ends, you will be randomly paired with somebody for a new match.

- This session will consist of 10 matches.

Description of a Match

- Each round is made up of two stages. First, you and the person you are matched with will take turns to exchange messages (more details on this stage will follow).
- When the message exchange has finished, you and the person you are matched with will make a choice: A , B or C . You will make this choice at the same time, and you will not know what choice the other person has made until after the match has finished.
- Once choices have been made, a lottery will be drawn. The outcome of this lottery will be either *high*, which is worth 166 points each, or *low*, which is worth 66 points each.
- The probability that the outcome will be high depends on the choice that you and the person you are matched with made. These probabilities are given in the last 3 columns of the table below. Each choice has an associated cost. These are shown in the second column of the table.

		Probability of high if other chooses:		
Your choice:	Cost:	A	B	C
A	65	0.9	0.6	0.56
B	41	0.6	0.6	0.32
C	10	0.56	0.32	0.1

- Your earnings from the round are determined by the outcome of the lottery minus the cost of your choice. For example, if the outcome were *high* and you chose A , then your net payoff would be $166 - 65 = 101$. If, on the other hand, you had chosen B , then your net payoff would be $166 - 41 = 125$; and so on. The following table lists the possible earnings for each choice and each outcome.

Your choice:	Net payoff if the outcome is:	
	<i>High</i>	<i>Low</i>
A	101	1
B	125	25
C	156	56

10. The choice you and the person you are matched with make determine the payoff you can both expect, before learning the outcome of the lottery. The table below shows the *expected* net payoff for each combination of your choice and the choice of the person you are matched with (in each cell your expected net payoff is first; the expected net payoff of the other person is second). The expected net payoff can be thought of as the average net payoff you would receive if you and the person you are matched with made the same choice a large number of times.

Your choice:	Expected net payoffs if the other player chooses:		
	A	B	C
A	(91, 91)	(61, 85)	(57, 112)
B	(85, 61)	(85, 85)	(57, 88)
C	(112, 57)	(88, 57)	(66, 66)

11. The information in these tables will be displayed on the computer screen during each round, when you are asked to make your choice.
12. As mentioned earlier, your choice will be preceded by a message exchange stage. During this stage you will take turns to send messages. You will both get the opportunity to send at least one message.
13. Either you or the person you are matched with will be randomly selected to be the first person to send a message. When it is your turn to send a message, you will choose one of the following messages:
- “No message”.
 - “Agree with the proposal”. Note that this option will only be available if a message containing a proposal (see next two messages) was sent before.

- “I propose that you choose X and I choose Y”, where X and Y are picked from the list *A*, *B* or *C*.
 - “I propose that you choose X and I choose Y. And if the outcome is high in the next round, you choose X1 and I choose Y1. And if the outcome is low in the next round, you choose X2 and I choose Y2”, where X, X1, X2 and Y, Y1, Y2 are picked from the list *A*, *B* or *C*.
14. This message exchange finishes in the following way: after the first message has been sent, the first “No message” or “Agree with the proposal” message will end the message exchange stage.
 15. Note that, if the message exchange continues to the point where both players have sent two messages, the player who sent the first message will be asked to respond to the other player’s last message. They will be able to choose either to send the “No message” or the “Agree with the proposal” message. This will then end the message exchange stage.
 16. Once the message exchange has finished, you will be asked to make your choice, as described in points 6 through 11.
 17. When a match has finished and before being randomly re-matched, you will be shown detailed feedback on the outcome of the match. This will include your choice, the other player’s choice and the outcome in each of the rounds.

End of the Session

18. There are 10 matches in this session. Once the last match has ended, the session is complete.
19. You will be paid \$0.01 for each point scored throughout the experiment. There is no show-up fee for this experiment.

Are there any questions?

Summary

Before we start, let us remind you that:

1. The length of a match is randomly determined. After each round, there is an 80% probability that the match will continue for another round. You will play with the same person for the entire match.

2. After a match is finished, you will be randomly paired for a new match.

Good Luck

A.2 Screenshots

Communication Choice Stage

The following screenshot shows all the available communication messages:

Remaining time (sec): 23

The table below gives the messages exchanged so far. The last entry is the message the other person has just sent.

Order	Sent by	Message type	This round you choose	This round I choose	If outcome high, next round you choose	If outcome high, next round I choose	If outcome low, next round you choose	If outcome low, next round I choose
1	Other player	I propose that	A	A	A	A	C	C

Please choose a message to send to the person you are matched with by selecting from the following options. Then confirm your choice by clicking on the submit button that will appear below.

Agree with the proposal.

Do not send a message.

I propose that

	A	B	C
You choose:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I choose:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	A	B	C		A	B	C
You choose:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	And, if the outcome is HIGH in the next round:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I choose:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	A	B	C
You choose:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I choose:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

And, if the outcome is LOW in the next round:

	A	B	C
You choose:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I choose:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Action Choice Stage

The following screenshot shows the first screen players would see during the action choice stage in the first round of a match (that is there is no outcome displayed from the previous round):

Remaining time (sec): 9

To select an action choice, click on the corresponding row of the table. This will highlight the row. Then confirm your choice by clicking on the submit button that will appear below.

Match number: 1
Round number: 1

Your Choice:	Your net payoff if outcome is:		Probability of high outcome (your expected payoff, other's expected payoff)		
	High	Low	if other's choice is:		
			A	B	C
A	101	1	Prob. High = 0.90 (91, 91)	Prob. High = 0.60 (91, 85)	Prob. High = 0.55 (57, 112)
B	125	25	Prob. High = 0.60 (85, 61)	Prob. High = 0.60 (85, 85)	Prob. High = 0.32 (57, 88)
C	156	56	Prob. High = 0.55 (112, 57)	Prob. High = 0.32 (88, 57)	Prob. High = 0.10 (88, 66)

Submit

The following screenshot is an example from a round that is after the first round of a match in the case:

Remaining time (sec): 19

To select an action choice, click on the corresponding row of the table. This will highlight the row. Then confirm your choice by clicking on the submit button that will appear below.

Match number: 1
Round number: 2

In the last round, your choice was: A
the outcome was: High

Your Choice:	Your net payoff if outcome is:		Probability of high outcome (your expected payoff, other's expected payoff)		
	High	Low	if other's choice is:		
			A	B	C
A	101	1	Prob. High = 0.90 (91, 91)	Prob. High = 0.60 (91, 85)	Prob. High = 0.55 (57, 112)
B	125	25	Prob. High = 0.60 (85, 61)	Prob. High = 0.60 (85, 85)	Prob. High = 0.32 (57, 88)
C	156	56	Prob. High = 0.55 (112, 57)	Prob. High = 0.32 (88, 57)	Prob. High = 0.10 (88, 66)

Submit

B Further Details of the Strategy Estimation

B.1 The Strategy Frequency Estimation Method

Denote the choice made by subject i in round r of match m by c_{imr} and the choice that a strategy k indicates to make in round r of match m for subject i by

$$s_{imr}^k (y_{jm1}, \dots, y_{jm(r-1)}; s_{im1}^k, \dots, s_{im(r-1)}^k)$$

if $r > 1$, while the strategy does not depend on previous states or signals in round 1. The indicator variable I takes value one if the choice corresponds to the strategy in that round of a given match and zero otherwise: $I_{imr}^k = 1 \{c_{imr} = s_{imr}^k(\cdot)\}$. The probability that a choice corresponds to the one prescribed by a given strategy is modeled as

$$Pr(I_{imr}^k) = \frac{1}{1 + (NC - 1) \exp\left(\frac{-1}{\gamma}\right)} \equiv \beta$$

where γ is a parameter to be estimated and NC is the number of available choices in the stage game.⁴⁶ When reporting results we will report β as it gives an indication of the quality of the fit, something difficult to read from γ ; random choices imply a β of $\frac{1}{2}$ when there are two choices and $\frac{1}{3}$ with three choices. The likelihood that the observed choices for subject i were generated by strategy k are given by

$$\prod_{M_i} \prod_{R_{im}} \left(\frac{1}{1 + (NC - 1) \exp(-1/\gamma)} \right)^{I_{imr}^k} \left(\frac{1}{1 + (NC - 1) \exp(1/\gamma)} \right)^{(1 - I_{imr}^k)}$$

where M is the set of matches and R the number of rounds in each match. Combining this across subjects and allowing for multiple strategies, each present in different frequency, ϕ^k , we obtain the following loglikelihood:

$$\sum_I \ln \left(\sum_K \phi^k \text{prob}_i(s^k) \right)$$

for the set of strategy K and of subjects I . The parameters of interest ϕ^k give the probability of observing each strategy.

⁴⁶When there are only two choices, this can be motivated from a model where subjects follow a strategy but make mistakes, as in $c'_{imr} = 1 \{s'_{imr}(\cdot) + \gamma \varepsilon_{imr} \geq 0\}$ where c'_{imr} takes value 0 and 1, S'_{imr} is coded as 1 when the choice should be 1 and -1 when it should be 0 and ε has a logistic distribution.

B.2 Strategies included in the second-stage estimation

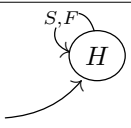
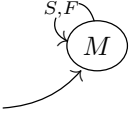
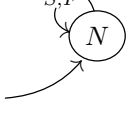
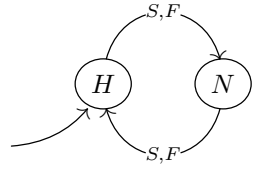
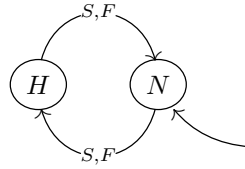
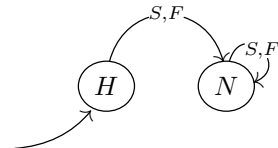
Automaton name in text	Diagram	Version, if any, in FRD
All H		ALLC
All M		
All N		ALLD
HNHN		
NHNH		DC-Alt
HNNN		C-to-ALLD

Table 9: Unconditional automata

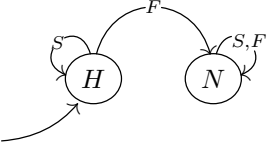
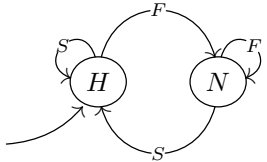
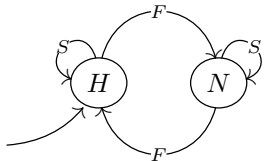
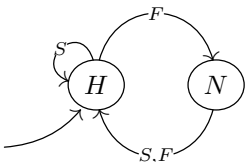
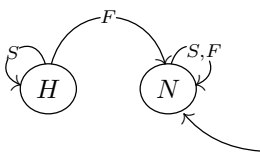
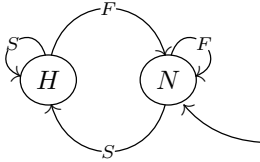
Automaton name in text	Diagram	Version, if any, in FRD
Grim HN		Grim
Mono HN		TFT
WSLS HN		PTFT
T11 HN		
Sgrim HN		D-Grim
Smono HN		D-TFT

Table 10: Two-state automata that use the high and Nash actions

Automaton name in text	Diagram	Version, if any, in FRD
Grim2 HN		Grim2
Grim3 HN		Grim3
Mono21 HN		TF2T
Mono31 HN		TF3T
Mono12 HN		2TFT
Mono22 HN		2TF2T

Table 11: Other members of the grim and monotone families of automata that use the high and Nash actions

Automaton name in text	Diagram	Version, if any, in FRD
Sum HN		
Sum2 HN		
Sum3 HN		
Sum4 HN		
Ssum2 HN		

Table 12: The sum family of automata that use the high and Nash actions

Automaton name in text	Diagram	Version, if any, in FRD
Grim HM		
Sum HM		
Sum3 HM		
Sum4 HM		
333 H		

Table 13: Conditional automata that use the medium action, but start with high

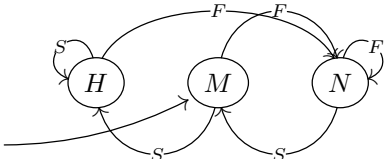
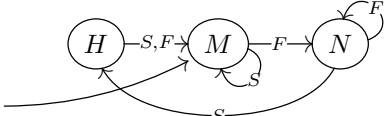
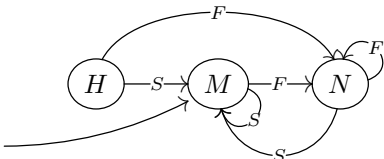
Automaton name in text	Diagram	Version, if any, in FRD
Stepup M		
332 M		
431 M		

Table 14: Conditional automata that use, and start with, the medium action

	Strategies included in grouping
<i>Some key “families”</i>	
(S)GrimX	Grim HN, Sgrim HN, Grim2 HN, Grim3 HN, Grim HM
(S)MonoXY	Mono HN, Smono HN, Mono21 HN, Mono31 HN, Mono12 HN, Mono22 HN
(S)SumX	Sum HN, Sum2 HN, Sum3 HN, Sum4 HN, Ssum2 HN, Sum HM, Sum3 HM, Sum4 HM
1 round punishment	T11 HN, 333 H
<i>Starts with...</i>	
H	All H, HNHN, HNNN, Grim HN, Mono HN, WSLS HN, T11 HN, Grim2 HN, Grim3 HN, Mono21 HN, Mono31 HN, Mono12 HN, Mono22 HN, Sum HN, Sum2 HN, Sum3 HN, Sum4 HN, Grim HM, Sum HM, Sum3 HM, Sum4 HM, 333 H
N	All N, NHNH, Sgrim HN, Smono HN, Ssum2 HN
Not lowest effort in strategy	<i>All strategies except All H, All M, All N, NHNH, Sgrim HN, Smono HN, Ssum2 HN</i>
<i>Leniency and forgiveness</i>	
Lenient	Grim2 HN, Grim3 HN, Mono21 HN, Mono22 HN, Sum HN, Sum2 HN, Sum3 HN, Sum4 HN, Ssum2 HN Sum HM, Sum3 HM, Sum4 HM
Forgiving	Mono HN, WSLS HN, T11 HN, Smono HN, Mono21 HN, Mono31 HN, Mono12 HN, Mono22 HN, Sum HN, Sum2 HN, Sum3 HN, Sum4 HN, Ssum2 HN, Sum HM, Sum3 HM, Sum4 HM, 333 H, Stepup M, 332 M, 431 M
Cooperative	<i>All strategies except All N, all suspicious strategies, and All M</i>
<i>States</i>	
1 or 2	All H, All M, All N, HNHN, NHNH Grim HN, Mono HN, WSLS HN, T11 HN, Sgrim HN, Smono HN, Grim HM, HNNN
3 or more	Grim2 HN, Grim3 HN, Mono21 HN, Mono31 HN, Mono12 HN, Mono22 HN, Sum HN, Sum2 HN, Sum3 HN, Sum4 HN, Ssum2 HN, Sum HM, Sum3 HM, Sum4 HM, 333 H, Stepup M, 332M, 431 M
<i>Conditional</i>	
Yes	<i>All strategies except All H, All M, All N, HNHN, NHNH, HNNN</i>
M supported by N	Grim MN, Stepup M, 333 H, 332 M, 431 M

Table 15: Grouping of strategies by properties

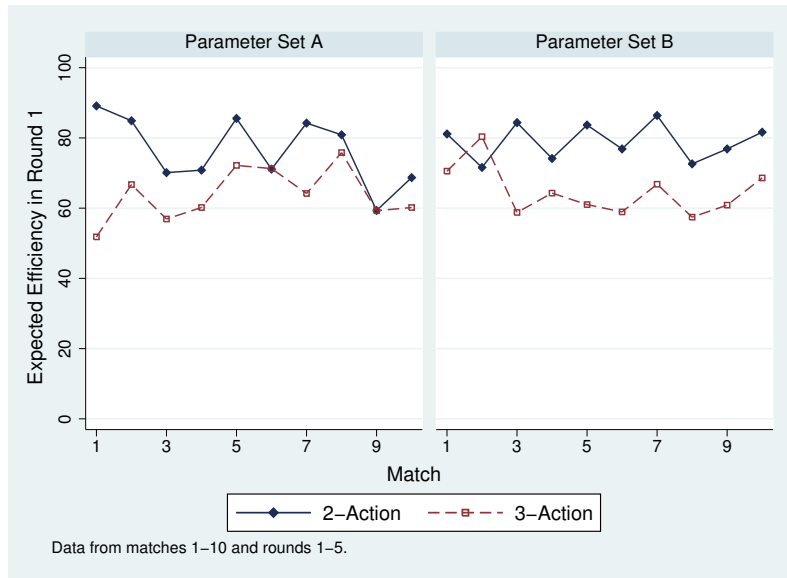
B.3 Further details of the estimation results

Strategy	Treatment							
	A-2-Action		A-3-Action		B-2-Action		B-3-Action	
All H	0.056	(0.101)	0.158***	(0.054)	0.171**	(0.083)	0.000	(0.019)
All N	0.059	(0.098)	0.278***	(0.079)	0.285***	(0.088)	0.274***	(0.072)
Grim HN	0.005	(0.050)	0.083**	(0.033)	0.110**	(0.049)	0.000	(0.055)
Mono HN	0.168**	(0.077)	0.145***	(0.049)	0.048	(0.063)	0.098**	(0.044)
WSLS HN	0.005	(0.061)	0.000	(0.028)	0.000	(0.085)	0.000	(0.019)
T11 HN	0.006	(0.033)	0.000	(0.073)	0.021	(0.042)	0.101**	(0.048)
Mono21 HN	0.005	(0.089)	0.000	(0.012)	0.000	(0.024)	0.043	(0.044)
Mono12 HN	0.006	(0.114)	0.000	(0.037)	0.000	(0.036)	0.000	(0.033)
Mono22 HN	0.005	(0.048)	0.000	(0.028)	0.000	(0.021)	0.000	(0.014)
Grim2 HN	0.005	(0.012)	0.000	(0.059)	0.020	(0.055)	0.077***	(0.028)
Grim3 HN	0.356***	(0.120)	0.000	(0.026)	0.000	(0.005)	0.131***	(0.042)
Sum HN	0.006	(0.015)	0.055	(0.049)	0.000	(0.047)	0.000	(0.009)
Sum2 HN	0.005	(0.075)	0.000	(0.031)	0.104*	(0.063)	0.000	(0.007)
Sum3 HN	0.004	(0.036)	0.059	(0.071)	0.111	(0.084)	0.000	(0.019)
Sgrim HN	0.004	(0.083)	0.027	(0.050)	0.000	(0.021)	0.045	(0.059)
Smono HN	0.004	(0.021)	0.017**	(0.008)	0.000	(0.006)	0.000	(0.050)
Ssum2 HN	0.277***	(0.091)	0.000	(0.012)	0.000	(0.033)	0.032	(0.031)
HNNN	0.000	(0.051)	0.026	(0.057)	0.080*	(0.046)	0.022	(0.043)
NHNN	0.000	(0.050)	0.023	(0.032)	0.000	(0.072)	0.000	(0.040)
HNHN	0.024		0.004	(0.066)	0.051		0.000	(0.079)
All M			0.046	(0.049)			0.083**	(0.041)
Grim MN			0.020	(0.013)			0.000	(0.055)
Sum HM			0.040	(0.044)			0.000	(0.006)
Sum3 HM			0.000	(0.043)			0.006	(0.016)
Sum4 HM			0.000	(0.053)			0.007	(0.016)
Stepup M			0.020	(0.036)			0.000	(0.057)
333 H			0.000	(0.050)			0.059***	(0.023)
332 M			0.000	(0.041)			0.022	(0.031)
431 M			0.000				0.000	
Gamma	0.752	(0.090)	0.563	(0.122)	0.655	(0.088)	0.775	(0.119)
Beta	0.791		0.747		0.821		0.645	

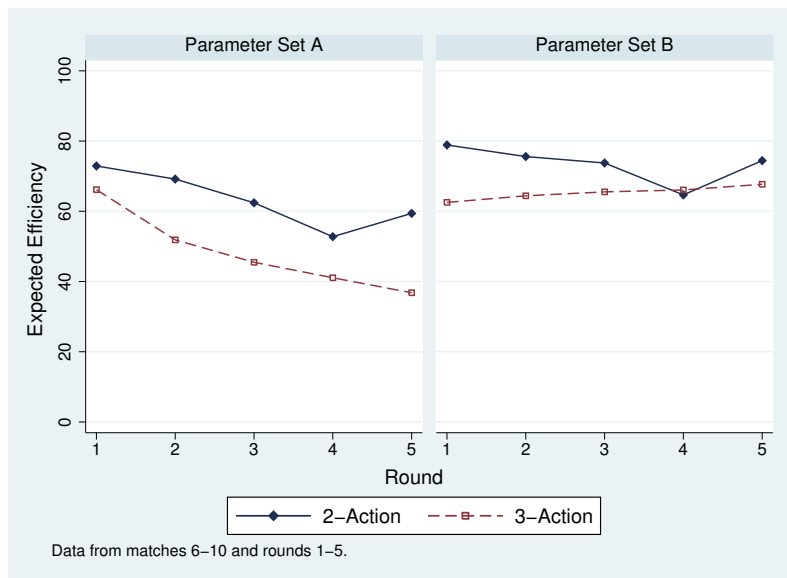
Table 16: Complete strategy frequency estimation results using data from the last five matches. Bootstrapped standard errors in parenthesis. ***1%, **5%, *10% significance. For the 2-action treatments, the frequency of the HNHN strategy is obtained as one minus the sum of the other frequencies; similarly for 431 M strategy in the 3-action treatments; statistical significance is assessed by testing if the sum of the other coefficients is one.

C Additional Material

C.1 Figures



(a) Across matches



(b) Within a match

Figure 8: Evolution of expected payoff efficiency

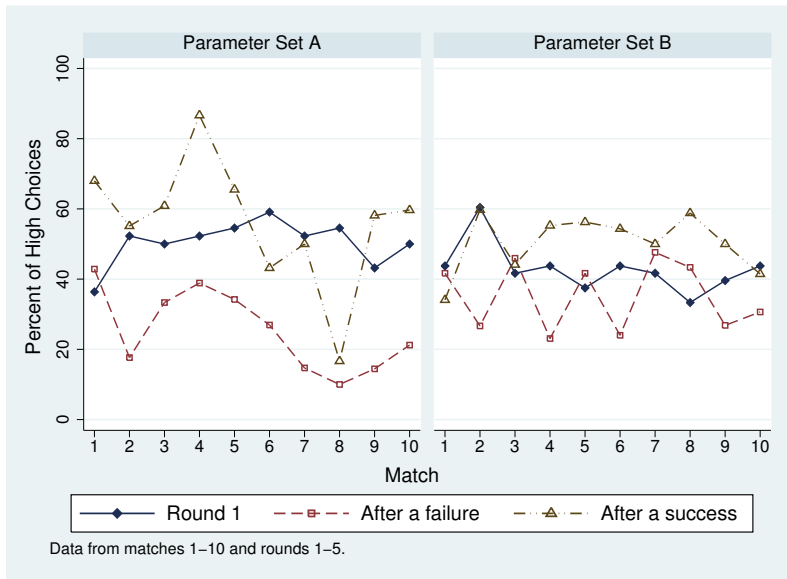


Figure 9: Evolution of high choices, either in the initial round or following a failure or success, in the 3-action games

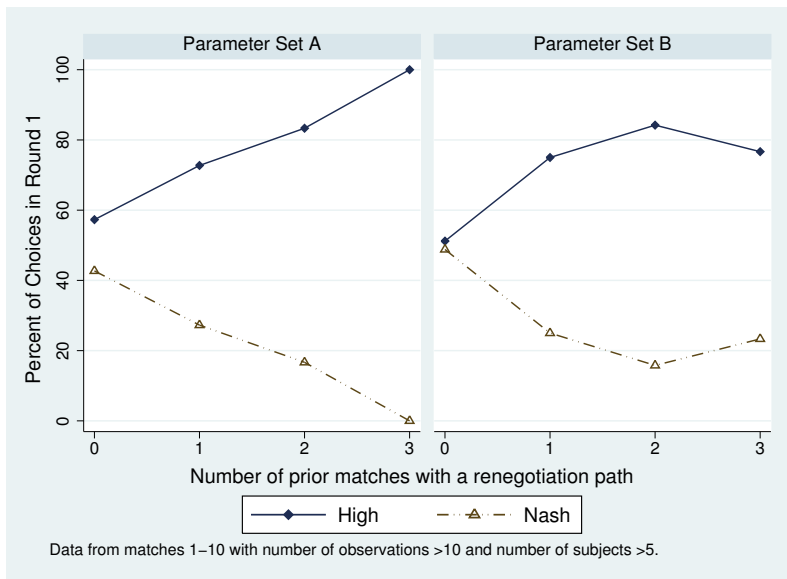
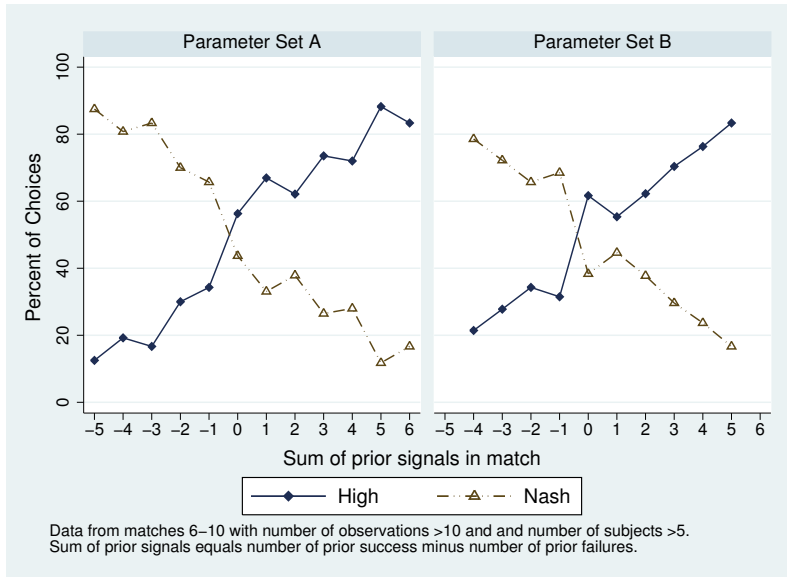
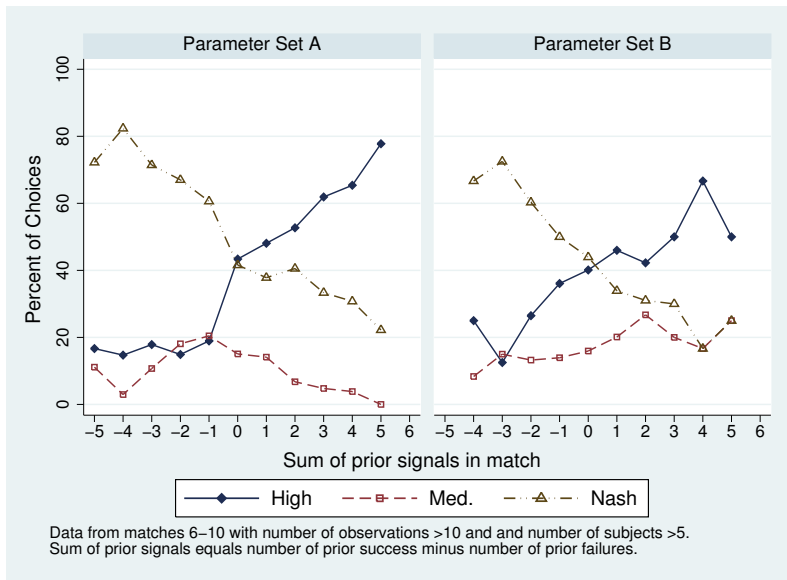


Figure 10: Effect of prior of renegotiation-path experiences on choices in the 2-action games



(a) 2-action games



(b) 3-action games

Figure 11: Evidence at the aggregate level for counting-type strategies

C.2 Tables

Session	Match										Total
	1	2	3	4	5	6	7	8	9	10	
1	2	4	5	1	4	3	5	7	5	9	45
2	1	12	11	1	1	9	2	1	8	2	48
3	14	1	4	9	6	1	1	1	6	6	49

Table 17: Details of the round-match composition by session.

	Number of		Earnings			Stage-Game
	Sessions	Subjects	Avg (\$)	Min (\$)	Max (\$)	Avg (ECU)
Parameter set A						
2-Action	3	35	38.93	30.70	49.53	82.2
3-Action	3	44	38.26	27.97	46.44	81.1
Parameter set B						
2-Action	3	42	39.87	30.28	53.97	84.3
3-Action	3	48	37.93	31.24	48.97	80.2

Table 18: Session characteristics

	Round 1			Round 2 onwards following an outcome of					
	High	Med.	Nash	Failure			Success		
	High	Med.	Nash	High	Med.	Nash	High	Med.	Nash
A-2-Action									
High	90			87			93		
Nash	7		3	10		3	6		2
A-3-Action									
High	76			61			77		
Medium	3	12		2	26		2	11	
Nash	9	1	0	7	2	2	8	1	1
B-2-Action									
High	93			80			86		
Nash	6		1	20		0	14		0
B-3-Action									
High	74			62			73		
Medium	2	12		2	19		1	19	
Nash	11	0	0	16	1	2	6	1	0

Table 19: Agreed message pairs (in %) in the last five matches

Treatment		First 5 Matches		Last 5 Matches		All Matches	
		Failure	Success	Failure	Success	Failure	Success
A-2-Act	N Obs	28	194	40	128	68	322
	N Subj	20	31	21	27	27	31
A-3-Act	N Obs	32	211	35	127	67	338
	N Subj	23	32	23	31	31	38
B-2-Act	N Obs	34	238	55	176	89	414
	N Subj	24	33	28	32	33	37
B-3-Act	N Obs	28	155	38	97	66	252
	N Subj	21	32	23	26	33	36

Table 20: Number of observations, and number of distinct subjects, on the PPE path, with a failure in the previous period or a success in the previous period, across the three data subsamples: the PPE path includes only observations with the high action chosen in all previous rounds and no failures prior to the last round.

	Following an outcome of					
	Failure			Success		
	High	Med.	Nash	High	Med.	Nash
A-2-Action						
High	92			100		
Nash	8		0	0		0
A-3-Action						
High	73			95		
Medium	7	13		0	3	
Nash	7	0	0	2	0	0
B-2-Action						
High	80			87		
Nash	20		0	13		0
B-3-Action						
High	65			95		
Medium	0	18		0	2	
Nash	12	0	6	2	0	0

Table 21: PPE paths and agreed message pairs (in %) in the last five matches: agreed message pairs for histories that, until the realization of the signal in the previous period, corresponded to the equilibrium path predicted by the PPE equilibrium; those in which the the signal of the previous period was a failure correspond to paths that the RE concept predicts would be renegotiated should they to happen.

	Parameter set A			Parameter set B		
	(1)	(2)	(3)	(1)	(2)	(3)
3-Action	-0.18 (0.122)	-0.06 (0.275)	-0.31* (0.163)	-0.26*** (0.093)	-0.24 (0.186)	-0.20 (0.141)
Round	-0.05*** (0.019)	-0.04*** (0.011)	-0.06** (0.029)	-0.03 (0.021)	-0.05*** (0.020)	-0.02 (0.017)
3-Act x Round	0.01 (0.021)	-0.03** (0.015)	0.05 (0.032)	0.03 (0.023)	0.05* (0.027)	0.02 (0.020)
Match	-0.02*** (0.005)	-0.02 (0.022)	0.01 (0.021)	-0.01 (0.012)	0.00 (0.014)	0.01 (0.028)
3-Act x Match	0.00 (0.006)	-0.00 (0.025)	0.01 (0.021)	-0.00 (0.013)	-0.01 (0.014)	-0.01 (0.039)

Table 22: Random-effects probit regression of the probability of choosing the high action. All regressions use data from rounds 1–5 and include match-round composition indicator variables. The baseline case is the 2-action game. Specifications 1 uses all-matches, 2 uses the last-half and 3 the first-half. Reported standard errors are robust to clustering at the session level. ***1%, **5% ,*10% significance.

	Parameter set A			Parameter set B		
	(1)	(2)	(3)	(1)	(2)	(3)
3-Action	-0.15* (0.068)	-0.13 (0.636)	-0.32*** (0.004)	-0.19*** (0.000)	-0.36** (0.030)	-0.10 (0.321)
Round	-0.04*** (0.001)	-0.04*** (0.000)	-0.04 (0.104)	-0.02* (0.089)	-0.03** (0.020)	-0.01 (0.102)
3-Act x Round	0.00 (0.907)	-0.02* (0.084)	0.03 (0.158)	0.02* (0.064)	0.03* (0.068)	0.02* (0.091)
Match	-0.02*** (0.000)	-0.03 (0.312)	-0.01 (0.386)	-0.01 (0.306)	0.00 (0.980)	0.00 (0.754)
3-Act x Match	0.00 (0.634)	0.01 (0.789)	0.04** (0.011)	0.00 (0.733)	0.02 (0.157)	-0.02 (0.376)
Constant	0.85*** (0.000)	0.87*** (0.000)	0.86*** (0.000)	0.92*** (0.000)	0.89*** (0.000)	0.86*** (0.000)

Table 23: Linear random-effects regression of the expected efficiency of choices. All regressions use data from rounds 1–5 and include match-round composition indicator variables. The baseline case is the 2-action game. Specifications 1 uses all-matches, 2 uses the last-half and 3 first-half. Reported standard errors are robust to clustering at the session level. ***1%, **5% ,*10% significance.

	Parameter set A		Parameter set B	
	(1)	(2)	(1)	(2)
Match	-0.01** (0.007)	-0.02*** (0.006)	-0.02*** (0.008)	-0.02* (0.013)
Length M-1	0.06*** (0.011)	0.03 (0.020)	0.03 (0.022)	0.03 (0.021)
(Length M-1) ²	-0.01*** (0.001)	-0.00** (0.002)	-0.00 (0.002)	-0.00 (0.002)
Other coop. M-1	0.18*** (0.036)	0.15*** (0.042)	0.04 (0.034)	0.05** (0.022)
Coop. M=1	0.41*** (0.135)	0.29** (0.121)	0.20** (0.085)	0.12 (0.085)
Coop. agree.		0.40*** (0.071)		0.39*** (0.008)
Cheated on M-1		0.07* (0.038)		-0.07 (0.087)

Table 24: Correlated random-effects probit regression of the probability of choosing high in round 1 of the 3-action games. M-1 stands for prior match; M=1 stands for first match. Specification 2 includes communication variables as well as the match and outcome variables included in specification 1. Table reports average marginal effects. Clustered standard errors in parentheses. ***1%, **5%, *10% significance.

		Match									
		1	2	3	4	5	6	7	8	9	10
Parameter set A: 2-action game											
Round 1	n obs.	35	35	35	35	35	35	35	35	35	35
	n subj.	35	35	35	35	35	35	35	35	35	35
Failure	n obs.	16	32	48	18	24	24	30	28	73	56
	n subj.	10	14	26	6	12	16	14	10	25	26
Success	n obs.	40	52	81	26	56	48	30	20	67	48
	n subj.	21	22	31	9	23	20	22	8	29	29
Parameter set A: 3-action game											
Round 1	n obs.	44	44	44	44	44	44	44	44	44	44
	n subj.	44	44	44	44	44	44	44	44	44	44
Failure	n obs.	14	34	72	18	38	52	34	40	90	66
	n subj.	12	18	36	8	20	28	20	16	32	32
Success	n obs.	50	78	92	30	58	44	46	24	86	62
	n subj.	20	30	40	10	24	26	24	16	38	32
Parameter set B: 2-action game											
Round 1	n obs.	42	42	42	42	42	42	42	42	42	42
	n subj.	42	42	42	42	42	42	42	42	42	42
Failure	n obs.	30	46	58	16	22	44	18	28	76	46
	n subj.	18	22	32	6	12	26	12	14	30	28
Success	n obs.	32	60	98	32	68	48	54	28	92	74
	n subj.	18	28	40	10	24	26	26	12	38	36
Parameter set B: 3-action game											
Round 1	n obs.	48	48	48	48	48	48	48	48	48	48
	n subj.	48	48	48	48	48	48	48	48	48	48
Failure	n obs.	36	30	74	26	48	50	42	30	82	62
	n subj.	18	20	42	12	24	24	24	14	38	40
Success	n obs.	44	82	102	38	64	46	38	34	110	82
	n subj.	24	32	44	14	30	24	20	16	40	36

Table 25: Number of observations, and number of distinct subjects, for each signal history across matches, using data from rounds 1-5

Number of Prior Matches with Renegotiation Path	First 5 Matches		Last 5 Matches		All Matches	
	N Obs	N Subj	N Obs	N Subj	N Obs	N Subj
A-2-Action						
0	185	35	118	35	67	15
1	88	23	45	20	43	15
2	48	16	12	6	36	16
3	18	11	0	0	18	11
4	10	6	0	0	10	6
5	1	1	0	0	1	1
A-3-Action						
0	264	44	170	44	94	21
1	108	28	44	20	64	21
2	46	18	6	5	40	16
3	18	6	0	0	18	6
4	4	2	0	0	4	2
B-2-Action						
0	209	42	148	42	61	18
1	116	33	52	21	64	25
2	57	25	8	5	49	23
3	30	13	2	2	28	13
4	7	6	0	0	7	6
5	1	1	0	0	1	1
B-3-Action						
0	298	48	191	48	107	27
1	127	33	46	19	81	26
2	40	14	3	2	37	14
3	11	7	0	0	11	7
4	4	2	0	0	4	2

Table 26: Number of observations, and number of distinct subjects, for different numbers of prior renegotiation-path experiences by data subsample.