

Do we follow others when we should? A simple test of rational expectations

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Web Appendix

Online Appendix A: Robustness checks

This appendix replicates the regression results of Section 2 and 3 under different specifications of the econometric model or with different subsets of data.

Variation of model: Only linear univariate regressions appear in the main text. Here, they are repeated (i) with cubed and squared terms for the lucrativity variables ($\text{mean_pay}|\text{contradict}_i$, $\text{mean_pay}|\text{optimal}_i$ and $\text{mean_pay}|\text{success}_i$, respectively, in the different regressions) and (ii) with probit regressions.

Variation of data: The regressions in the main text generally use the maximum available amount of data, giving rise to the possibility that measurement error in the lucrativity variables influences the result. In Section 2 all data are included where $\text{sitcount}_i > 1$, and in Section 3 all data with $\text{sitcount}_i > 2$. Here, I repeat the regressions of Sections 2 and 3 under the restriction that (iii) $\text{sitcount}_i > 10$, (iv) $\text{sitcount}_i > 30$, and (v) $\text{sitcount}_i > 100$. Also, I repeat the regressions with $\text{sitcount}_i > 1$ (Section 2) and $\text{sitcount}_i > 2$ (Section 3) but (vi) exclude the largest data set that comes from an individual study, Nöth and Weber (2003).

Altogether, six variations of each set of regressions are reported. For the sake of brevity, the results regarding Section 3 only replicate Tables 6 and 10, where the largest number of variables was included. As the discussion in Section 3 shows, the results from Tables 3-5 and 7-9 mostly reappear in these larger tables. For better comparability across model/data specification, variations (i) through (vi) are reported in a topic-by-topic manner, first doing all variations on the regressions

in Table 2 (appearing as Tables 11 through 16), then those in Table 6 (Table 17 through 22) and finally those in Table 10 (Tables 23-28).¹

¹For the dataset with the restriction $\text{sitcount}_i > 100$, the interaction variable ($\text{late}_i \times \text{full_agreement}_i$) has to be dropped, see Tables 21 and 27.

	contradict	
	(1)	(2)
	OLS	IV
mean_pay contradict ¹	-1.264** (.132)	-0.409 (.250)
(mean_pay contradict ¹) ²	4.739** (.406)	2.810** (.745)
(mean_pay contradict ¹) ³	-3.104** (.293)	-1.508** (.555)
constant	0.130** (.010)	-0.016 (.018)
$H_0: (0.5, 0.5)$	-22.47	-16.33
# of obs.	21670	21670
R ²	0.170	0.079

Table 11: Frequency of contradicting the own signal. Note: See Table 2.

	contradict	
	(1)	(2)
	Probit	Probit IV
mean_pay contradict ¹	1.784** (.140)	2.978** (.111)
constant	-1.533** (.065)	-1.925** (.054)
$H_0: (0.5, 0.5)$	-34.41	-16.37
# of obs.	21670	21670
log Pseudo-lik.	-10060	-8697

Table 12: Frequency of contradicting the own signal.

Note: Probit coefficients reported. See Table 2.

	contradict	
	(1)	(2)
	OLS	IV
mean_pay contradict ¹	0.804** (.037)	0.948** (.038)
constant	-0.099** (.011)	-0.153** (.012)
$H_0: (0.5, 0.5)$	-20.95	-19.27
# of obs.	15734	15734
R ²	0.202	0.195

Table 13: Frequency of contradicting the own signal. Note: Data includes cases with $\text{sitcount}_i > 10$. See Table 2.

	contradict	
	(1)	(2)
	OLS	IV
mean_pay contradict ¹	0.859** (.040)	0.918** (.039)
constant	-0.125** (.013)	-0.146** (.013)
$H_0: (0.5, 0.5)$	-18.88	-18.50
# of obs.	11946	11946
R ²	0.229	0.228

Table 14: Frequency of contradicting the own signal. Note: Data includes cases with $\text{sitcount}_i > 30$. See Table 2.

	contradict	
	(1)	(2)
	OLS	IV
mean_pay contradict ¹	1.008** (.041)	1.024** (.042)
constant	-0.170** (.014)	-0.176** (.014)
$H_0: (0.5, 0.5)$	-15.83	-15.47
# of obs.	7291	7291
R ²	0.270	0.270

Table 15: Frequency of contradicting the own signal. Note: Data includes cases with $\text{sitcount}_i > 100$. See Table 2.

	contradict	
	(1)	(2)
	OLS	IV
mean_pay contradict ¹	0.389** (.037)	0.974** (.058)
constant	0.083** (.012)	-0.136** (.020)
$H_0: (0.5, 0.5)$	-24.58	-12.00
# of obs.	11836	11836
R ²	0.092	0.000

Table 16: Frequency of contradicting the own signal. Note: Data includes cases with $\text{sitcount}_i > 1$, excludes data from Nöth and Weber (2003). See Table 2.

	optimal _i					
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	IV	OLS	OLS	IV
late _i	0.064** (.013)	0.017 (.011)	-0.019 (.012)	-0.020 (.021)	-0.040* (.018)	-0.062** (.019)
counter_majority _i	-0.286** (.014)	-0.201** (.015)	-0.138** (.018)	-0.279** (.013)	-0.197** (.014)	-0.135** (.018)
full_agreement _i	0.104** (.017)	0.070** (.014)	0.035** (.012)	0.032 (.025)	0.022 (.019)	-0.001 (.017)
(late _i × full_agreement _i)	-	-	-	0.152** (.029)	0.102** (.021)	0.077** (.021)
mean_pay optimal _i ¹	-	-1.357** (.220)	0.372 (.695)	-	-1.299** (.209)	0.356 (.696)
(mean_pay optimal _i ¹) ²	-	4.835** (.504)	2.571 (1.472)	-	4.675** (.477)	2.611 (1.473)
(mean_pay optimal _i ¹) ³	-	-3.082** (.302)	-1.865* (.884)	-	-2.981** (.285)	-1.894* (.883)
constant	0.745** (.019)	0.443** (.027)	-0.066 (.086)	0.791** (.025)	0.476** (.030)	-0.041 (.088)
# of obs.	16749	16749	16749	16749	16749	16749
R ²	0.104	0.207	0.096	0.111	0.210	0.099

Table 17: Frequencies of making the empirically optimal choice.

Note: See Table 3.

	optimal _i					
	(1)	(2)	(3)	(4)	(5)	(6)
	Probit	Probit	Probit IV	Probit	Probit	Probit IV
late _i	0.217** (.047)	0.094* (.043)	-0.082* (.038)	-0.053 (.065)	-0.142* (.064)	-0.246** (.056)
counter_majority _i	-0.871** (.049)	-0.731** (.046)	-0.411** (.057)	-0.852** (.048)	-0.715** (.045)	-0.398** (.056)
full_agreement _i	0.365** (.054)	0.308** (.051)	0.170** (.040)	0.131 (.078)	0.104 (.070)	0.027 (.051)
(late _i × full_agreement _i)	-	-	-	0.540** (.103)	0.481** (.087)	0.345** (.073)
mean_pay optimal _i ¹	-	1.623** (.099)	3.269** (.140)	-	1.603** (.095)	3.268** (.138)
constant	0.678** (.063)	-0.384** (.059)	-1.588** (.098)	0.828** (.081)	0.241** (.072)	-1.500 (.108)
# of obs.	16749	16749	16749	16749	16749	16749
log Pseudo-lik.	-9080	-8327	-6941	-9013	-8278	-6865

Table 18: Frequencies of making the empirically optimal choice.

Note: Probit coefficients reported. See Table 6.

	optimal _{<i>i</i>}					
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	IV	OLS	OLS	IV
late _{<i>i</i>}	0.073** (.013)	0.002 (.013)	-0.041** (.012)	-0.029 (.023)	-0.082** (.020)	-0.110** (.017)
counter_majority _{<i>i</i>}	-0.325** (.014)	-0.215** (.017)	-0.157** (.019)	-0.317** (.014)	-0.210** (.017)	-0.153** (.019)
full_agreement _{<i>i</i>}	0.060** (.016)	0.035** (.013)	0.023 (.012)	-0.013 (.026)	-0.022 (.020)	-0.027 (.017)
(late _{<i>i</i>} × full_agreement _{<i>i</i>})	-	-	-	0.175** (.034)	0.140** (.025)	0.121** (.023)
mean_pay optimal _{<i>i</i>} ¹	-	0.754** (.043)	1.153** (.055)	-	0.742** (.041)	1.134** (0.056)
constant	0.808** (.017)	0.267** (.033)	-0.020 (.043)	0.858** (.023)	0.314** (.033)	-0.027 (.047)
# of obs.	12536	12536	12536	12536	12536	12536
<i>R</i> ²	0.136	0.222	0.198	0.145	0.227	0.204

Table 19: Frequencies of making the empirically optimal choice.

Note: Data includes cases with sitcount_{*i*} > 10 and *t* ≥ 3. See Table 3.

	optimal _{<i>i</i>}					
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	IV	OLS	OLS	IV
late _{<i>i</i>}	0.049** (.010)	-0.033** (.012)	-0.061** (.012)	-0.086** (.015)	-0.139** (.015)	-0.156** (.015)
counter_majority _{<i>i</i>}	-0.383** (.015)	-0.266** (.019)	-0.226** (.021)	-0.370** (.014)	-0.262** (.018)	-0.225** (.021)
full_agreement _{<i>i</i>}	0.017 (.011)	0.007 (.010)	0.004 (.010)	-0.071** (.013)	-0.064** (.011)	-0.062** (.011)
(late _{<i>i</i>} × full_agreement _{<i>i</i>})	-	-	-	0.234** (.018)	0.191** (.014)	0.176** (.013)
mean_pay optimal _{<i>i</i>} ¹	-	0.708** (.063)	0.950** (.078)	-	0.668** (.058)	0.897** (0.080)
constant	0.896** (.010)	0.359** (.047)	0.176 (.060)	0.954** (.010)	0.437** (.044)	0.260** (.062)
# of obs.	9096	9096	9096	9096	9096	9096
<i>R</i> ²	0.201	0.244	0.239	0.216	0.254	0.249

Table 20: Frequencies of making the empirically optimal choice.

Note: Data includes cases with sitcount_{*i*} > 30 and *t* ≥ 3. See Table 3.

	optimal _{<i>i</i>}		
	(1)	(2)	(3)
	OLS	OLS	IV
late _{<i>i</i>}	0.209** (.013)	0.044** (.015)	-0.001 (.015)
counter_majority _{<i>i</i>}	-0.486** (.018)	-0.306** (.023)	-0.257** (.023)
full_agreement _{<i>i</i>}	0.014 (.012)	-0.002 (.012)	0.006 (.012)
(late _{<i>i</i>} × full_agreement _{<i>i</i>})	-	-	-
mean_pay optimal _{<i>i</i>} ¹	-	0.944** (.043)	1.204** (.047)
constant	0.907** (.012)	0.186** (.036)	-0.122 (.041)
# of obs.	5235	5235	5235
<i>R</i> ²	0.308	0.353	0.350

Table 21: Frequencies of making the empirically optimal choice.

Note: Data includes cases with sitcount_{*i*} > 100 and *t* ≥ 3. See Table 3.

	optimal _i					
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	IV	OLS	OLS	IV
late _i	0.099** (.021)	0.057** (.016)	-0.012 (.018)	0.098** (.035)	0.055 (.032)	-0.016 (.034)
counter_majority _i	-0.220** (.016)	-0.161** (.017)	-0.066* (.027)	-0.220** (.016)	-0.161** (.017)	-0.065* (.027)
full_agreement _i	0.226** (.019)	0.181** (.018)	0.106** (.020)	0.225** (.027)	0.179** (.024)	0.103** (.027)
(late _i × full_agreement _i)	-	-	-	0.000 (.040)	0.003 (.037)	0.006 (.037)
mean_pay optimal _i ¹	-	0.425** (.030)	1.122** (.083)	-	0.425** (.030)	1.122** (.083)
constant	0.590** (.020)	0.326** (.025)	-0.107 (.057)	0.590** (.023)	0.327** (.032)	-0.105 (.062)
# of obs.	8558	8558	8558	8558	8558	8558
R ²	0.105	0.189	0.000	0.105	0.189	0.000

Table 22: Frequencies of making the empirically optimal choice.

Note: Data includes cases with $\text{sitcount}_i > 2$ and $t \geq 3$,
excludes data from Nöth and Weber (2003). See Table 3.

	success _i					
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	IV	OLS	OLS	IV
late _i	0.075** (.010)	0.013 (.008)	-0.017 (.009)	0.040** (.011)	-0.007 (.010)	-0.032* (.011)
counter_majority _i	-0.201** (.009)	-0.106** (.008)	-0.060** (.009)	-0.198** (.009)	-0.104** (.008)	-0.059** (.009)
full_agreement _i	0.074** (.012)	0.041** (.009)	0.018* (.008)	0.045** (0.12)	0.024** (.009)	0.006 (.009)
(late _i × full_agreement _i)	-	-	-	0.062** (.016)	0.036** (.014)	0.027 (.014)
mean_pay success _i ¹	-	-1.526** (.169)	-0.422 (.487)	-	-1.520** (.169)	-0.409 (.490)
(mean_pay success _i ¹) ²	-	5.260** (.414)	3.913** (1.083)	-	5.244** (.414)	3.881** (1.089)
(mean_pay success _i ¹) ²	-	-3.311** (.270)	-2.579** (.668)	-	-3.301** (.270)	-2.560** (.671)
constant	0.745** (.019)	0.423** (.021)	0.089 (.055)	0.697** (.012)	0.433** (.022)	0.096 (.055)
# of obs.	16749	16749	16749	16749	16749	16749
R ²	0.051	0.223	0.152	0.052	0.223	0.152

Table 23: Frequencies of receiving the high payoff.

Note: See Table 7.

	success _i					
	(1)	(2)	(3)	(4)	(5)	(6)
	Probit	Probit	Probit IV	Probit	Probit	Probit IV
late _i	0.222** (.031)	0.089** (.027)	-0.047* (.024)	0.115** (.032)	-0.009 (.033)	-0.116** (.033)
counter_majority _i	-0.563** (.028)	-0.420** (.027)	-0.213** (.026)	-0.555** (.028)	-0.412** (.027)	-0.207** (.027)
full_agreement _i	0.224** (.036)	0.172** (.031)	0.092** (.026)	0.134** (.034)	0.090** (.030)	0.035 (.026)
(late _i × full_agreement _i)	-	-	-	0.201** (.051)	0.188** (.049)	0.138** (.046)
mean_pay success _i ¹	-	1.853** (.112)	3.077** (.097)	-	1.851** (.112)	3.076** (.097)
constant	0.468** (.033)	-0.619** (.060)	-1.424** (.042)	0.525** (.033)	-0.565** (.062)	-1.386** (.059)
# of obs.	16749	16749	16749	16749	16749	16749
log Pseudo-lik.	-10163	-8857	-8389	-10153	-8849	-8379

Table 24: Frequencies of receiving the high payoff.

Note: Probit coefficients reported. See Table 7.

	success _i					
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	IV	OLS	OLS	IV
late _i	0.077** (.009)	-0.003 (.007)	-0.027** (.007)	0.045** (.014)	-0.020 (.012)	-0.040** (.012)
counter_majority _i	-0.209** (.009)	-0.087** (.009)	-0.049** (.009)	-0.206** (.009)	-0.086** (.009)	-0.048** (.009)
full_agreement _i	0.058** (.012)	0.022** (.008)	0.011 (.007)	0.036** (.014)	0.009 (.010)	0.001 (.010)
(late _i × full_agreement _i)	-	-	-	0.054** (.016)	0.030* (.015)	0.023 (.015)
mean_pay success _i ¹	-	0.913** (.026)	1.194** (.032)	-	0.912** (.026)	1.193** (.032)
constant	0.691** (.012)	0.113** (.018)	-0.065** (.021)	0.706** (.013)	0.122** (.019)	-0.058 (.021)
# of obs.	12536	12536	12536	12536	12536	12536
R ²	0.053	0.265	0.245	0.053	0.265	0.245

Table 25: Frequencies of receiving the high payoff. Note: Data includes cases with $\text{sitcount}_i > 10$ and $t \geq 3$. See Table 7.

	success _{<i>i</i>}					
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	IV	OLS	OLS	IV
late _{<i>i</i>}	0.087** (.012)	-0.015 (.010)	-0.027** (.010)	0.042* (.017)	-0.038* (.018)	-0.048* (.018)
counter_majority _{<i>i</i>}	-0.225** (.009)	-0.075** (.009)	-0.057** (.008)	-0.220** (.009)	-0.073** (.009)	-0.055** (.008)
full_agreement _{<i>i</i>}	0.045** (.013)	0.013 (.007)	0.010 (.007)	0.016 (.014)	-0.002 (.010)	-0.004 (.010)
(late _{<i>i</i>} × full_agreement _{<i>i</i>})	-	-	-	0.077** (.017)	0.040* (.019)	0.036 (.019)
mean_pay success _{<i>i</i>} ¹	-	1.037** (.028)	1.159** (.030)	-	1.036** (.028)	1.157** (.030)
constant	0.715** (.012)	0.036 (.020)	-0.044* (.021)	0.734** (.012)	0.047** (.021)	-0.034 (.021)
# of obs.	9096	9096	9096	9096	9096	9096
<i>R</i> ²	0.064	0.310	0.306	0.065	0.310	0.307

Table 26: Frequencies of receiving the high payoff. Note: Data includes cases with sitcount_{*i*} > 30 and *t* ≥ 3. See Table 7.

	success _{<i>i</i>}		
	(1)	(2)	(3)
	OLS	OLS	IV
late _{<i>i</i>}	0.119** (.012)	-0.011 (.011)	-0.018** (.011)
counter_majority _{<i>i</i>}	-0.255** (.010)	-0.062** (.010)	-0.052** (.009)
full_agreement _{<i>i</i>}	0.058** (.015)	0.007 (.011)	0.005 (.011)
(late _{<i>i</i>} × full_agreement _{<i>i</i>})	-	-	-
mean_pay success _{<i>i</i>} ¹	-	1.110** (.033)	1.167** (.034)
constant	0.724** (.013)	-0.011 (.026)	-0.049 (.026)
# of obs.	5235	5235	5235
<i>R</i> ²	0.073	0.321	0.320

Table 27: Frequencies of receiving the high payoff. Note: Data includes cases with $\text{sitcount}_i > 100$ and $t \geq 3$. See Table 7.

	success _{<i>i</i>}					
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	IV	OLS	OLS	IV
late _{<i>i</i>}	0.092** (.015)	0.037** (.011)	-0.039** (.014)	0.065** (.020)	0.009 (.016)	-0.068** (.021)
counter_majority _{<i>i</i>}	-0.195** (.015)	-0.133** (.013)	-0.048** (.016)	-0.193** (.015)	-0.132** (.013)	-0.046** (.016)
full_agreement _{<i>i</i>}	0.100** (.019)	0.070** (.016)	0.027 (.016)	0.079** (.019)	0.047** (.015)	0.004 (.016)
(late _{<i>i</i>} × full_agreement _{<i>i</i>})	-	-	-	0.042 (.025)	0.043* (.021)	0.045* (.023)
mean_pay success _{<i>i</i>} ¹	-	0.481** (.081)	1.148** (.068)	-	0.481** (.031)	1.148** (.068)
constant	0.638** (.019)	0.353** (.022)	-0.042 (.042)	0.653** (.018)	0.369** (.023)	-0.026 (.042)
# of obs.	8558	8558	8558	8558	8558	8558
<i>R</i> ²	0.055	0.170	0.000	0.055	0.171	0.000

Table 28: Frequencies of receiving the high payoff. Note: Data includes cases with $\text{sitcount}_i > 2$ and $t \geq 3$, excludes data from Nöth and Weber (2003). See Table 7.

Online Appendix B: Along histories of unanimous play

The following sequence of figures shows the same data as in Figures 1 and 2, but highlights separate subsamples according to player position t . The highlighted observations are all required to follow a history where all predecessors choose A or all choose B (i.e. $\text{full_agreement}_i = 1$) and to come from games where the signal structure is symmetric with respect to the identity of A/B ($\Pr(A) = 0.5, q_A = q_B$). The latter requirement is for ease of interpretation, making sure that the highlighted situations are all from standard games like the symmetric design of Anderson and Holt, 1997. The equilibrium prediction in these games is for players in $t = 1$ and $t = 2$ to follow their own signal, and for $t = 3$ onwards to follow the previous players. From player position $t = 2$ onwards, a triangle marker (\blacktriangle) is used for situations where the participants' signals contradict their predecessors' choices (e.g. AAb or BBa). In each figure, the solid regression line contains the predicted values for the highlighted data and the dashed line for the remaining data.

The figures show that along histories of unanimous choices, the early players mostly follow their signals but later players are relatively fast to learn from others. The solid fitted line comes relatively close to the "correct" shape of an S-curve through $(0.5, 0.5)$. In the remaining data, however, the frequency of optimally contradicting the own signals (in the right half of the figures) is much lower.

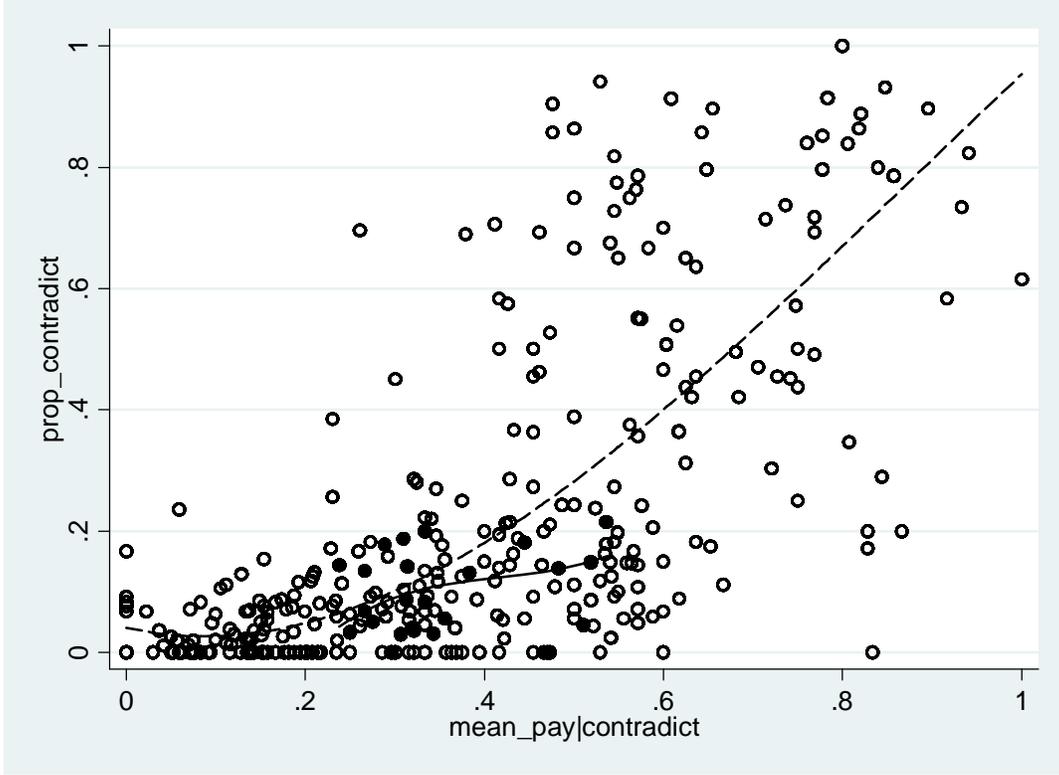


Figure 0.1: Proportion of contradicting own signal. Note: See Figure 1. Highlighted observations are those with $t = 1$ in A/B -symmetric games.

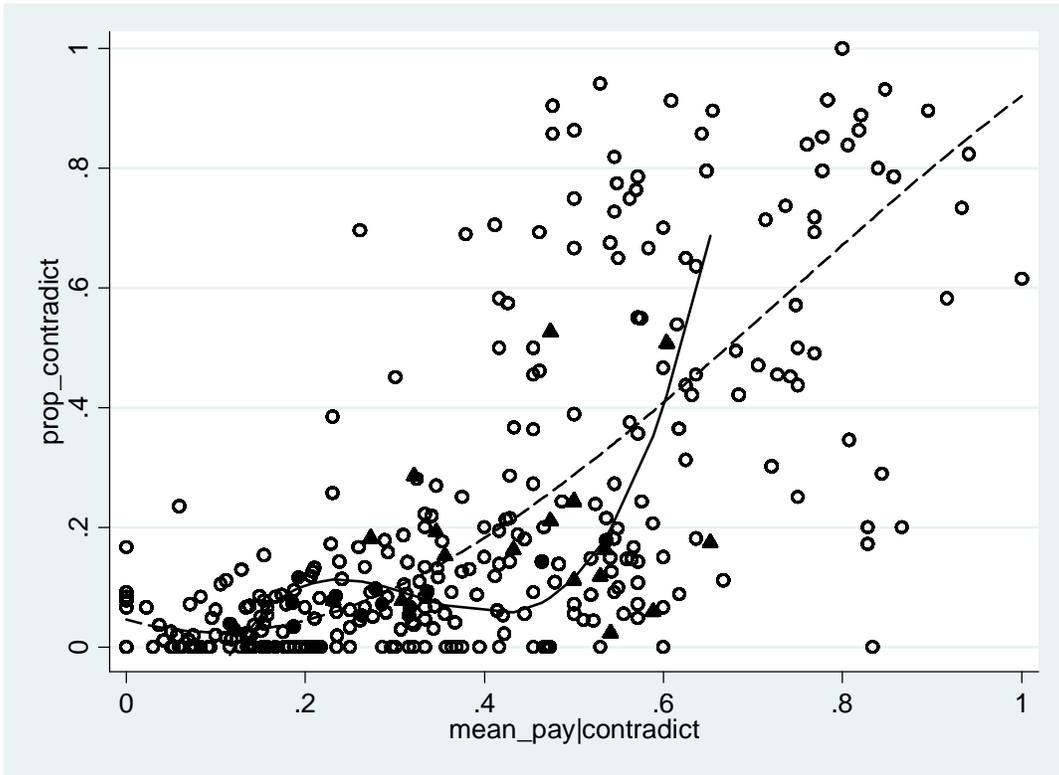


Figure 0.2: Proportion of contradicting own signal. Note: See Figure 1. Highlighted observations are those with $t = 2$ and information Aa or Ab (\blacktriangle), in A/B -symmetric games.

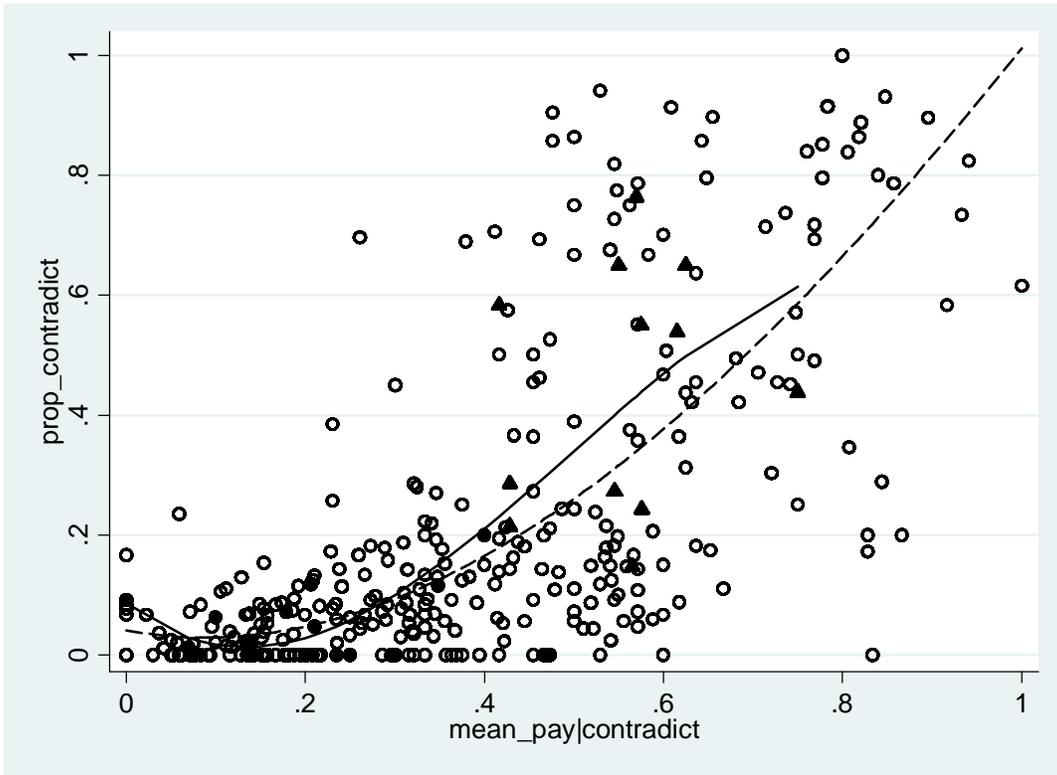


Figure 0.3: Proportion of contradicting own signal. Note: See Figure 1. Highlighted observations are those with $t = 3$ and information AAa or AAb (\blacktriangle), in A/B -symmetric games.

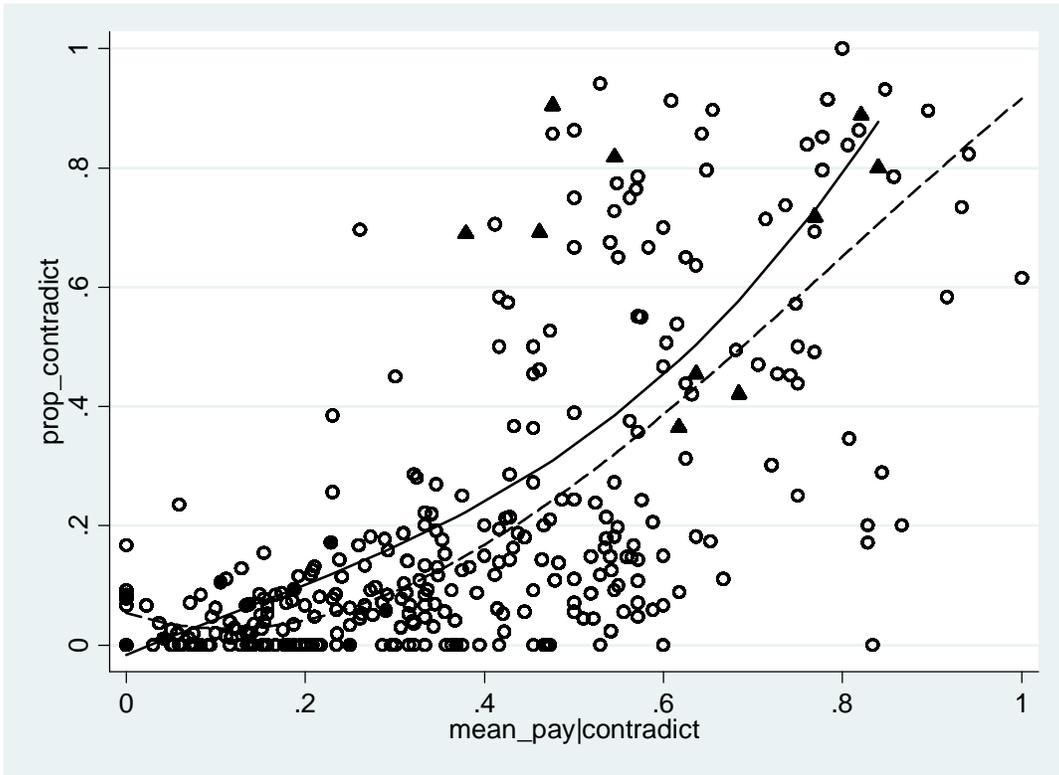


Figure 0.4: Proportion of contradicting own signal. Note: See Figure 1. Highlighted observations are those with $t = 4$ and information $AAAa$ or $AAAb$ (\blacktriangle), in A/B -symmetric games.

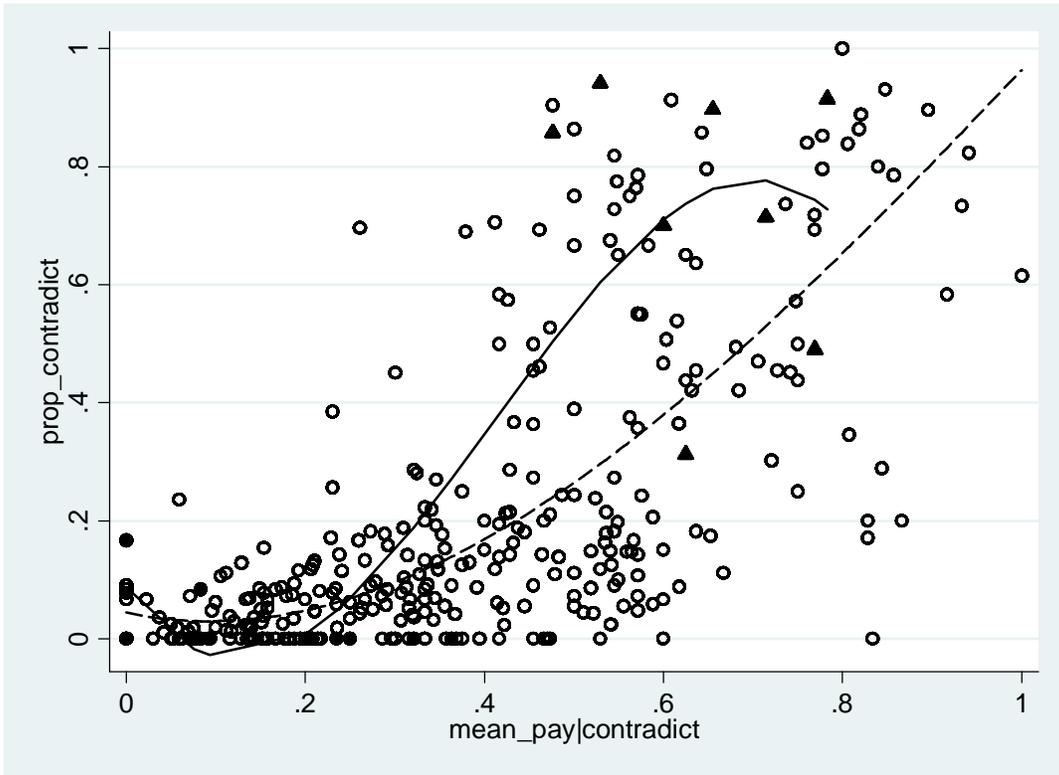


Figure 0.5: Proportion of contradicting own signal. Note: See Figure 1. Highlighted observations are those with $t = 5$ and information $AAAAa$ or $AAAAb$ (\blacktriangle), in A/B -symmetric games.

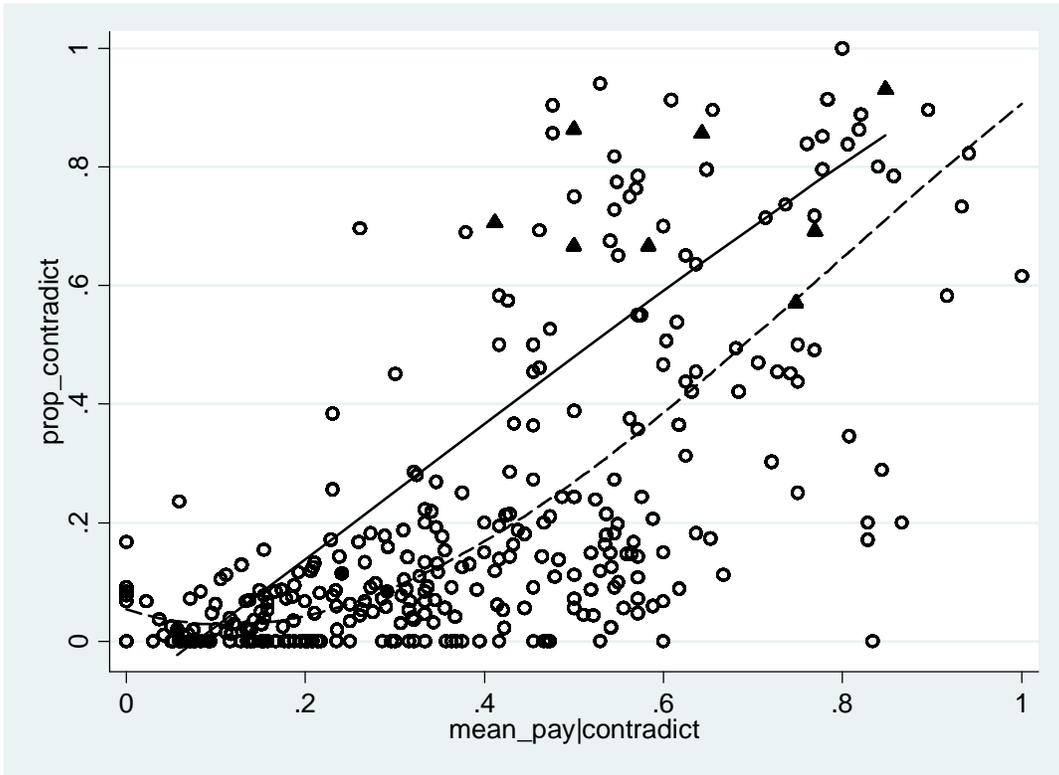


Figure 0.6: Proportion of contradicting own signal. Note: See Figure 1. Highlighted observations are those with $t = 6$ and information $AAAAAa$ or $AAAAAb$ (\blacktriangle), in A/B -symmetric games.

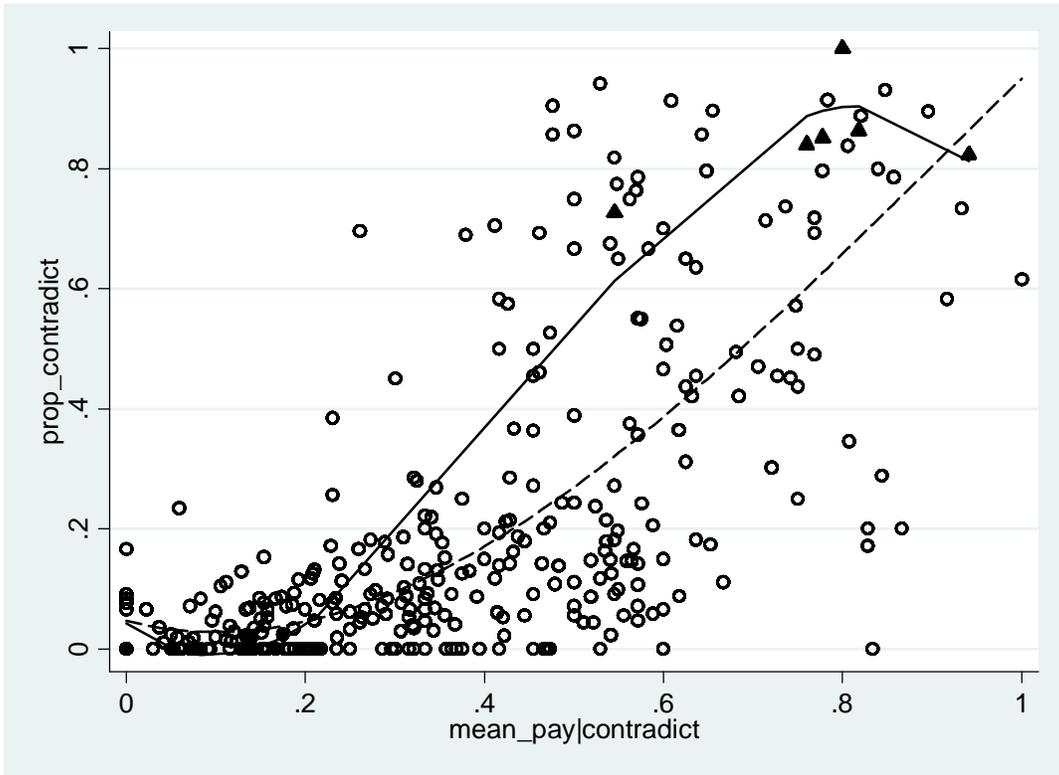


Figure 0.7: Proportion of contradicting own signal. Note: See Figure 1. Highlighted observations are those with $t \geq 7$ and information $A...a$ or $A...b$ (▲), in A/B -symmetric games.