Statistics/Data analysis

```
      name:  <unnamed>
       log:  D:\Research\Group contest\Analysis\Group_Contest.smcl
  log type:  smcl
 opened on:  22 Mar 2025, 11:35:26

1 . /* This file contains replication code for Chopra, Nguyen, and Vossler "Who are we u
  > p against? Heterogeneous group contests with incomplete information" */
2 . /* The associated data file is "Group_Contest.dta" */
3 . /* If you have comments or questions, contact Christian Vossler (cvossler@utk.edu) *
  > /
4 . /* March 2025 */
5 .
6 . // User-defined Stata commands employed: "outreg", "reghdfe". You will need to insta
  > ll these for all the code to run properly.
7 . // e.g., just type "help outreg" in the Stata command line to begin this process
8 .
9 . /* SET DIRECTORY */
10. clear all

11. cd "D:\Research\Group contest\Analysis"
  D:\Research\Group contest\Analysis

12.
13. /* LOAD DATA */
14. use "Group_Contest.dta"

15.
16. /* create sampling weights */
17. //Group-level observations, all rounds
18. gen wt_g=.
  (7,200 missing values generated)

19. replace wt_g = 136/112 if Group_t==1 & Incomplete==0 & Even==0
  (672 real changes made)

20. replace wt_g = 68/48 if Group_t==1 & Incomplete==0 & Even==1 & Strong==1
  (432 real changes made)

21. replace wt_g = 68/112 if Group_t==1 & Incomplete==0 & Even==1 & Strong==0
  (336 real changes made)

22. replace wt_g = 140/140 if Cost_t==1 & Incomplete==0 & Even==0
  (420 real changes made)

23. replace wt_g = 70/64 if Cost_t==1 & Incomplete==0 & Even==1 & Strong==1
  (192 real changes made)

24. replace wt_g = 70/76 if Cost_t==1 & Incomplete==0 & Even==1 & Strong==0
  (228 real changes made)

25. replace wt_g = 180/170 if Value_t==1 & Incomplete==0 & Even==0
  (510 real changes made)

26. replace wt_g = 90/102 if Value_t==1 & Incomplete==0 & Even==1 & Strong==1
  (306 real changes made)

27. replace wt_g = 90/88 if Value_t==1 & Incomplete==0 & Even==1 & Strong==0
  (264 real changes made)
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```
28. replace wt_g = 138/102 if Group_t==1 & Incomplete==1 & Strong==1
  (918 real changes made)

29. replace wt_g = 138/174 if Group_t==1 & Incomplete==1 & Strong==0
  (522 real changes made)

30. replace wt_g = 220/236 if Cost_t==1 & Incomplete==1 & Strong==1
  (708 real changes made)

31. replace wt_g = 220/204 if Cost_t==1 & Incomplete==1 & Strong==0
  (612 real changes made)

32. replace wt_g = 180/177 if Value_t==1 & Incomplete==1 & Strong==1
  (531 real changes made)

33. replace wt_g = 180/183 if Value_t==1 & Incomplete==1 & Strong==0
  (549 real changes made)

34. //Individual-level observations, all rounds
35. gen wt_i=.
  (7,200 missing values generated)

36. replace wt_i= wt_g if Cost_t==1 | Value_t==1
  (4,320 real changes made)

37. replace wt_i= 540/504 if Group_t==1 & Uneven==1 & Strong==1
  (504 real changes made)

38. replace wt_i= 180/168 if Group_t==1 & Uneven==1 & Strong==0
  (168 real changes made)

39. replace wt_i= 540/432 if Group_t==1 & Even==1 & Strong==1
  (432 real changes made)

40. replace wt_i= 180/336 if Group_t==1 & Even==1 & Strong==0
  (336 real changes made)

41. replace wt_i= 1080/918 if Group_t==1 & Incomplete==1 & Strong==1
  (918 real changes made)

42. replace wt_i= 360/522 if Group_t==1 & Incomplete==1 & Strong==0
  (522 real changes made)

43. //Group-level observations, last 10 rounds
44. gen wt_g10=.
  (7,200 missing values generated)

45. replace wt_g10 = 65/50 if Group_t==1 & Incomplete==0 & Even==0
  (672 real changes made)

46. replace wt_g10 = 32.5/30 if Group_t==1 & Incomplete==0 & Even==1 & Strong==1
  (432 real changes made)

47. replace wt_g10 = 32.5/50 if Group_t==1 & Incomplete==0 & Even==1 & Strong==0
  (336 real changes made)

48. replace wt_g10 = 70/66 if Cost_t==1 & Incomplete==0 & Even==0
  (420 real changes made)

49. replace wt_g10 = 35/32 if Cost_t==1 & Incomplete==0 & Even==1 & Strong==1
  (192 real changes made)
```

```
. replace wt_g10 = 35/42 if Cost_t==1 & Incomplete==0 & Even==1 & Strong==0
  (228 real changes made)

. replace wt_g10 = 90/86 if Value_t==1 & Incomplete==0 & Even==0
  (510 real changes made)

. replace wt_g10 = 45/48 if Value_t==1 & Incomplete==0 & Even==1 & Strong==1
  (306 real changes made)

. replace wt_g10 = 45/46 if Value_t==1 & Incomplete==0 & Even==1 & Strong==0
  (264 real changes made)

. replace wt_g10 = 70/50 if Group_t==1 & Incomplete==1 & Strong==1
  (918 real changes made)

. replace wt_g10 = 70/90 if Group_t==1 & Incomplete==1 & Strong==0
  (522 real changes made)

. replace wt_g10 = 138/102 if Cost_t==1 & Incomplete==1 & Strong==1
  (708 real changes made)

. replace wt_g10 = 138/174 if Cost_t==1 & Incomplete==1 & Strong==0
  (612 real changes made)

. replace wt_g10 = 90/92 if Value_t==1 & Incomplete==1 & Strong==1
  (531 real changes made)

. replace wt_g10 = 90/88 if Value_t==1 & Incomplete==1 & Strong==0
  (549 real changes made)

. //Individual-level observations, last 19 rounds
. gen wt_i19=.
  (7,200 missing values generated)

. replace wt_i19= 513/468 if Group_t==1 & Uneven==1 & Strong==1
  (504 real changes made)

. replace wt_i19= 171/156 if Group_t==1 & Uneven==1 & Strong==0
  (168 real changes made)

. replace wt_i19= 513/432 if Group_t==1 & Even==1 & Strong==1
  (432 real changes made)

. replace wt_i19= 171/312 if Group_t==1 & Even==1 & Strong==0
  (336 real changes made)

. replace wt_i19 = 399/402 if Cost_t==1 & Incomplete==0 & Even==0
  (420 real changes made)

. replace wt_i19 = 199.5/186 if Cost_t==1 & Incomplete==0 & Even==1 & Strong==1
  (192 real changes made)

. replace wt_i19 = 199.5/210 if Cost_t==1 & Incomplete==0 & Even==1 & Strong==0
  (228 real changes made)

. replace wt_i19 = 513/480 if Value_t==1 & Incomplete==0 & Even==0
  (510 real changes made)

. replace wt_i19 = 256.5/282 if Value_t==1 & Incomplete==0 & Even==1 & Strong==1
  (306 real changes made)
```

```
71. replace wt_i19 = 256.5/264 if Value_t==1 & Incomplete==0 & Even==1 & Strong==0
  (264 real changes made)

72. replace wt_i19 = 1026/882 if Group_t==1 & Incomplete==1 & Strong==1
  (918 real changes made)

73. replace wt_i19 = 342/486 if Group_t==1 & Incomplete==1 & Strong==0
  (522 real changes made)

74. replace wt_i19 = 627/672 if Cost_t==1 & Incomplete==1 & Strong==1
  (708 real changes made)

75. replace wt_i19 = 627/582 if Cost_t==1 & Incomplete==1 & Strong==0
  (612 real changes made)

76. replace wt_i19 = 513/501 if Value_t==1 & Incomplete==1 & Strong==1
  (531 real changes made)

77. replace wt_i19 = 513/525 if Value_t==1 & Incomplete==1 & Strong==0
  (549 real changes made)

78. //Group-level observations, pre-pandemic
79. gen wt_pp=.
  (7,200 missing values generated)

80. replace wt_pp = 102/84 if Group_t==1 & Incomplete==0 & Even==0
  (672 real changes made)

81. replace wt_pp = 51/36 if Group_t==1 & Incomplete==0 & Even==1 & Strong==1
  (432 real changes made)

82. replace wt_pp = 51/84 if Group_t==1 & Incomplete==0 & Even==1 & Strong==0
  (336 real changes made)

83. replace wt_pp = 140/140 if Cost_t==1 & Incomplete==0 & Even==0
  (420 real changes made)

84. replace wt_pp = 70/64 if Cost_t==1 & Incomplete==0 & Even==1 & Strong==1
  (192 real changes made)

85. replace wt_pp = 70/76 if Cost_t==1 & Incomplete==0 & Even==1 & Strong==0
  (228 real changes made)

86. replace wt_pp = 180/170 if Value_t==1 & Incomplete==0 & Even==0
  (510 real changes made)

87. replace wt_pp = 90/102 if Value_t==1 & Incomplete==0 & Even==1 & Strong==1
  (306 real changes made)

88. replace wt_pp = 90/88 if Value_t==1 & Incomplete==0 & Even==1 & Strong==0
  (264 real changes made)

89. replace wt_pp = 102/78 if Group_t==1 & Incomplete==1 & Strong==1
  (918 real changes made)

90. replace wt_pp = 102/126 if Group_t==1 & Incomplete==1 & Strong==0
  (522 real changes made)

91. replace wt_pp = 220/236 if Cost_t==1 & Incomplete==1 & Strong==1
  (708 real changes made)
```

```
92. replace wt_pp = 220/204 if Cost_t==1 & Incomplete==1 & Strong==0
  (612 real changes made)

93. replace wt_pp = 180/177 if Value_t==1 & Incomplete==1 & Strong==1
  (531 real changes made)

94. replace wt_pp = 180/183 if Value_t==1 & Incomplete==1 & Strong==0
  (549 real changes made)

95. //label weight variables
96. label var wt_g "Sampling weights; group-level outcomes; all 20 rounds"

97. label var wt_i "Sampling weights; individual-level outcomes; all 20 rounds"

98. label var wt_g10 "Sampling weights; group-level outcomes; last 10 rounds"

99. label var wt_i19 "Sampling weights; individual-level outcomes; last 19 rounds"

100 label var wt_pp "Sampling weights; group-level outcomes; pre-pandemic"

101
102 /* Define cluster variables */
103 gen cluster1=1 if (Round==1|Round==2)
  (6,480 missing values generated)

104 replace cluster1=2 if (Round==3|Round==4)
  (720 real changes made)

105 replace cluster1=3 if (Round==5|Round==6)
  (720 real changes made)

106 replace cluster1=4 if (Round==7|Round==8)
  (720 real changes made)

107 replace cluster1=5 if (Round==9|Round==10)
  (720 real changes made)

108 replace cluster1=6 if (Round==11|Round==12)
  (720 real changes made)

109 replace cluster1=7 if (Round==13|Round==14)
  (720 real changes made)

110 replace cluster1=8 if (Round==15|Round==16)
  (720 real changes made)

111 replace cluster1=9 if (Round==17|Round==18)
  (720 real changes made)

112 replace cluster1=10 if (Round==19|Round==20)
  (720 real changes made)

113 replace cluster1=cluster1 + (SessionID-1)*10 // maintains independence across sessio
  > ns
  (6,960 real changes made)

114 gen cluster2=1 if (Round==1)
  (6,840 missing values generated)

115 replace cluster2=2 if (Round==2|Round==3)
  (720 real changes made)
```

```
116 replace cluster2=3 if (Round==4|Round==5)
  (720 real changes made)

117 replace cluster2=4 if (Round==6|Round==7)
  (720 real changes made)

118 replace cluster2=5 if (Round==8|Round==9)
  (720 real changes made)

119 replace cluster2=6 if (Round==10|Round==11)
  (720 real changes made)

120 replace cluster2=7 if (Round==12|Round==13)
  (720 real changes made)

121 replace cluster2=8 if (Round==14|Round==15)
  (720 real changes made)

122 replace cluster2=9 if (Round==16|Round==17)
  (720 real changes made)

123 replace cluster2=10 if (Round==18|Round==19)
  (720 real changes made)

124 replace cluster2=11 if (Round==20)
  (360 real changes made)

125 replace cluster2=cluster2 + (SessionID-1)*11 // maintains independence across sessio
  > ns
  (6,960 real changes made)

126
127
128 ** Table 4: Theoretical predictions and observed group-level effort
129 // row 1
130 sum GroupEffort if Cost_t==1 & Uneven== 1 & Strong==1 & id==1 // 75.04
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**70**	**75.04286**	**32.27753**	**5**	**140**

```
131 sum GroupEffort if Cost_t==1 & Uneven== 1 & Strong==0 & id==1 // 20.1
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**70**	**20.1**	**19.75587**	**0**	**80**

```
132 // row 2
133 sum GroupEffort if Cost_t==1 & Even== 1 & Strong==1 & id==1 // 80.80
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**64**	**80.79688**	**35.07913**	**6**	**150**

```
134 sum GroupEffort if Cost_t==1 & Even== 1 & Strong==0 & id==1 // 49.43
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**76**	**49.43421**	**29.47421**	**1**	**126**

```
135 // row 3
136 sum GroupEffort if Cost_t==1 & Incomplete==1 & Strong==1 & id==1 // 89.27
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**236**	**89.27119**	**27.01935**	**24**	**140**

```
137 sum GroupEffort if Cost_t==1 & Incomplete==1 & Strong==0 & id==1 // 42.49
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**204**	**42.4902**	**25.00414**	**1**	**115**

```
138 // row 4
139 sum GroupEffort if Value_t==1 & Uneven==1 & Strong==1 & id==1 // 70.69
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**85**	**70.69412**	**27.01235**	**10**	**125**

```
140 sum GroupEffort if Value_t==1 & Uneven==1 & Strong==0 & id==1 // 27.05
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**85**	**27.04706**	**22.18263**	**0**	**88**

```
141 // row 5
142 sum GroupEffort if Value_t==1 & Even==1 & Strong==1 & id==1 // 76.84
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**102**	**76.84314**	**29.97713**	**1**	**140**

```
143 sum GroupEffort if Value_t==1 & Even==1 & Strong==0 & id==1 // 43.73
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**88**	**43.72727**	**26.15239**	**0**	**135**

```
144 // row 6
145 sum GroupEffort if Value_t==1 & Incomplete==1 & Strong==1 & id==1 // 84.85
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**177**	**84.84746**	**31.69195**	**13**	**150**

```
146 sum GroupEffort if Value_t==1 & Incomplete==1 & Strong==0 & id==1 // 51.69
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**183**	**51.68852**	**29.68879**	**0**	**135**

```
147 // row 7
148 sum GroupEffort if Group_t==1 & Uneven==1 & Strong==1 & id==1 // 119.57
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**56**	**119.5714**	**44.63462**	**23**	**235**

```
149 sum GroupEffort if Group_t==1 & Uneven==1 & Strong==0 & id==1 // 41.14
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**56**	**41.14286**	**27.74195**	**0**	**140**

```
150 // row 8
151 sum GroupEffort if Group_t==1 & Even==1 & Strong==1 & id==1 // 128.5
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**48**	**128.5**	**42.06024**	**34**	**205**

```
152 sum GroupEffort if Group_t==1 & Even==1 & Strong==0 & id==1 // 51.91
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**112**	**51.91071**	**23.31784**	**0**	**110**

```
153 // row 9
154 sum GroupEffort if Group_t==1 & Incomplete==1 & Strong==1 & id==1 // 118.49
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**102**	**118.4902**	**41.27516**	**29**	**200**

```
155 sum GroupEffort if Group_t==1 & Incomplete==1 & Strong==0 & id==1 // 40.26
```

Variable	Obs	Mean	Std. dev.	Min	Max
GroupEffort	**174**	**40.25862**	**25.78853**	**0**	**105**

```
156
157
158 ** Table 5: Description of data
159 dtable GroupEffort ProbWin IndivEffort EffortVariance ZeroEffort Strong Incomplete E
  > ven Cost_t Value_t Group_t RiskAverse Experience Female Round GPA L_Loss L_GroupEffo
  > rt, title(Table 5. Description of Data) column(summary(mean (std. dev.))) export(Res
  > ults\Table5.docx, as(docx) replace) varlabel nosample nformat(%9.2f)
```

Table 5. Description of Data

	mean (std. dev.)
Total points contributed by all group members	**74 (45.77)**
Calculated as a function of own and opponent group effort, using equation [1]	**52 (22.85)**
Points contributed by the participant, 0 to 50 points	**18 (16.07)**
Squared deviation of a participant's contribution relative to the mean contribut	**145.81 (211.14)**
=1 if participant contributed zero points; 0 otherwise	**0.21 (0.41)**
=1 for 'strong' group type; =0 for 'weak'	**0.56 (0.50)**
=1 for incomplete information contest; 0 otherwise	**0.53 (0.50)**
=1 for even contest; 0 otherwise	**0.24 (0.43)**
=1 for cost treatments; =0 otherwise	**0.30 (0.46)**
=1 for value treatments; =0 otherwise	**0.30 (0.46)**
=1 for group size treatments; =0 otherwise	**0.40 (0.49)**
=1 if participant selected safe option at least six times in Risk Elicitation ta	**0.47 (0.50)**
=1 if the participant had partaken in a prior economics experiment; =0 otherwise	**0.56 (0.50)**
=1 if participant is female	**0.44 (0.51)**
Decision round in the experiment, 1 to 20	**1 (5.77)**
Participant GPA; midpont of chosen interval	

> **3.29 (0.49)**
=1 for players who were on a losing team in the prior round (t-1); =0 otherwise
> **0.46 (0.50)**
Total points contributed by all members of the participant's group in the prior **75**
> **.37 (45.93)**

(collection **DTable** exported to file Results\Table5.docx)

```
160
161
162 ** Table 6: Analysis of information effects (group effort)
163 // demean Round variable
164 sum Round if id==1
```

Variable	Obs	Mean	Std. dev.	Min	Max
Round	**1,988**	**10.48994**	**5.782364**	**1**	**20**

```
165 gen Round_m = Round - r(mean) if id==1
  (5,212 missing values generated)

166 * Model (1)
167 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete [pweight=wt_g] if id==1, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)
```

HDFE Linear regression — Number of obs = **1,988**
Absorbing 1 HDFE group — F(**5**, **209**) = **10.00**
Statistics robust to heteroskedasticity — Prob > F = **0.0000**
R-squared = **0.0633**
Adj R-squared = **0.0609**
Number of clusters (**cluster1**) = **210** — Within R-sq. = **0.0633**
Number of clusters (**cluster2**) = **231** — Root MSE = **40.6562**

(Std. err. adjusted for **210** clusters in **cluster1 cluster2**)

GroupEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	**-1.765589**	**4.861063**	**-0.36**	**0.717**	**-11.34859**	**7.81741**
Group_t	**28.93776**	**5.853498**	**4.94**	**0.000**	**17.3983**	**40.47723**
Cost_t#Incomplete 1 1	**9.537206**	**4.754984**	**2.01**	**0.046**	**.163328**	**18.91108**
Value_t#Incomplete 1 1	**13.69009**	**4.918826**	**2.78**	**0.006**	**3.993223**	**23.38697**
Group_t#Incomplete 1 1	**-5.906842**	**6.439622**	**-0.92**	**0.360**	**-18.60178**	**6.788097**
_cons	**56.34349**	**3.941566**	**14.29**	**0.000**	**48.57316**	**64.11381**

```
168 // export results
169 outreg using "Results\Table6.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  > ctitle("", "(1)") replace nodisplay statfont(fs12) title("Table 6. Analysis of group
  > -level effort by contest type")
```

```
170 // tests across source of advantage; incomplete information
171 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =    6.11
              Prob > F =    0.0143

172 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =    3.18
              Prob > F =    0.0762

173 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   209) =    0.25
              Prob > F =    0.6205

174 * Model (2)
175 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even [pweight=wt_g]
  >  if id==1, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      1,988
Absorbing 1 HDFE group                            F(   8,    209) =      14.23
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.0747
                                                  Adj R-squared   =     0.0709
Number of clusters (cluster1) =        210        Within R-sq.    =     0.0747
Number of clusters (cluster2) =        231        Root MSE        =    40.4386

                          (Std. err. adjusted for 210 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort |  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |    1.29916   4.533736     0.29   0.775    -7.638555    10.23687
     Group_t |   32.78571   5.270115     6.22   0.000     22.39632    43.17511
             |
  Cost_t#Incomplete |
         1 1 |   18.30926   4.216276     4.34   0.000     9.997384    26.62114
             |
Value_t#Incomplete |
         1 1 |    19.3974   5.097814     3.81   0.000     9.347677    29.44713
             |
Group_t#Incomplete |
         1 1 |   -.982735   6.313279    -0.16   0.876     -13.4286    11.46313
             |
   Cost_t#Even |
         1 1 |   17.54411   4.127986     4.25   0.000     9.406287    25.68194
             |
  Value_t#Even |
         1 1 |   11.41462   3.573392     3.19   0.002     4.370105    18.45913
             |
  Group_t#Even |
         1 1 |   9.848213   6.890068     1.43   0.154    -3.734725    23.43115
             |
       _cons |   47.57143   3.269912    14.55   0.000     41.12519    54.01767
------------------------------------------------------------------------------
```

```
176 // export results
177 outreg using "Results\Table6.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  > ctitle("", "(2)") nodisplay statfont(fs12) merge

178 // tests across incomplete and even contests
179 test 1.Value_t#1.Incomplete = 1.Value_t#1.Even

   ( 1)  1.Value_t#1.Incomplete - 1.Value_t#1.Even = 0

         F(  1,   209) =    2.17
              Prob > F =    0.1421

180 test 1.Cost_t#1.Incomplete = 1.Cost_t#1.Even

   ( 1)  1.Cost_t#1.Incomplete - 1.Cost_t#1.Even = 0

         F(  1,   209) =    0.02
              Prob > F =    0.9020

181 test 1.Group_t#1.Incomplete = 1.Group_t#1.Even

   ( 1)  1.Group_t#1.Incomplete - 1.Group_t#1.Even = 0

         F(  1,   209) =    1.86
              Prob > F =    0.1744

182 // tests across source of advantage; uneven contests
183 test Group_t = Value_t

   ( 1)  - Value_t + Group_t = 0

         F(  1,   209) =   36.79
              Prob > F =    0.0000

184 // tests across source of advantage; even contests
185 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  Group_t - 1.Cost_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   209) =    8.77
              Prob > F =    0.0034

186 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   209) =   16.70
              Prob > F =    0.0001

187 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + 1.Cost_t#1.Even - 1.Value_t#1.Even = 0

         F(  1,   209) =    0.52
              Prob > F =    0.4705

188 // tests across source of advantage; incomplete information
189 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =    6.10
              Prob > F =    0.0143
```

```
190 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =    3.17
              Prob > F =    0.0764

191 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   209) =    0.25
              Prob > F =    0.6207

192 * Model (3)
193 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even 1.Cost_t#c.Rou
  > nd_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m [pweight=wt_g] if id==1, cluster(cluste
  > r1 cluster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =      1,988
  Absorbing 1 HDFE group                            F(  11,    209) =      15.30
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.1070
                                                    Adj R-squared   =     0.1020
  Number of clusters (cluster1) =        210        Within R-sq.    =     0.1070
  Number of clusters (cluster2) =        231        Root MSE        =    39.7560

                          (Std. err. adjusted for 210 clusters in cluster1 cluster2)
```

GroupEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	1.936337	4.436858	0.44	0.663	-6.810395	10.68307
Group_t	32.16935	4.857533	6.62	0.000	22.59331	41.74539
Cost_t#Incomplete 1 1	18.82904	3.955172	4.76	0.000	11.03189	26.62618
Value_t#Incomplete 1 1	19.23608	4.854225	3.96	0.000	9.666563	28.8056
Group_t#Incomplete 1 1	.2748143	5.154168	0.05	0.958	-9.886006	10.43563
Cost_t#Even 1 1	18.48096	4.240002	4.36	0.000	10.12231	26.83962
Value_t#Even 1 1	11.12829	3.53523	3.15	0.002	4.159007	18.09757
Group_t#Even 1 1	11.68164	6.66483	1.75	0.081	-1.457273	24.82054
Cost_t#c.Round_m 1	-1.148661	.3475038	-3.31	0.001	-1.833723	-.4635989
Value_t#c.Round_m 1	-.7591286	.4188349	-1.81	0.071	-1.584811	.0665539
Group_t#c.Round_m 1	-1.925094	.4437526	-4.34	0.000	-2.799898	-1.050289
_cons	47.10711	3.35989	14.02	0.000	40.48349	53.73073

```
194 // export results
195 outreg using "Results\Table6.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  > ctitle("", "(3)") nodisplay statfont(fs12) merge

196 // tests across incomplete and even contests
197 test 1.Value_t#1.Incomplete = 1.Value_t#1.Even

   ( 1)  1.Value_t#1.Incomplete - 1.Value_t#1.Even = 0

         F(  1,   209) =    2.35
              Prob > F =    0.1269

198 test 1.Cost_t#1.Incomplete = 1.Cost_t#1.Even

   ( 1)  1.Cost_t#1.Incomplete - 1.Cost_t#1.Even = 0

         F(  1,   209) =    0.00
              Prob > F =    0.9531

199 test 1.Group_t#1.Incomplete = 1.Group_t#1.Even

   ( 1)  1.Group_t#1.Incomplete - 1.Group_t#1.Even = 0

         F(  1,   209) =    2.35
              Prob > F =    0.1271

200 // tests across source of advantage; uneven contests
201 test Group_t = Value_t

   ( 1)  - Value_t + Group_t = 0

         F(  1,   209) =   44.15
              Prob > F =    0.0000

202 // tests across source of advantage; even contests
203 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  Group_t - 1.Cost_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   209) =    9.02
              Prob > F =    0.0030

204 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   209) =   17.53
              Prob > F =    0.0000

205 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + 1.Cost_t#1.Even - 1.Value_t#1.Even = 0

         F(  1,   209) =    0.68
              Prob > F =    0.4108

206 // tests across source of advantage; incomplete information
207 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =    9.87
              Prob > F =    0.0019
```

```
208 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =    4.33
              Prob > F =    0.0387

209 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   209) =    0.28
              Prob > F =    0.5971

210
211
212 ** Table 7: Analysis of group-level effort across strong and weak groups, by type of
  >  contest
213 * Uneven
214 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong 1.Cost_t#c.Round_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m  [pweight=wt_g] i
  > f id==1 & Uneven==1, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =        422
  Absorbing 1 HDFE group                            F(   8,     91) =      70.04
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.5850
                                                    Adj R-squared   =     0.5770
  Number of clusters (cluster1) =         92        Within R-sq.    =     0.5850
  Number of clusters (cluster2) =        100        Root MSE        =    28.7786

                              (Std. err. adjusted for 92 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort|  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |     7.37371   3.522676     2.09   0.039     .3763455    14.37107
     Group_t |     20.23459  3.881003     5.21   0.000     12.52546    27.94373
             |
Cost_t#Strong|
       1 1   |     54.94286  5.763288     9.53   0.000     43.49479    66.39092
             |
Value_t#Strong|
       1 1   |     43.64706  2.791926    15.63   0.000     38.10124    49.19288
             |
Group_t#Strong|
       1 1   |     78.42857  7.115501    11.02   0.000      64.2945    92.56264
             |
Cost_t#c.Round_m|
         1   |    -.487308   .5023269    -0.97   0.335    -1.485119    .5105026
             |
Value_t#c.Round_m|
         1   |    -1.008612  .5100833    -1.98   0.051    -2.02183     .0046055
             |
Group_t#c.Round_m|
         1   |    -1.790711  .5839775    -3.07   0.003    -2.95071    -.6307111
             |
       _cons |     19.90302  2.193289     9.07   0.000     15.54632    24.25972
------------------------------------------------------------------------------
```

```
215 // export results
216 outreg using "Results\Table7.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  > ctitle("", "Uneven") replace nodisplay statfont(fs12) title("Table 7. Analysis of gr
  > oup-level effort across strong and weak groups, by contest type")

217 // tests across source of advantage; weak groups
218 test Group_t = Value_t

   ( 1)  - Value_t + Group_t = 0

         F(  1,    91) =    9.27
              Prob > F =    0.0031

219 // tests across source of advantage; Strong groups
220 test Group_t + 1.Group_t#1.Strong = 1.Cost_t#1.Strong

   ( 1)  Group_t - 1.Cost_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    91) =   26.90
              Prob > F =    0.0000

221 test Group_t + 1.Group_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    91) =   43.77
              Prob > F =    0.0000

222 test 1.Cost_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + 1.Cost_t#1.Strong - 1.Value_t#1.Strong = 0

         F(  1,    91) =    0.33
              Prob > F =    0.5665

223 * Even
224 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong 1.Cost_t#c.Round_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m  [pweight=wt_g] i
  > f id==1 & Even==1, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =        490
Absorbing 1 HDFE group                            F(   8,     99) =      34.07
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.4655
                                                  Adj R-squared   =     0.4566
Number of clusters (cluster1) =        100        Within R-sq.    =     0.4655
Number of clusters (cluster2) =        109        Root MSE        =    30.8900

                        (Std. err. adjusted for 100 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort |  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |   -6.058185   5.963953    -1.02   0.312    -17.89196    5.775593
     Group_t |    1.192365   4.702066     0.25   0.800    -8.137554    10.52228

Cost_t#Strong |
        1 1  |   31.10788   7.542694     4.12   0.000     16.14154    46.07422

Value_t#Strong |
        1 1  |   32.75934   3.928014     8.34   0.000     24.96531    40.55338

Group_t#Strong |
        1 1  |   79.33906   6.728062    11.79   0.000     65.98912    92.68899

Cost_t#c.Round_m |
          1  |   -.8418992   .6298085    -1.34   0.184    -2.091576    .4077776

Value_t#c.Round_m |
          1  |   -.3731484   .5660676    -0.66   0.511    -1.496349    .7500526
------------------------------------------------------------------------------
```

Group_t#c.Round_m 1	**-1.443631**	**.6160423**	**-2.34**	**0.021**	**-2.665992**	**-.2212694**
_cons	**49.90794**	**4.495556**	**11.10**	**0.000**	**40.98778**	**58.8281**

```
225 // export results
226 outreg using "Results\Table7.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  > ctitle("", "Even") replace nodisplay statfont(fs12) merge

227 // tests across source of advantage; weak groups
228 test Group_t = Value_t

   ( 1)  - Value_t + Group_t = 0

         F(  1,    99) =    3.05
              Prob > F =    0.0840

229 // tests across source of advantage; Strong groups
230 test Group_t + 1.Group_t#1.Strong = 1.Cost_t#1.Strong

   ( 1)  Group_t - 1.Cost_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    99) =   25.61
              Prob > F =    0.0000

231 test Group_t + 1.Group_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    99) =   51.18
              Prob > F =    0.0000

232 test 1.Cost_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + 1.Cost_t#1.Strong - 1.Value_t#1.Strong = 0

         F(  1,    99) =    0.32
              Prob > F =    0.5753

233 * Incomplete Information
234 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong 1.Cost_t#c.Round_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m  [pweight=wt_g] i
  > f id==1 & Incomplete==1, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      1,076
Absorbing 1 HDFE group                            F(   8,    109) =      86.99
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.4989
                                                  Adj R-squared   =     0.4951
Number of clusters (cluster1) =        110        Within R-sq.    =     0.4989
Number of clusters (cluster2) =        121        Root MSE        =    28.6941

                        (Std. err. adjusted for 110 clusters in cluster1 cluster2)
```

GroupEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	**8.338762**	**4.825057**	**1.73**	**0.087**	**-1.224344**	**17.90187**
Group_t	**-1.894517**	**4.222519**	**-0.45**	**0.655**	**-10.26341**	**6.474378**
Cost_t#Strong 1 1	**45.66216**	**2.534203**	**18.02**	**0.000**	**40.63946**	**50.68487**
Value_t#Strong 1 1	**33.68224**	**3.843001**	**8.76**	**0.000**	**26.06554**	**41.29894**
Group_t#Strong 1 1	**76.78314**	**5.795468**	**13.25**	**0.000**	**65.29671**	**88.26957**
Cost_t#c.Round_m						

1	**-1.064522**	**.3261822**	**-3.26**	**0.001**	**-1.711005**	**-.4180399**
Value_t#c.Round_m 1	**-.8483736**	**.6391772**	**-1.33**	**0.187**	**-2.115202**	**.4184548**
Group_t#c.Round_m 1	**-2.434355**	**.4077653**	**-5.97**	**0.000**	**-3.242533**	**-1.626178**
_cons	**43.101**	**2.261539**	**19.06**	**0.000**	**38.61871**	**47.5833**

```
235 // export results
236 outreg using "Results\Table7.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  > ctitle("", "Incomplete Info.") replace nodisplay statfont(fs12) merge

237 // tests across source of advantage; weak groups
238 test Group_t = Value_t

   ( 1)  - Value_t + Group_t = 0

         F(  1,   109) =    3.39
              Prob > F =    0.0683

239 // tests across source of advantage; Strong groups
240 test Group_t + 1.Group_t#1.Strong = 1.Cost_t#1.Strong

   ( 1)  Group_t - 1.Cost_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,   109) =   37.85
              Prob > F =    0.0000

241 test Group_t + 1.Group_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,   109) =   30.86
              Prob > F =    0.0000

242 test 1.Cost_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + 1.Cost_t#1.Strong - 1.Value_t#1.Strong = 0

         F(  1,   109) =    0.60
              Prob > F =    0.4394

243
244
245 ** Table 8: Free-riding behavior and intra-group variation in individual effort
246 global controls Round Experience RiskAverse Female GPA

247 * Free-riding
248 reghdfe ZeroEffort Group_t Incomplete 1.Group_t#1.Incomplete Strong 1.Group_t#1.Stro
  > ng Even 1.Group_t#1.Even $controls [pweight=wt_i], cluster(SubjectID cluster1 cluste
  > r2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =      7,200
  Absorbing 1 HDFE group                            F(  12,    209) =      22.39
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.0969
  Number of clusters (SubjectID) =        360       Adj R-squared   =     0.0954
  Number of clusters (cluster1) =         210       Within R-sq.    =     0.0969
  Number of clusters (cluster2) =         231       Root MSE        =     0.3876
```

(Std. err. adjusted for **210** clusters in **SubjectID cluster1 cluster2**)

ZeroEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Group_t	**-.0334035**	**.050405**	**-0.66**	**0.508**	**-.1327709**	**.0659639**
Incomplete	**-.1716281**	**.0324375**	**-5.29**	**0.000**	**-.2355748**	**-.1076814**
Group_t#Incomplete						
1 1	**.1479574**	**.0608676**	**2.43**	**0.016**	**.0279642**	**.2679507**
Strong	**-.1761409**	**.0199999**	**-8.81**	**0.000**	**-.2155682**	**-.1367135**
Group_t#Strong						
1 1	**.1188446**	**.0341861**	**3.48**	**0.001**	**.0514507**	**.1862384**
Even	**-.1454862**	**.0206865**	**-7.03**	**0.000**	**-.1862672**	**-.1047053**
Group_t#Even						
1 1	**.0232399**	**.0442921**	**0.52**	**0.600**	**-.0640767**	**.1105565**
Round	**.007182**	**.0008804**	**8.16**	**0.000**	**.0054465**	**.0089176**
Experience	**.0729834**	**.0276148**	**2.64**	**0.009**	**.0185441**	**.1274226**
RiskAverse	**.0635449**	**.0277283**	**2.29**	**0.023**	**.0088819**	**.118208**
Female	**-.0679885**	**.0247532**	**-2.75**	**0.007**	**-.1167865**	**-.0191905**
GPA	**.0232171**	**.0330093**	**0.70**	**0.483**	**-.0418569**	**.088291**
_cons	**.1935157**	**.1149702**	**1.68**	**0.094**	**-.0331342**	**.4201656**

```
249 // export results
250 outreg using "Results\Table8.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(3)
  > ctitle("", "Zero Effort") replace nodisplay statfont(fs12) title("Table 8. Free-ridi
  > ng behavior and intra-group variation in individual effort")

251 // some reported results
252 lincom Incomplete + 1.Group_t#1.Incomplete
```

(1) **Incomplete + 1.Group_t#1.Incomplete = 0**

ZeroEffort	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
(1)	**-.0236706**	**.051348**	**-0.46**	**0.645**	**-.1248971**	**.0775558**

```
253 lincom Strong + 1.Group_t#1.Strong
```

(1) **Strong + 1.Group_t#1.Strong = 0**

ZeroEffort	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
(1)	**-.0572963**	**.0278401**	**-2.06**	**0.041**	**-.1121797**	**-.0024129**

```
254 * within-group variance
255 reghdfe EffortVariance Group_t Incomplete 1.Group_t#1.Incomplete Strong 1.Group_t#1.
  > Strong Even 1.Group_t#1.Even $controls [pweight=wt_i], cluster(SubjectID cluster1 cl
  > uster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                          Number of obs   =      7,200
  Absorbing 1 HDFE group                          F(  12,    209) =       3.67
  Statistics robust to heteroskedasticity         Prob > F        =     0.0001
                                                  R-squared       =     0.0191
  Number of clusters (SubjectID) =        360     Adj R-squared   =     0.0174
  Number of clusters (cluster1) =         210     Within R-sq.    =     0.0191
  Number of clusters (cluster2) =         231     Root MSE        =   210.9059
```

(Std. err. adjusted for **210** clusters in **SubjectID cluster1 cluster2**)

EffortVariance	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Group_t	**60.66987**	**25.73672**	**2.36**	**0.019**	**9.933033**	**111.4067**
Incomplete	**12.48948**	**15.0441**	**0.83**	**0.407**	**-17.16815**	**42.14711**
Group_t#Incomplete						
1 1	**-16.24495**	**32.35124**	**-0.50**	**0.616**	**-80.02151**	**47.53162**
Strong	**28.13856**	**10.24444**	**2.75**	**0.007**	**7.942877**	**48.33424**
Group_t#Strong						
1 1	**-33.74218**	**18.41389**	**-1.83**	**0.068**	**-70.04296**	**2.55859**
Even	**14.07212**	**13.11514**	**1.07**	**0.285**	**-11.7828**	**39.92703**
Group_t#Even						
1 1	**-57.65602**	**26.3762**	**-2.19**	**0.030**	**-109.6535**	**-5.658517**
Round	**.1755434**	**.6047718**	**0.29**	**0.772**	**-1.016691**	**1.367778**
Experience	**-34.07861**	**12.04697**	**-2.83**	**0.005**	**-57.82775**	**-10.32946**
RiskAverse	**-22.39778**	**11.26678**	**-1.99**	**0.048**	**-44.60887**	**-.1866837**
Female	**6.755447**	**11.32149**	**0.60**	**0.551**	**-15.5635**	**29.07439**
GPA	**-13.5605**	**12.26767**	**-1.11**	**0.270**	**-37.74473**	**10.62372**
_cons	**184.0705**	**41.23149**	**4.46**	**0.000**	**102.7876**	**265.3534**

```
256 // export results
257 outreg using "Results\Table8.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  > ctitle("", "Zero Effort") replace nodisplay statfont(fs12) merge

258 // some reported tests
259 test Even + 1.Group_t#1.Even =0 // group size: even versus uneven

   ( 1)  Even + 1.Group_t#1.Even = 0

         F(  1,   209) =    3.68
              Prob > F =    0.0565

260 test Strong + 1.Group_t#1.Strong=0 // group size: strong versus weak

   ( 1)  Strong + 1.Group_t#1.Strong = 0

         F(  1,   209) =    0.13
              Prob > F =    0.7171

261
262 /* APPENDIX */
263
264 ** Table B1. Analysis of group-level effort by contest type (pre-pandemic)
265 // demean Round variable
266 drop Round_m

267 sum Round if id==1 & Post==0
```

Variable	Obs	Mean	Std. dev.	Min	Max
Round	**1,848**	**10.51407**	**5.784884**	**1**	**20**

```
268 gen Round_m = Round - r(mean) if id==1 & Post==0
  (5,352 missing values generated)

269 * Model (1)
270 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete [pweight=wt_pp] if id==1 & Post==0, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      1,848
Absorbing 1 HDFE group                            F(  5,    189) =       6.38
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.0458
                                                  Adj R-squared   =     0.0432
Number of clusters (cluster1) =        190        Within R-sq.    =     0.0458
Number of clusters (cluster2) =        209        Root MSE        =    39.3327

                          (Std. err. adjusted for 190 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort |  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |  -1.765589   4.862752    -0.36   0.717    -11.35783    7.826652
     Group_t |   25.27655   6.374883     3.97   0.000     12.70149    37.85162

 Cost_t#Incomplete |
         1 1 |   9.537206   4.756637     2.01   0.046     .1542877    18.92012

Value_t#Incomplete |
         1 1 |   13.69009   4.920535     2.78   0.006     3.983871    23.39632

Group_t#Incomplete |
         1 1 |  -7.694826    7.48295    -1.03   0.305    -22.45566    7.066005

       _cons |   56.34349   3.942936    14.29   0.000     48.56567     64.1213
------------------------------------------------------------------------------

271 // export results
272 outreg using "Results\TableB1.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(1)") replace nodisplay statfont(fs12) title("Table B.1 Analysis of gro
  > up-level effort by contest type (pre-pandemic)")

273 // tests across source of advantage; incomplete information
274 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   189) =    1.70
              Prob > F =    0.1934

275 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   189) =    0.68
              Prob > F =    0.4104

276 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   189) =    0.25
              Prob > F =    0.6207
```

```
277 * Model (2)
278 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even [pweight=wt_pp
  > ] if id==1 & Post==0, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =      1,848
  Absorbing 1 HDFE group                            F(   8,    189) =      11.13
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.0583
                                                    Adj R-squared   =     0.0542
  Number of clusters (cluster1) =        190        Within R-sq.    =     0.0583
  Number of clusters (cluster2) =        209        Root MSE        =    39.1046

                          (Std. err. adjusted for 190 clusters in cluster1 cluster2)
```

GroupEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	1.29916	4.535574	0.29	0.775	-7.64769	10.24601
Group_t	29.47619	5.958832	4.95	0.000	17.72183	41.23055
Cost_t#Incomplete 1 1	18.30926	4.217984	4.34	0.000	9.988888	26.62964
Value_t#Incomplete 1 1	19.3974	5.09988	3.80	0.000	9.337406	29.4574
Group_t#Incomplete 1 1	-3.122406	7.467212	-0.42	0.676	-17.85219	11.60738
Cost_t#Even 1 1	17.54411	4.129659	4.25	0.000	9.39797	25.69026
Value_t#Even 1 1	11.41462	3.57484	3.19	0.002	4.362905	18.46633
Group_t#Even 1 1	9.144841	7.545834	1.21	0.227	-5.740034	24.02972
_cons	47.57143	3.271237	14.54	0.000	41.1186	54.02425

```
279 // export results
280 outreg using "Results\TableB1.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(2)") nodisplay statfont(fs12) merge

281 // tests across incomplete and even contests
282 test 1.Value_t#1.Incomplete = 1.Value_t#1.Even

   ( 1)  1.Value_t#1.Incomplete - 1.Value_t#1.Even = 0

         F(  1,   189) =    2.17
              Prob > F =    0.1424

283 test 1.Cost_t#1.Incomplete = 1.Cost_t#1.Even

   ( 1)  1.Cost_t#1.Incomplete - 1.Cost_t#1.Even = 0

         F(  1,   189) =    0.02
              Prob > F =    0.9020
```

```
284 test 1.Group_t#1.Incomplete = 1.Group_t#1.Even

   ( 1)  1.Group_t#1.Incomplete - 1.Group_t#1.Even = 0

         F(  1,   189) =    1.87
              Prob > F =    0.1727

285 // tests across source of advantage; uneven contests
286 test Group_t = Value_t

   ( 1)  - Value_t + Group_t = 0

         F(  1,   189) =   22.90
              Prob > F =    0.0000

287 // tests across source of advantage; incomplete information
288 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   189) =    1.70
              Prob > F =    0.1937

289 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   189) =    0.68
              Prob > F =    0.4108

290 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   189) =    0.25
              Prob > F =    0.6209

291 // tests across source of advantage; even contests
292 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  Group_t - 1.Cost_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   189) =    5.50
              Prob > F =    0.0201

293 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   189) =   10.72
              Prob > F =    0.0013

294 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + 1.Cost_t#1.Even - 1.Value_t#1.Even = 0

         F(  1,   189) =    0.52
              Prob > F =    0.4707

295 * Model (3)
```

```
296 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even 1.Cost_t#c.Rou
  > nd_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m [pweight=wt_pp] if id==1 & Post==0, clu
  > ster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      1,848
Absorbing 1 HDFE group                            F(  11,    189) =      13.62
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.1074
                                                  Adj R-squared   =     0.1021
Number of clusters (cluster1) =        190        Within R-sq.    =     0.1074
Number of clusters (cluster2) =        209        Root MSE        =    38.1032

                          (Std. err. adjusted for 190 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort |      Coef.   Std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |   1.945736   4.438159     0.44   0.662    -6.808954    10.70043
     Group_t |   29.47708   5.071873     5.81   0.000     19.47233    39.48184
             |
  Cost_t#Incomplete |
         1 1 |   18.82904   3.957003     4.76   0.000     11.02347     26.6346
             |
 Value_t#Incomplete |
         1 1 |   19.23608   4.856473     3.96   0.000     9.656228    28.81594
             |
 Group_t#Incomplete |
         1 1 |  -2.370877   5.448018    -0.44   0.664    -13.11761    8.375857
             |
   Cost_t#Even |
         1 1 |   18.48096   4.241965     4.36   0.000     10.11328    26.84864
             |
  Value_t#Even |
         1 1 |   11.12829   3.536867     3.15   0.002     4.151481    18.10509
             |
  Group_t#Even |
         1 1 |   9.899687   6.727969     1.47   0.143    -3.371871    23.17125
             |
Cost_t#c.Round_m |
           1 |  -1.148661   .3476647    -3.30   0.001    -1.834463   -.4628591
             |
Value_t#c.Round_m |
           1 |  -.7591286   .4190288    -1.81   0.072    -1.585703    .0674455
             |
Group_t#c.Round_m |
           1 |  -2.717447    .391731    -6.94   0.000    -3.490174   -1.944721
             |
       _cons |   47.07939   3.361865    14.00   0.000     40.44779    53.71099
------------------------------------------------------------------------------

297 // export results
298 outreg using "Results\TableB1.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(3)") nodisplay statfont(fs12) merge

299 // tests across incomplete and even contests
300 test 1.Value_t#1.Incomplete = 1.Value_t#1.Even

   ( 1)  1.Value_t#1.Incomplete - 1.Value_t#1.Even = 0

         F(  1,   189) =    2.35
              Prob > F =    0.1273
```

```
301 test 1.Cost_t#1.Incomplete = 1.Cost_t#1.Even

   ( 1)  1.Cost_t#1.Incomplete - 1.Cost_t#1.Even = 0

         F(  1,   189) =    0.00
              Prob > F =    0.9531

302 test 1.Group_t#1.Incomplete = 1.Group_t#1.Even

   ( 1)  1.Group_t#1.Incomplete - 1.Group_t#1.Even = 0

         F(  1,   189) =    2.86
              Prob > F =    0.0925

303 // tests across source of advantage; incomplete information
304 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   189) =    3.47
              Prob > F =    0.0640

305 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   189) =    1.16
              Prob > F =    0.2834

306 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   189) =    0.28
              Prob > F =    0.5961

307 // tests across source of advantage; even contests
308 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  Group_t - 1.Cost_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   189) =    6.43
              Prob > F =    0.0120

309 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   189) =   13.67
              Prob > F =    0.0003

310 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + 1.Cost_t#1.Even - 1.Value_t#1.Even = 0

         F(  1,   189) =    0.68
              Prob > F =    0.4118

311
312
```

```
313 ** Table B2: Analysis of group-level effort across strong and weak groups, by contes
  > t type (pre-pandemic)
314 // note: sampling weights are only approximate as they are based on full sample
315 * Uneven
316 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong 1.Cost_t#c.Round_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m [pweight=wt_pp] i
  > f id==1 & Uneven==1 & Post==0, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =        394
Absorbing 1 HDFE group                            F(   8,     82) =      70.15
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.5614
                                                  Adj R-squared   =     0.5523
Number of clusters (cluster1) =         83        Within R-sq.    =     0.5614
Number of clusters (cluster2) =         91        Root MSE        =    27.7874

                              (Std. err. adjusted for 83 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort |  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |   7.361131   3.524697     2.09   0.040     .3493864    14.37287
     Group_t |   22.00499   5.152535     4.27   0.000     11.75495    32.25502
             |
Cost_t#Strong |
         1 1 |   54.94286   5.770709     9.52   0.000     43.46308    66.42263
             |
Value_t#Strong |
         1 1 |   43.64706   2.795521    15.61   0.000     38.08588    49.20824
             |
Group_t#Strong |
         1 1 |   69.42857   8.339532     8.33   0.000     52.83859    86.01856
             |
Cost_t#c.Round_m |
           1 |   -.487308   .5029736    -0.97   0.335    -1.487883    .5132667
             |
Value_t#c.Round_m |
           1 |  -1.008612     .51074    -1.97   0.052    -2.024637    .0074123
             |
Group_t#c.Round_m |
           1 |   -2.41837   .6879538    -3.52   0.001    -3.786929   -1.04981
             |
       _cons |   19.89126   2.198127     9.05   0.000     15.51849    24.26403
------------------------------------------------------------------------------

317 // export results
318 outreg using "Results\TableB2.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Uneven") replace nodisplay statfont(fs12) title("Table B.2 Analysis of
  > group-level effort across strong and weak groups, by contest type (pre-pandemic)")

319 // tests across source of advantage; Strong groups
320 test Group_t + 1.Group_t#1.Strong = 1.Cost_t#1.Strong

 ( 1)  Group_t - 1.Cost_t#1.Strong + 1.Group_t#1.Strong = 0

       F(  1,    82) =   18.04
            Prob > F =    0.0001

321 test Group_t + 1.Group_t#1.Strong = Value_t + 1.Value_t#1.Strong

 ( 1)  - Value_t + Group_t - 1.Value_t#1.Strong + 1.Group_t#1.Strong = 0

       F(  1,    82) =   29.94
            Prob > F =    0.0000
```

```
322 test 1.Cost_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + 1.Cost_t#1.Strong - 1.Value_t#1.Strong = 0

         F(  1,    82) =    0.33
              Prob > F =    0.5658

323 * Even
324 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong 1.Cost_t#c.Round_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m [pweight=wt_pp] i
  > f id==1 & Even==1 & Post==0, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =        450
Absorbing 1 HDFE group                            F(   8,     89) =      28.59
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.4256
                                                  Adj R-squared   =     0.4152
Number of clusters (cluster1) =         90        Within R-sq.    =     0.4256
Number of clusters (cluster2) =         98        Root MSE        =    29.8798

                          (Std. err. adjusted for 90 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort|  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |  -6.046874   5.973688    -1.01   0.314    -17.91646    5.822716
     Group_t |   1.288103   4.909083     0.26   0.794    -8.466141    11.04235
             |
  Cost_t#Strong |
         1 1 |   31.10788   7.552528     4.12   0.000     16.10117    46.11459
             |
 Value_t#Strong |
         1 1 |   32.75934   3.933135     8.33   0.000     24.94429     40.5744
             |
 Group_t#Strong |
         1 1 |   70.49674   6.396892    11.02   0.000     57.78625    83.20723
             |
 Cost_t#c.Round_m |
           1 |  -.8418992   .6306296    -1.34   0.185    -2.094947    .4111485
             |
Value_t#c.Round_m |
           1 |  -.3731484   .5668056    -0.66   0.512    -1.499379    .7530824
             |
Group_t#c.Round_m |
           1 |  -2.386987    .486958    -4.90   0.000    -3.354563   -1.419412
             |
       _cons |   49.88763   4.503138    11.08   0.000     40.93999    58.83527
------------------------------------------------------------------------------

325 // export results
326 outreg using "Results\TableB2.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Even") replace nodisplay statfont(fs12) merge

327 // tests across source of advantage; Strong groups
328 test Group_t + 1.Group_t#1.Strong = 1.Cost_t#1.Strong

   ( 1)  Group_t - 1.Cost_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    89) =   19.17
              Prob > F =    0.0000
```

```
329 test Group_t + 1.Group_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    89) =   42.86
              Prob > F =    0.0000

330 test 1.Cost_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + 1.Cost_t#1.Strong - 1.Value_t#1.Strong = 0

         F(  1,    89) =    0.31
              Prob > F =    0.5769

331 * Incomplete Information
332 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong 1.Cost_t#c.Round_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m [pweight=wt_pp] i
  > f id==1 & Incomplete==1& Post==0, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      1,004
Absorbing 1 HDFE group                            F(   8,     99) =      77.80
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.4902
                                                  Adj R-squared   =     0.4861
Number of clusters (cluster1) =        100        Within R-sq.    =     0.4902
Number of clusters (cluster2) =        110        Root MSE        =    28.2906

                        (Std. err. adjusted for 100 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort |  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |   8.343978   4.830332     1.73   0.087    -1.240448     17.9284
     Group_t |  -8.751791    4.33546    -2.02   0.046    -17.35429    -.149297
             |
  Cost_t#Strong |
         1 1 |   45.66216   2.536048    18.01   0.000     40.63009    50.69423
             |
 Value_t#Strong |
         1 1 |   33.68224     3.8458     8.76   0.000     26.05134    41.31314
             |
 Group_t#Strong |
         1 1 |    79.7292   7.306811    10.91   0.000      65.2309     94.2275
             |
 Cost_t#c.Round_m |
           1 |  -1.064522   .3264198    -3.26   0.002     -1.71221   -.4168347
             |
Value_t#c.Round_m |
           1 |  -.8483736   .6396427    -1.33   0.188    -2.117564    .4208164
             |
Group_t#c.Round_m |
           1 |  -2.743806   .3697893    -7.42   0.000    -3.477548   -2.010063
             |
       _cons |   43.07532   2.262192    19.04   0.000     38.58664      47.564
------------------------------------------------------------------------------

333 // export results
334 outreg using "Results\TableB2.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Incomplete Info.") replace nodisplay statfont(fs12) merge
```

```
335 // tests across source of advantage; Strong groups
336 test Group_t + 1.Group_t#1.Strong = 1.Cost_t#1.Strong

   ( 1)  Group_t - 1.Cost_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    99) =   22.79
              Prob > F =    0.0000

337 test Group_t + 1.Group_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    99) =   20.65
              Prob > F =    0.0000

338 test 1.Cost_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + 1.Cost_t#1.Strong - 1.Value_t#1.Strong = 0

         F(  1,    99) =    0.60
              Prob > F =    0.4408

339
340
341 ** Table B3: Analysis of individual effort by contest type
342 // demean control variables for Models (3) and (4)
343 drop Round_m

344 foreach var in Experience RiskAverse Female GPA Round {
    2. sum `var'
    3. gen `var'_m = `var' - r(mean)
    4. }
```

Variable	Obs	Mean	Std. dev.	Min	Max
Experience	7,200	.5638889	.4959359	0	1

Variable	Obs	Mean	Std. dev.	Min	Max
RiskAverse	7,200	.4722222	.4992625	0	1

Variable	Obs	Mean	Std. dev.	Min	Max
Female	7,200	.4361111	.512466	0	2

Variable	Obs	Mean	Std. dev.	Min	Max
GPA	7,200	3.294444	.4860576	1	3.75

Variable	Obs	Mean	Std. dev.	Min	Max
Round	7,200	10.5	5.766682	1	20

```
345 global controls_m Experience_m RiskAverse_m Female_m GPA_m

346 * Model (1)
347 reghdfe IndivEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete [pweight=wt_i], cluster(SubjectID cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =      7,200
  Absorbing 1 HDFE group                            F(   5,    209) =       7.34
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.0536
  Number of clusters (SubjectID) =        360       Adj R-squared   =     0.0529
  Number of clusters (cluster1) =         210       Within R-sq.    =     0.0536
  Number of clusters (cluster2) =         231       Root MSE        =    15.5849
```

(Std. err. adjusted for **210** clusters in **SubjectID cluster1 cluster2**)

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	**-.5885297**	**2.481932**	**-0.24**	**0.813**	**-5.48136**	**4.304301**
Group_t	**-4.56762**	**2.190292**	**-2.09**	**0.038**	**-8.885517**	**-.2497231**
Cost_t#Incomplete 1 1	**3.179069**	**2.345265**	**1.36**	**0.177**	**-1.444338**	**7.802475**
Value_t#Incomplete 1 1	**4.563365**	**2.572864**	**1.77**	**0.078**	**-.508726**	**9.635456**
Group_t#Incomplete 1 1	**-.9844736**	**1.727624**	**-0.57**	**0.569**	**-4.390276**	**2.421329**
_cons	**18.78116**	**1.887804**	**9.95**	**0.000**	**15.05958**	**22.50274**

```
348 // export results
349 outreg using "Results\TableB3.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(1)") replace nodisplay statfont(fs12) title("Table B.3 Analysis of ind
  > ividual effort by contest type")

350 // tests across source of advantage; incomplete information
351 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =   20.67
              Prob > F =    0.0000

352 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =   15.72
              Prob > F =    0.0001

353 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   209) =    0.11
              Prob > F =    0.7448

354 * Model (2)
355 reghdfe IndivEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even [pweight=wt_i]
  > , cluster(SubjectID cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      7,200
Absorbing 1 HDFE group                            F(   8,    209) =       7.61
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.0601
Number of clusters (SubjectID) =        360       Adj R-squared   =     0.0591
Number of clusters (cluster1) =         210       Within R-sq.    =     0.0601
Number of clusters (cluster2) =         231       Root MSE        =    15.5342
```

(Std. err. adjusted for **210** clusters in **SubjectID cluster1 cluster2**)

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	**.4330532**	**2.282896**	**0.19**	**0.850**	**-4.067401**	**4.933508**
Group_t	**-2.464286**	**2.13576**	**-1.15**	**0.250**	**-6.674679**	**1.746107**
Cost_t#Incomplete 1 1	**6.103088**	**2.178917**	**2.80**	**0.006**	**1.807616**	**10.39856**
Value_t#Incomplete 1 1	**6.465801**	**2.535021**	**2.55**	**0.011**	**1.468313**	**11.46329**
Group_t#Incomplete 1 1	**-.1637891**	**1.871604**	**-0.09**	**0.930**	**-3.853431**	**3.525853**
Cost_t#Even 1 1	**5.848038**	**1.597799**	**3.66**	**0.000**	**2.698171**	**8.997905**
Value_t#Even 1 1	**3.804872**	**1.184403**	**3.21**	**0.002**	**1.469964**	**6.139781**
Group_t#Even 1 1	**1.641369**	**1.163707**	**1.41**	**0.160**	**-.6527389**	**3.935477**
_cons	**15.85714**	**1.676427**	**9.46**	**0.000**	**12.55227**	**19.16202**

```
356 // export results
357 outreg using "Results\TableB3.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(2)") nodisplay statfont(fs12) merge

358 // tests across source of advantage; incomplete information
359 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =   20.66
              Prob > F =    0.0000

360 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =   15.71
              Prob > F =    0.0001

361 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   209) =    0.11
              Prob > F =    0.7448

362 // tests across source of advantage; even contests
363 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  Group_t - 1.Cost_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   209) =    6.17
              Prob > F =    0.0138
```

```
364 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   209) =    5.23
              Prob > F =    0.0232

365 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + 1.Cost_t#1.Even - 1.Value_t#1.Even = 0

         F(  1,   209) =    0.28
              Prob > F =    0.5976

366 * Model (3)
367 reghdfe IndivEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even  1.Cost_t#c.Ro
  > und_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m $controls_m [pweight=wt_i], cluster(Su
  > bjectID cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =      7,200
  Absorbing 1 HDFE group                            F(  15,    209) =      16.70
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.1149
  Number of clusters (SubjectID) =        360       Adj R-squared   =     0.1130
  Number of clusters (cluster1) =         210       Within R-sq.    =     0.1149
  Number of clusters (cluster2) =         231       Root MSE        =    15.0824

                (Std. err. adjusted for 210 clusters in SubjectID cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  IndivEffort|  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |    .3136767   2.167157     0.14   0.885    -3.958612    4.585966
     Group_t |   -3.684343   2.069878    -1.78   0.077    -7.764858    .3961727
             |
Cost_t#Incomplete |
         1 1 |    6.339854   2.067411     3.07   0.002     2.264203    10.41551
             |
Value_t#Incomplete |
         1 1 |    6.400618   2.321319     2.76   0.006     1.824417    10.97682
             |
Group_t#Incomplete |
         1 1 |    1.137579   1.672524     0.68   0.497      -2.1596    4.434758
             |
  Cost_t#Even |
         1 1 |    6.122061   1.604279     3.82   0.000     2.959418    9.284705
             |
 Value_t#Even |
         1 1 |    3.722679    1.15542     3.22   0.001     1.444907    6.000451
             |
 Group_t#Even |
         1 1 |    2.218631   1.265038     1.75   0.081    -.2752394    4.712502
             |
Cost_t#c.Round_m |
           1 |    -.382734   .1072565    -3.57   0.000    -.5941773   -.1712906
             |
Value_t#c.Round_m |
           1 |   -.2531703   .1178603    -2.15   0.033    -.4855178   -.0208229
             |
Group_t#c.Round_m |
           1 |   -.3459852   .0391742    -8.83   0.000    -.4232124    -.268758
             |
 Experience_m |   -4.310839   1.097603    -3.93   0.000     -6.47463   -2.147047
 RiskAverse_m |   -3.513023   1.136207    -3.09   0.002    -5.752919   -1.273128
     Female_m |    2.185269   1.041955     2.10   0.037     .1311813    4.239357
        GPA_m |   -1.986419   1.160791    -1.71   0.089    -4.274779    .3019412
        _cons |    16.02857   1.642457     9.76   0.000     12.79066    19.26647
------------------------------------------------------------------------------
```

```
368 // export results
369 outreg using "Results\TableB3.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(3)") nodisplay statfont(fs12) merge

370 // tests across source of advantage; incomplete information
371 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =   27.83
              Prob > F =    0.0000

372 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =   18.34
              Prob > F =    0.0000

373 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   209) =    0.03
              Prob > F =    0.8675

374 // tests across source of advantage; even contests
375 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  Group_t - 1.Cost_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   209) =    7.95
              Prob > F =    0.0053

376 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   209) =    6.60
              Prob > F =    0.0109

377 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + 1.Cost_t#1.Even - 1.Value_t#1.Even = 0

         F(  1,   209) =    0.49
              Prob > F =    0.4831

378 * Model (4)
379 reghdfe IndivEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even   1.Cost_t#c.R
  > ound_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m $controls_m 1.Incomplete#c.GPA_m [pwe
  > ight=wt_i], cluster(SubjectID cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =      7,200
  Absorbing 1 HDFE group                            F(  16,    209) =      16.54
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.1200
  Number of clusters (SubjectID) =        360       Adj R-squared   =     0.1180
  Number of clusters (cluster1) =         210       Within R-sq.    =     0.1200
  Number of clusters (cluster2) =         231       Root MSE        =    15.0399
```

(Std. err. adjusted for **210** clusters in **SubjectID cluster1 cluster2**)

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	.2379586	2.162974	0.11	0.913	-4.026083	4.502001
Group_t	-3.909417	2.082815	-1.88	0.062	-8.015435	.1966021
Cost_t#Incomplete 1 1	6.153067	2.079639	2.96	0.003	2.053309	10.25282
Value_t#Incomplete 1 1	6.331442	2.278854	2.78	0.006	1.838957	10.82393
Group_t#Incomplete 1 1	1.243229	1.665865	0.75	0.456	-2.040823	4.527281
Cost_t#Even 1 1	5.951653	1.592896	3.74	0.000	2.811451	9.091855
Value_t#Even 1 1	3.69705	1.160371	3.19	0.002	1.409519	5.984581
Group_t#Even 1 1	2.264236	1.257529	1.80	0.073	-.2148318	4.743303
Cost_t#c.Round_m 1	-.3819182	.1051439	-3.63	0.000	-.5891967	-.1746396
Value_t#c.Round_m 1	-.2530886	.1144835	-2.21	0.028	-.4787791	-.0273981
Group_t#c.Round_m 1	-.3459919	.0386752	-8.95	0.000	-.4222354	-.2697485
Experience_m	-4.387351	1.099999	-3.99	0.000	-6.555867	-2.218834
RiskAverse_m	-3.34292	1.124742	-2.97	0.003	-5.560214	-1.125626
Female_m	2.23598	1.033408	2.16	0.032	.1987395	4.27322
GPA_m	.1616568	1.34285	0.12	0.904	-2.485611	2.808924
Incomplete#c.GPA_m 1	-4.73899	2.155304	-2.20	0.029	-8.987912	-.4900675
_cons	16.18946	1.649273	9.82	0.000	12.93812	19.4408

```
380 // export results
381 outreg using "Results\TableB3.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(4)") nodisplay statfont(fs12) merge

382 // tests across source of advantage; incomplete information
383 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =   27.76
              Prob > F =    0.0000

384 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   209) =   19.17
              Prob > F =    0.0000
```

```
385 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   209) =    0.04
              Prob > F =    0.8505

386 // tests across source of advantage; even contests
387 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  Group_t - 1.Cost_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   209) =    7.93
              Prob > F =    0.0053

388 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   209) =    6.99
              Prob > F =    0.0088

389 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + 1.Cost_t#1.Even - 1.Value_t#1.Even = 0

         F(  1,   209) =    0.46
              Prob > F =    0.4984

390 // effect of GPA on incomplete information contests
391 lincom GPA_m + 1.Incomplete#c.GPA_m

   ( 1)  GPA_m + 1.Incomplete#c.GPA_m = 0
```

IndivEffort	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
(1)	-4.577333	1.712443	-2.67	0.008	-7.953209	-1.201458

```
392
393 ** Table B4. Analysis of individual effort across strong and weak groups, by contest
  >  type
394 // deamean covariates by contest type
395 foreach var in Experience RiskAverse Female Round GPA {
    2. sum `var' if Uneven==1
    3. gen `var'_U = `var' - r(mean) if Uneven==1
    4. }
```

Variable	Obs	Mean	Std. dev.	Min	Max
Experience	1,602	.5349563	.4989323	0	1

(5,598 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
RiskAverse	1,602	.4475655	.4973983	0	1

(5,598 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
Female	1,602	.4463171	.497265	0	1

(5,598 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
Round	1,602	10.22097	5.809584	1	20

(5,598 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
GPA	1,602	3.275437	.5326773	1	3.75

(5,598 missing values generated)

```
396 global controls_U 1.Cost#c.Round_U 1.Value#c.Round_U 1.Group_t#c.Round_U Experience_
  > U RiskAverse_U Female_U GPA_U

397 foreach var in Experience RiskAverse Female Round GPA {
    2. sum `var' if Even==1
    3. gen `var'_E = `var' - r(mean) if Even==1
    4. }
```

Variable	Obs	Mean	Std. dev.	Min	Max
Experience	1,758	.536405	.4988148	0	1

(5,442 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
RiskAverse	1,758	.4340159	.495768	0	1

(5,442 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
Female	1,758	.4351536	.4959182	0	1

(5,442 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
Round	1,758	10.75427	5.71799	1	20

(5,442 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
GPA	1,758	3.297924	.5141149	1	3.75

(5,442 missing values generated)

```
398 global controls_E 1.Cost#c.Round_E 1.Value#c.Round_E 1.Group_t#c.Round_E Experience_
  > E RiskAverse_E Female_E GPA_E

399 foreach var in Experience RiskAverse Female Round GPA {
    2. sum `var' if Incomplete==1
    3. gen `var'_I = `var' - r(mean) if Incomplete==1
    4. }
```

Variable	Obs	Mean	Std. dev.	Min	Max
Experience	3,840	.5885417	.492162	0	1

(3,360 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
RiskAverse	3,840	.5	.5000651	0	1

(3,360 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
Female	3,840	.4322917	.5260586	0	2

(3,360 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
Round	3,840	10.5	5.767032	1	20

(3,360 missing values generated)

Variable	Obs	Mean	Std. dev.	Min	Max
GPA	3,840	3.300781	.4511418	1	3.75

(3,360 missing values generated)

```
400 global controls_I 1.Cost_t#c.Round_I 1.Value_t#c.Round_I 1.Group_t#c.Round_I Experie
  > nce_I RiskAverse_I Female_I GPA_I

401 * Uneven contest
402 reghdfe IndivEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong [pweight=wt_i] if Uneven==1, cluster(SubjectID cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      1,602
Absorbing 1 HDFE group                            F(  5,     91) =      28.07
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.1617
Number of clusters (SubjectID) =       168        Adj R-squared   =     0.1590
Number of clusters (cluster1) =         92        Within R-sq.    =     0.1617
Number of clusters (cluster2) =        100        Root MSE        =    14.3955

             (Std. err. adjusted for 92 clusters in SubjectID cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  IndivEffort|  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |   2.315686   1.903626     1.22   0.227    -1.465633    6.097005
     Group_t |   7.014286    2.17383     3.23   0.002     2.696239    11.33233
             |
 Cost_t#Strong |
       1 1   |   18.31429   2.217147     8.26   0.000      13.9102    22.71838
             |
Value_t#Strong |
       1 1   |   14.54902   1.970936     7.38   0.000       10.634    18.46404
             |
Group_t#Strong |
       1 1   |  -.4285714   2.149564    -0.20   0.842    -4.698415    3.841272
             |
       _cons |         6.7   1.129594     5.93   0.000       4.4562      8.9438
------------------------------------------------------------------------------

403 outreg using "Results\TableB4.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Uneven") replace nodisplay statfont(fs12) title("Table B.4 Analysis of
  > individual effort across strong and weak groups, by contest type") landscape

404 * Uneven contest (controls)
405 reghdfe IndivEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong $controls_U [pweight=wt_i] if Uneven==1, cluster(SubjectID cluster1 cluster2
  > )
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      1,602
Absorbing 1 HDFE group                            F(  12,     91) =      15.96
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.2162
Number of clusters (SubjectID) =       168        Adj R-squared   =     0.2102
Number of clusters (cluster1) =         92        Within R-sq.    =     0.2162
Number of clusters (cluster2) =        100        Root MSE        =    13.9502

             (Std. err. adjusted for 92 clusters in SubjectID cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  IndivEffort|  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |   1.916086   1.858992     1.03   0.305    -1.776573    5.608746
     Group_t |   5.764727    2.12664     2.71   0.008     1.540419    9.989036
             |
 Cost_t#Strong |
       1 1   |   18.25149   2.265551     8.06   0.000      13.75125    22.75173
             |
Value_t#Strong |
       1 1   |   14.75349   1.900894     7.76   0.000       10.9776    18.52939
             |
Group_t#Strong |
       1 1   |  -.177627   2.183194    -0.08   0.935    -4.514274     4.15902
             |
Cost_t#c.Round_U |
```

1	-.1653251	.1740947	-0.95	0.345	-.5111427	.1804926
Value_t#c.Round_U 1	-.3507576	.1578055	-2.22	0.029	-.6642189	-.0372964
Group_t#c.Round_U 1	-.3175507	.0807998	-3.93	0.000	-.4780495	-.1570519
Experience_U	-1.826256	1.672401	-1.09	0.278	-5.148275	1.495763
RiskAverse_U	-5.607438	1.64414	-3.41	0.001	-8.87332	-2.341555
Female_U	2.368819	1.604462	1.48	0.143	-.8182474	5.555885
GPA_U	-.6991751	1.380374	-0.51	0.614	-3.441118	2.042767
_cons	7.258756	1.122763	6.47	0.000	5.028526	9.488986

```
406 outreg using "Results\TableB4.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Uneven") nodisplay statfont(fs12) merge landscape

407 * Even contest
408 reghdfe IndivEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong [pweight=wt_i] if Even==1, cluster(SubjectID cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      1,758
Absorbing 1 HDFE group                            F(   5,     99) =      16.03
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.1106
Number of clusters (SubjectID) =       168        Adj R-squared   =     0.1081
Number of clusters (cluster1) =        100        Within R-sq.    =     0.1106
Number of clusters (cluster2) =        109        Root MSE        =    14.4427

            (Std. err. adjusted for 100 clusters in SubjectID cluster1 cluster2)
```

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	-1.902313	2.701591	-0.70	0.483	-7.262856	3.458231
Group_t	.8255013	2.400349	0.34	0.732	-3.937312	5.588314
Cost_t#Strong 1 1	10.45422	2.462866	4.24	0.000	5.567361	15.34108
Value_t#Strong 1 1	11.03862	1.526005	7.23	0.000	8.010696	14.06655
Group_t#Strong 1 1	-3.025794	1.112691	-2.72	0.008	-5.233613	-.8179739
_cons	16.47807	1.98443	8.30	0.000	12.54053	20.41561

```
409 outreg using "Results\TableB4.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Even") nodisplay statfont(fs12) merge landscape

410 * Even contest (controls)
411 reghdfe IndivEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong $controls_E [pweight=wt_i] if Even==1, cluster(SubjectID cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      1,758
Absorbing 1 HDFE group                            F(  12,     99) =      11.30
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.1561
Number of clusters (SubjectID) =       168        Adj R-squared   =     0.1503
Number of clusters (cluster1) =        100        Within R-sq.    =     0.1561
Number of clusters (cluster2) =        109        Root MSE        =    14.0969
```

(Std. err. adjusted for **100** clusters in **SubjectID cluster1 cluster2**)

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	**-2.298615**	**2.541322**	**-0.90**	**0.368**	**-7.341149**	**2.743919**
Group_t	**-.323379**	**2.325685**	**-0.14**	**0.890**	**-4.938042**	**4.291284**
Cost_t#Strong 1 1	**10.45811**	**2.60245**	**4.02**	**0.000**	**5.294285**	**15.62193**
Value_t#Strong 1 1	**11.24439**	**1.355247**	**8.30**	**0.000**	**8.55529**	**13.9335**
Group_t#Strong 1 1	**-2.657016**	**1.134767**	**-2.34**	**0.021**	**-4.90864**	**-.4053911**
Cost_t#c.Round_E 1	**-.2931244**	**.2001561**	**-1.46**	**0.146**	**-.6902774**	**.1040287**
Value_t#c.Round_E 1	**-.1289058**	**.1424945**	**-0.90**	**0.368**	**-.4116458**	**.1538342**
Group_t#c.Round_E 1	**-.2291273**	**.121544**	**-1.89**	**0.062**	**-.470297**	**.0120425**
Experience_E	**-4.515858**	**1.683387**	**-2.68**	**0.009**	**-7.856063**	**-1.175653**
RiskAverse_E	**-3.549451**	**1.80644**	**-1.96**	**0.052**	**-7.13382**	**.0349172**
Female_E	**1.153777**	**1.653584**	**0.70**	**0.487**	**-2.127292**	**4.434847**
GPA_E	**.4768357**	**1.474064**	**0.32**	**0.747**	**-2.448027**	**3.401698**
_cons	**16.99864**	**1.941696**	**8.75**	**0.000**	**13.14589**	**20.85138**

```
412 outreg using "Results\TableB4.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Even") nodisplay statfont(fs12) merge landscape

413 * Incomplete information
414 reghdfe IndivEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong [pweight=wt_i] if Incomplete==1, cluster(SubjectID cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =      3,840
Absorbing 1 HDFE group                            F(   5,    109) =      37.78
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.1841
Number of clusters (SubjectID) =       192        Adj R-squared   =     0.1831
Number of clusters (cluster1) =        110        Within R-sq.    =     0.1841
Number of clusters (cluster2) =        121        Root MSE        =    14.7397
```

(Std. err. adjusted for **110** clusters in **SubjectID cluster1 cluster2**)

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	**3.06611**	**2.601237**	**1.18**	**0.241**	**-2.089457**	**8.221676**
Group_t	**-.7438585**	**2.372569**	**-0.31**	**0.754**	**-5.446214**	**3.958497**
Cost_t#Strong 1 1	**15.59366**	**1.460715**	**10.68**	**0.000**	**12.69857**	**18.48875**
Value_t#Strong 1 1	**11.05298**	**1.705273**	**6.48**	**0.000**	**7.673182**	**14.43277**
Group_t#Strong 1 1	**-.2539629**	**1.5589**	**-0.16**	**0.871**	**-3.343652**	**2.835726**
_cons	**14.1634**	**1.561217**	**9.07**	**0.000**	**11.06912**	**17.25768**

```
415 outreg using "Results\TableB4.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Incomplete Information") nodisplay statfont(fs12) merge landscape

416 * Incomplete information (controls)
417 reghdfe IndivEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong $controls_I [pweight=wt_i] if Incomplete==1, cluster(SubjectID cluster1 clus
  > ter2)
  (MWFE estimator converged in 1 iterations)
  Warning: VCV matrix was non-positive semi-definite; adjustment from Cameron, Gelbach &
  >  Miller applied.
  warning: missing F statistic; dropped variables due to collinearity or too few cluster
  > s

  HDFE Linear regression                            Number of obs   =      3,840
  Absorbing 1 HDFE group                            F(  12,    109) =          .
  Statistics robust to heteroskedasticity           Prob > F        =          .
                                                    R-squared       =     0.2583
  Number of clusters (SubjectID) =        192       Adj R-squared   =     0.2560
  Number of clusters (cluster1) =         110       Within R-sq.    =     0.2583
  Number of clusters (cluster2) =         121       Root MSE        =    14.0663

                (Std. err. adjusted for 110 clusters in SubjectID cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  IndivEffort|  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
         Value_t|   2.458842   2.325894     1.06   0.293    -2.151004    7.068688
         Group_t|  -1.076166   2.137242    -0.50   0.616    -5.312111    3.159778
                |
    Cost_t#Strong|
          1 1|   15.36065   1.445433    10.63   0.000     12.49585    18.22545
                |
   Value_t#Strong|
          1 1|   11.35239   1.686213     6.73   0.000     8.010371    14.69441
                |
   Group_t#Strong|
          1 1|  -.2591405   1.549834    -0.17   0.868    -3.330861     2.81258
                |
 Cost_t#c.Round_I|
            1|  -.3515726   .0861454    -4.08   0.000    -.5223099   -.1808353
                |
Value_t#c.Round_I|
            1|  -.2830244   .1678961    -1.69   0.095    -.6157891    .0497403
                |
Group_t#c.Round_I|
            1|  -.4071166   .0164444   -24.76   0.000    -.4397088   -.3745243
                |
     Experience_I|  -5.148672   1.567417    -3.28   0.001    -8.255242   -2.042102
     RiskAverse_I|  -2.511716   1.563864    -1.61   0.111    -5.611244    .5878127
         Female_I|   2.238466   1.417292     1.58   0.117    -.5705615    5.047494
            GPA_I|  -5.204857   1.730092    -3.01   0.003    -8.633842   -1.775871
            _cons|    14.4616   1.401322    10.32   0.000     11.68423    17.23898
------------------------------------------------------------------------------

418 outreg using "Results\TableB4.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Incomplete Information") nodisplay statfont(fs12) merge landscape

419
420
421 ** Table B5. Analysis of individual effort by contest type (Tobit)
```

```
422 global controls_m Experience_m RiskAverse_m Female_m GPA_m

423 * Model (1)
424 tobit IndivEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.Gro
  > up_t#1.Incomplete [pweight=wt_i], vce(cluster SubjectID) ll(0)

  Refining starting values:

  Grid node 0:  Log likelihood = -26526.859

  Fitting full model:

  Iteration 0:  Log pseudolikelihood = -26526.859
  Iteration 1:  Log pseudolikelihood = -26271.761
  Iteration 2:  Log pseudolikelihood = -26264.391
  Iteration 3:  Log pseudolikelihood = -26264.375
  Iteration 4:  Log pseudolikelihood = -26264.375

  Tobit regression                                  Number of obs     =  7,200
                                                          Uncensored =  5,694
  Limits: Lower =    0                                Left-censored =  1,506
          Upper = +inf                               Right-censored =      0

                                                    F(5, 7195)        =   8.36
                                                    Prob > F          = 0.0000
  Log pseudolikelihood = -26264.375                 Pseudo R2         = 0.0073

                                (Std. err. adjusted for 360 clusters in SubjectID)
```

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	-.7498527	2.629189	-0.29	0.775	-5.903835	4.40413
Group_t	-4.943382	2.332657	-2.12	0.034	-9.516076	-.3706887
Cost_t#Incomplete 1 1	4.167868	2.340658	1.78	0.075	-.4205089	8.756245
Value_t#Incomplete 1 1	5.923465	2.656804	2.23	0.026	.715349	11.13158
Group_t#Incomplete 1 1	-1.781424	2.288962	-0.78	0.436	-6.268461	2.705613
_cons	16.45537	1.857533	8.86	0.000	12.81406	20.09668
var(e.IndivEffort)	355.45	16.61439			324.3285	389.5578

```
425 // export results
426 outreg using "Results\TableB5.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(1)") replace nodisplay statfont(fs12) title("Table B.5 Analysis of ind
  > ividual effort by contest type (Tobit)") summstat(N \ r2_p)

427 // tests across source of advantage; incomplete information
428 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  [IndivEffort]Group_t - [IndivEffort]1.Cost_t#1.Incomplete +
         [IndivEffort]1.Group_t#1.Incomplete = 0

         F(  1,  7195) =   22.46
              Prob > F =    0.0000
```

```
429 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]Group_t -
         [IndivEffort]1.Value_t#1.Incomplete + [IndivEffort]1.Group_t#1.Incomplete = 0

         F(  1,  7195) =   20.63
              Prob > F =    0.0000

430 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]1.Cost_t#1.Incomplete -
         [IndivEffort]1.Value_t#1.Incomplete = 0

         F(  1,  7195) =    0.18
              Prob > F =    0.6719

431 * Model (2)
432 tobit IndivEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.Gro
  > up_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even [pweight=wt_i],
  > vce(cluster SubjectID) ll(0)

  Refining starting values:

  Grid node 0:  Log likelihood = -26495.887

  Fitting full model:

  Iteration 0:  Log pseudolikelihood = -26495.887
  Iteration 1:  Log pseudolikelihood = -26238.817
  Iteration 2:  Log pseudolikelihood = -26230.935
  Iteration 3:  Log pseudolikelihood = -26230.917
  Iteration 4:  Log pseudolikelihood = -26230.917

  Tobit regression                                  Number of obs     =  7,200
                                                          Uncensored  =  5,694
  Limits: Lower =    0                                Left-censored  =  1,506
          Upper = +inf                               Right-censored =      0

                                                    F(8, 7192)        =  10.21
                                                    Prob > F          = 0.0000
  Log pseudolikelihood = -26230.917                 Pseudo R2         = 0.0085

                                (Std. err. adjusted for 360 clusters in SubjectID)
------------------------------------------------------------------------------
             |               Robust
  IndivEffort |      Coef.   Std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |    .7639034   2.781246     0.27   0.784    -4.688157    6.215963
     Group_t |   -2.31819    2.725121    -0.85   0.395    -7.660227    3.023848
             |
  Cost_t#Incomplete |
         1 1 |   8.351404   2.486747     3.36   0.001     3.476648    13.22616
             |
Value_t#Incomplete |
         1 1 |    8.59209   2.678186     3.21   0.001     3.342059    13.84212
             |
Group_t#Incomplete |
         1 1 |   -.2125333  2.547713    -0.08   0.934      -5.2068    4.781734
             |
   Cost_t#Even |
         1 1 |   8.178862   1.887405     4.33   0.000     4.478992    11.87873
             |
  Value_t#Even |
         1 1 |    5.27058   1.190244     4.43   0.000     2.937353    7.603808
             |
  Group_t#Even |
         1 1 |   3.080087   1.583991     1.94   0.052    -.0250004    6.185174
             |
       _cons |   12.27944   2.040803     6.02   0.000     8.278869    16.28002
-------------+----------------------------------------------------------------
var(e.IndivEffort) |  352.6554  16.53051                    321.6949    386.5955
------------------------------------------------------------------------------
```

```
433 // export results
434 outreg using "Results\TableB5.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(2)") nodisplay statfont(fs12) merge summstat(N \ r2_p)

435 // tests across source of advantage; incomplete information
436 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  [IndivEffort]Group_t - [IndivEffort]1.Cost_t#1.Incomplete +
         [IndivEffort]1.Group_t#1.Incomplete = 0

         F(  1,  7192) =   22.47
              Prob > F =    0.0000

437 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]Group_t -
         [IndivEffort]1.Value_t#1.Incomplete + [IndivEffort]1.Group_t#1.Incomplete = 0

         F(  1,  7192) =   20.64
              Prob > F =    0.0000

438 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]1.Cost_t#1.Incomplete -
         [IndivEffort]1.Value_t#1.Incomplete = 0

         F(  1,  7192) =    0.18
              Prob > F =    0.6720

439 // tests across source of advantage; even contests
440 **# Bookmark #2
441 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  [IndivEffort]Group_t - [IndivEffort]1.Cost_t#1.Even +
         [IndivEffort]1.Group_t#1.Even = 0

         F(  1,  7192) =    8.56
              Prob > F =    0.0035

442 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]Group_t - [IndivEffort]1.Value_t#1.Even +
         [IndivEffort]1.Group_t#1.Even = 0

         F(  1,  7192) =    4.70
              Prob > F =    0.0303

443 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]1.Cost_t#1.Even -
         [IndivEffort]1.Value_t#1.Even = 0

         F(  1,  7192) =    0.56
              Prob > F =    0.4561

444 * Model (3)
445 tobit IndivEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.Gro
  > up_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even  1.Cost_t#c.Roun
  > d_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m $controls_m [pweight=wt_i], vce(cluster
  > SubjectID) ll(0)

  Refining starting values:

  Grid node 0:  Log likelihood = -26274.078

  Fitting full model:
```

```
Iteration 0:  Log pseudolikelihood = -26274.078
Iteration 1:  Log pseudolikelihood = -26011.578
Iteration 2:  Log pseudolikelihood = -26001.568
Iteration 3:  Log pseudolikelihood = -26001.541
Iteration 4:  Log pseudolikelihood = -26001.541

Tobit regression                                  Number of obs     =      7,200
                                                        Uncensored  =      5,694
Limits: Lower =    0                                Left-censored  =      1,506
        Upper = +inf                             Right-censored  =          0

                                                  F(15, 7185)       =      17.85
                                                  Prob > F          =     0.0000
Log pseudolikelihood = -26001.541                 Pseudo R2         =     0.0172
```

(Std. err. adjusted for **360** clusters in **SubjectID**)

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	.6284746	2.674625	0.23	0.814	-4.614578	5.871527
Group_t	-3.992971	2.618215	-1.53	0.127	-9.125444	1.139501
Cost_t#Incomplete 1 1	8.593677	2.406299	3.57	0.000	3.876622	13.31073
Value_t#Incomplete 1 1	8.410454	2.556659	3.29	0.001	3.398649	13.42226
Group_t#Incomplete 1 1	1.374669	2.389856	0.58	0.565	-3.310153	6.05949
Cost_t#Even 1 1	8.447412	1.830013	4.62	0.000	4.860048	12.03478
Value_t#Even 1 1	5.135971	1.17844	4.36	0.000	2.825882	7.44606
Group_t#Even 1 1	3.893331	1.65097	2.36	0.018	.6569446	7.129718
Cost_t#c.Round_m 1	-.4748995	.0858351	-5.53	0.000	-.6431615	-.3066376
Value_t#c.Round_m 1	-.3170623	.0748923	-4.23	0.000	-.4638733	-.1702513
Group_t#c.Round_m 1	-.4828915	.0641632	-7.53	0.000	-.6086703	-.3571127
Experience_m	-5.423048	1.350892	-4.01	0.000	-8.071195	-2.774902
RiskAverse_m	-4.366675	1.389666	-3.14	0.002	-7.09083	-1.64252
Female_m	3.103323	1.305307	2.38	0.017	.5445365	5.662109
GPA_m	-2.300395	1.466046	-1.57	0.117	-5.174277	.5734867
_cons	12.57444	1.940812	6.48	0.000	8.769881	16.379
var(e.IndivEffort)	330.0504	15.35828			301.276	361.573

```
446 // export results
```

```
447 outreg using "Results\TableB5.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(3)") nodisplay statfont(fs12) merge summstat(N \ r2_p)

448 // tests across source of advantage; incomplete information
449 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  [IndivEffort]Group_t - [IndivEffort]1.Cost_t#1.Incomplete +
         [IndivEffort]1.Group_t#1.Incomplete = 0

         F(  1,  7185) =   26.41
              Prob > F =    0.0000

450 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]Group_t -
         [IndivEffort]1.Value_t#1.Incomplete + [IndivEffort]1.Group_t#1.Incomplete = 0

         F(  1,  7185) =   23.13
              Prob > F =    0.0000

451 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]1.Cost_t#1.Incomplete -
         [IndivEffort]1.Value_t#1.Incomplete = 0

         F(  1,  7185) =    0.04
              Prob > F =    0.8455

452 // tests across source of advantage; even contests
453 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  [IndivEffort]Group_t - [IndivEffort]1.Cost_t#1.Even +
         [IndivEffort]1.Group_t#1.Even = 0

         F(  1,  7185) =   11.05
              Prob > F =    0.0009

454 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]Group_t - [IndivEffort]1.Value_t#1.Even +
         [IndivEffort]1.Group_t#1.Even = 0

         F(  1,  7185) =    6.28
              Prob > F =    0.0123

455 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]1.Cost_t#1.Even -
         [IndivEffort]1.Value_t#1.Even = 0

         F(  1,  7185) =    0.88
              Prob > F =    0.3469

456 * Model (4)
457 tobit IndivEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.Gro
  > up_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even   1.Cost_t#c.Rou
  > nd_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m $controls_m 1.Incomplete#c.GPA_m [pweig
  > ht=wt_i], vce(cluster SubjectID) ll(0)

  Refining starting values:

  Grid node 0:  Log likelihood = -26251.685

  Fitting full model:

  Iteration 0:  Log pseudolikelihood = -26251.685
  Iteration 1:  Log pseudolikelihood = -25988.598
  Iteration 2:  Log pseudolikelihood = -25978.375
  Iteration 3:  Log pseudolikelihood = -25978.347
  Iteration 4:  Log pseudolikelihood = -25978.347
```

Tobit regression — Number of obs = **7,200**
Uncensored = **5,694**
Limits: Lower = **0** — Left-censored = **1,506**
Upper = +inf — Right-censored = **0**

F(**16, 7184**) = **17.28**
Prob > F = **0.0000**
Log pseudolikelihood = **-25978.347** — Pseudo R2 = **0.0181**

(Std. err. adjusted for **360** clusters in **SubjectID**)

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	.5161632	2.649665	0.19	0.846	-4.677959	5.710285
Group_t	-4.257795	2.620887	-1.62	0.104	-9.395505	.8799152
Cost_t#Incomplete 1 1	8.33955	2.424757	3.44	0.001	3.586312	13.09279
Value_t#Incomplete 1 1	8.321059	2.525571	3.29	0.001	3.370196	13.27192
Group_t#Incomplete 1 1	1.46663	2.36971	0.62	0.536	-3.178698	6.111958
Cost_t#Even 1 1	8.218993	1.818333	4.52	0.000	4.654524	11.78346
Value_t#Even 1 1	5.097134	1.195428	4.26	0.000	2.753743	7.440525
Group_t#Even 1 1	3.938683	1.642758	2.40	0.017	.7183927	7.158973
Cost_t#c.Round_m 1	-.4744707	.085851	-5.53	0.000	-.6427638	-.3061775
Value_t#c.Round_m 1	-.316876	.0750252	-4.22	0.000	-.4639474	-.1698045
Group_t#c.Round_m 1	-.4820281	.06403	-7.53	0.000	-.6075458	-.3565104
Experience_m	-5.513889	1.342122	-4.11	0.000	-8.144842	-2.882936
RiskAverse_m	-4.138679	1.378583	-3.00	0.003	-6.841107	-1.43625
Female_m	3.162863	1.297093	2.44	0.015	.6201795	5.705546
GPA_m	.5344382	1.871738	0.29	0.775	-3.134718	4.203595
Incomplete#c.GPA_m 1	-6.184158	2.743497	-2.25	0.024	-11.56222	-.8060977
_cons	12.78914	1.935738	6.61	0.000	8.994524	16.58376
var(e.IndivEffort)	327.9799	15.16525			299.5591	359.0972

```
458 // export results
459 outreg using "Results\TableB5.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(4)") nodisplay statfont(fs12) merge summstat(N \ r2_p)
```

```
460 // tests across source of advantage; incomplete information
461 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  [IndivEffort]Group_t - [IndivEffort]1.Cost_t#1.Incomplete +
         [IndivEffort]1.Group_t#1.Incomplete = 0

         F(  1,  7184) =   26.21
              Prob > F =    0.0000

462 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]Group_t -
         [IndivEffort]1.Value_t#1.Incomplete + [IndivEffort]1.Group_t#1.Incomplete = 0

         F(  1,  7184) =   23.76
              Prob > F =    0.0000

463 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]1.Cost_t#1.Incomplete -
         [IndivEffort]1.Value_t#1.Incomplete = 0

         F(  1,  7184) =    0.05
              Prob > F =    0.8279

464 // tests across source of advantage; even contests
465 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  [IndivEffort]Group_t - [IndivEffort]1.Cost_t#1.Even +
         [IndivEffort]1.Group_t#1.Even = 0

         F(  1,  7184) =   11.03
              Prob > F =    0.0009

466 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]Group_t - [IndivEffort]1.Value_t#1.Even +
         [IndivEffort]1.Group_t#1.Even = 0

         F(  1,  7184) =    6.65
              Prob > F =    0.0100

467 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - [IndivEffort]Value_t + [IndivEffort]1.Cost_t#1.Even -
         [IndivEffort]1.Value_t#1.Even = 0

         F(  1,  7184) =    0.85
              Prob > F =    0.3577

468 // effect of GPA on incomplete information contests
469 lincom GPA_m + 1.Incomplete#c.GPA_m

   ( 1)  [IndivEffort]GPA_m + [IndivEffort]1.Incomplete#c.GPA_m = 0
```

IndivEffort	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
(1)	-5.64972	2.059472	-2.74	0.006	-9.686892	-1.612548

```
470
471
472 ** Table B6. Analysis of individual effort across strong and weak groups, by contest
  >  type (Tobit)
473 // Model (1)
474 tobit IndivEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1.S
  > trong $controls_U [pweight=wt_i] if Uneven==1, ll(0) vce(cluster SubjectID)

  Refining starting values:

  Grid node 0:  Log likelihood = -5642.9215

  Fitting full model:

  Iteration 0:  Log pseudolikelihood = -5642.9215
  Iteration 1:  Log pseudolikelihood = -5519.8427
  Iteration 2:  Log pseudolikelihood = -5511.8642
  Iteration 3:  Log pseudolikelihood = -5511.7494
  Iteration 4:  Log pseudolikelihood = -5511.7492

  Tobit regression                                      Number of obs     =  1,602
                                                               Uncensored =  1,126
  Limits: Lower =    0                                     Left-censored =    476
          Upper = +inf                                    Right-censored =      0

                                                        F(12, 1590)       =  16.26
                                                        Prob > F          =  0.0000
  Log pseudolikelihood = -5511.7492                     Pseudo R2         =  0.0351

                                (Std. err. adjusted for 168 clusters in SubjectID)
```

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	4.131543	3.328856	1.24	0.215	-2.397864	10.66095
Group_t	9.230218	3.529025	2.62	0.009	2.308187	16.15225
Cost_t#Strong 1 1	25.54666	2.50185	10.21	0.000	20.63938	30.45393
Value_t#Strong 1 1	19.28605	2.960158	6.52	0.000	13.47983	25.09228
Group_t#Strong 1 1	1.017335	3.105849	0.33	0.743	-5.074654	7.109325
Cost_t#c.Round_U 1	-.2429078	.1667753	-1.46	0.145	-.5700303	.0842148
Value_t#c.Round_U 1	-.5280903	.1618188	-3.26	0.001	-.8454911	-.2106896
Group_t#c.Round_U 1	-.5049919	.123722	-4.08	0.000	-.7476673	-.2623164
Experience_U	-2.388483	2.169827	-1.10	0.271	-6.644505	1.867538
RiskAverse_U	-7.040127	2.214781	-3.18	0.002	-11.38433	-2.695929
Female_U	3.669927	2.231164	1.64	0.100	-.7064048	8.046259
GPA_U	-.7307028	2.072791	-0.35	0.724	-4.796393	3.334987
_cons	-.7710621	2.35057	-0.33	0.743	-5.381604	3.83948
var(e.IndivEffort)	329.8292	29.01722			277.5532	391.9511

```
475 outreg using "Results\TableB6.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Uneven") replace nodisplay statfont(fs12) title("Table B.6 Analysis of
  > individual effort across strong and weak groups, by contest type (Tobit)") summstat(
  > N \ r2_p)

476 // Model (2)
477 tobit IndivEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1.S
  > trong $controls_E [pweight=wt_i] if Even==1, ll(0) vce(cluster SubjectID)

  Refining starting values:

  Grid node 0:  Log likelihood = -6213.8827

  Fitting full model:

  Iteration 0:  Log pseudolikelihood = -6213.8827
  Iteration 1:  Log pseudolikelihood = -6175.4341
  Iteration 2:  Log pseudolikelihood = -6174.3637
  Iteration 3:  Log pseudolikelihood = -6174.3634

  Tobit regression                                      Number of obs     =  1,758
                                                               Uncensored =  1,469
  Limits: Lower =    0                                     Left-censored =    289
          Upper = +inf                                    Right-censored =      0

                                                        F(12, 1746)       =  12.62
                                                        Prob > F          =  0.0000
  Log pseudolikelihood = -6174.3634                     Pseudo R2         =  0.0213

                                (Std. err. adjusted for 168 clusters in SubjectID)
```

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	-3.031403	2.848923	-1.06	0.287	-8.619063	2.556257
Group_t	-.2052703	2.640043	-0.08	0.938	-5.383249	4.972708
Cost_t#Strong 1 1	11.67505	1.949958	5.99	0.000	7.850552	15.49955
Value_t#Strong 1 1	12.89976	1.712437	7.53	0.000	9.541119	16.2584
Group_t#Strong 1 1	-2.895911	1.426565	-2.03	0.043	-5.693866	-.0979556
Cost_t#c.Round_E 1	-.3961443	.1879249	-2.11	0.035	-.7647259	-.0275627
Value_t#c.Round_E 1	-.1703601	.1241199	-1.37	0.170	-.4137994	.0730792
Group_t#c.Round_E 1	-.3084084	.1319697	-2.34	0.020	-.5672437	-.0495731
Experience_E	-5.366004	1.939795	-2.77	0.006	-9.170571	-1.561438
RiskAverse_E	-4.061137	1.989966	-2.04	0.041	-7.964104	-.158169
Female_E	1.282081	1.982608	0.65	0.518	-2.606456	5.170617
GPA_E	.8988005	1.952276	0.46	0.645	-2.930245	4.727846
_cons	15.32655	2.082642	7.36	0.000	11.24182	19.41129
var(e.IndivEffort)	264.6554	20.22887			227.8108	307.459

```
478 outreg using "Results\TableB6.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Even") replace nodisplay statfont(fs12) merge summstat(N \ r2_p)

479 // Model (3)
480 tobit IndivEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1.S
  > trong $controls_I [pweight=wt_i] if Incomplete==1, ll(0) vce(cluster SubjectID)

  Refining starting values:

  Grid node 0:  Log likelihood = -13937.803

  Fitting full model:

  Iteration 0:  Log pseudolikelihood = -13937.803
  Iteration 1:  Log pseudolikelihood = -13817.583
  Iteration 2:  Log pseudolikelihood = -13812.687
  Iteration 3:  Log pseudolikelihood = -13812.681
  Iteration 4:  Log pseudolikelihood = -13812.681

  Tobit regression                                  Number of obs     =  3,840
                                                          Uncensored  =  3,099
  Limits: Lower =    0                              Left-censored     =    741
          Upper = +inf                              Right-censored    =      0

                                                    F(12, 3828)       =  29.79
                                                    Prob > F          = 0.0000
  Log pseudolikelihood = -13812.681                 Pseudo R2         = 0.0391

                                (Std. err. adjusted for 192 clusters in SubjectID)
```

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	2.698567	2.541042	1.06	0.288	-2.28336	7.680494
Group_t	-2.865392	2.740688	-1.05	0.296	-8.238741	2.507957
Cost_t#Strong 1 1	16.95881	1.723017	9.84	0.000	13.58069	20.33693
Value_t#Strong 1 1	12.69211	1.590057	7.98	0.000	9.574673	15.80955
Group_t#Strong 1 1	.5394046	1.964566	0.27	0.784	-3.312291	4.391101
Cost_t#c.Round_I 1	-.4288222	.0976126	-4.39	0.000	-.6202	-.2374444
Value_t#c.Round_I 1	-.3122767	.0945447	-3.30	0.001	-.4976394	-.1269139
Group_t#c.Round_I 1	-.5242592	.0751654	-6.97	0.000	-.6716272	-.3768913
Experience_I	-6.448297	1.862583	-3.46	0.001	-10.10005	-2.796547
RiskAverse_I	-3.256893	1.92367	-1.69	0.091	-7.02841	.5146232
Female_I	3.277577	1.740261	1.88	0.060	-.1343497	6.689505
GPA_I	-6.312833	2.067254	-3.05	0.002	-10.36586	-2.259807
_cons	12.40874	1.689801	7.34	0.000	9.095738	15.72173
var(e.IndivEffort)	274.2917	19.74393			238.1895	315.866

```
481 outreg using "Results\TableB6.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Incomplete Info.") replace nodisplay statfont(fs12) merge summstat(N \
  > r2_p)

482
483
484 ** Table B7. Analysis of group-level effort, by contest type (last 10 rounds)
485 // demean Round variable
486 sum Round if id==1 & Round>10
```

Variable	Obs	Mean	Std. dev.	Min	Max
Round	**990**	**15.52121**	**2.872247**	**11**	**20**

```
487 gen Round_m10 = Round - r(mean) if id==1 & Round>10
  (6,210 missing values generated)

488 * Model (1)
489 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete [pweight=wt_g10] if id==1 & Round>10, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =        990
Absorbing 1 HDFE group                            F(   5,    104) =       5.04
Statistics robust to heteroskedasticity           Prob > F        =     0.0004
                                                  R-squared       =     0.0481
                                                  Adj R-squared   =     0.0432
Number of clusters (cluster1) =        105        Within R-sq.    =     0.0481
Number of clusters (cluster2) =        126        Root MSE        =    39.0373

                          (Std. err. adjusted for 105 clusters in cluster1 cluster2)
```

GroupEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	**-1.623869**	**6.331846**	**-0.26**	**0.798**	**-14.18016**	**10.93242**
Group_t	**25.2859**	**8.094066**	**3.12**	**0.002**	**9.235065**	**41.33674**
Cost_t#Incomplete 1 1	**14.8825**	**6.57793**	**2.26**	**0.026**	**1.838214**	**27.92678**
Value_t#Incomplete 1 1	**12.47423**	**6.339625**	**1.97**	**0.052**	**-.0974805**	**25.04595**
Group_t#Incomplete 1 1	**-10.97389**	**8.182441**	**-1.34**	**0.183**	**-27.19998**	**5.252197**
_cons	**53.06243**	**5.502478**	**9.64**	**0.000**	**42.15081**	**63.97405**

```
490 // export results
491 outreg using "Results\TableB7.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(1)") replace nodisplay statfont(fs12) title("Table B.7 Analysis of gro
  > up-level effort, by contest type (last 10 rounds)")

492 // tests across source of advantage; incomplete information
493 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

 ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

       F(  1,   104) =    0.01
            Prob > F =    0.9322
```

```
494 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   104) =    0.19
              Prob > F =    0.6614

495 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   104) =    0.37
              Prob > F =    0.5417

496 * Model (2)
497 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even [pweight=wt_g1
  > 0] if id==1 & Round>10, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =        990
  Absorbing 1 HDFE group                            F(   8,    104) =      10.14
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.0596
                                                    Adj R-squared   =     0.0519
  Number of clusters (cluster1) =        105        Within R-sq.    =     0.0596
  Number of clusters (cluster2) =        126        Root MSE        =    38.8590

                          (Std. err. adjusted for 105 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort |  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
         Value_t |  -2.695913   5.161185    -0.52   0.603    -12.93074     7.53891
         Group_t |   26.75758   6.328156     4.23   0.000     14.20861    39.30655

 Cost_t#Incomplete |
          1 1 |    21.2025   5.571094     3.81   0.000     10.15482    32.25019

Value_t#Incomplete |
          1 1 |   19.86629   6.253086     3.18   0.002     7.466181    32.26639

Group_t#Incomplete |
          1 1 |  -6.125556   7.338446    -0.83   0.406    -20.67797    8.426857

       Cost_t#Even |
          1 1 |   12.64002   4.498705     2.81   0.006     3.718916    21.56112

      Value_t#Even |
          1 1 |    14.7841   4.132835     3.58   0.001     6.588537    22.97967

      Group_t#Even |
          1 1 |   9.696668   6.388239     1.52   0.132    -2.97145     22.36479

            _cons |   46.74242   4.243285    11.02   0.000     38.32783    55.15702
------------------------------------------------------------------------------

498 // export results
499 outreg using "Results\TableB7.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(2)") nodisplay statfont(fs12) merge
```

```
500 // tests across incomplete and even contests
501 test 1.Value_t#1.Incomplete = 1.Value_t#1.Even

   ( 1)  1.Value_t#1.Incomplete - 1.Value_t#1.Even = 0

         F(  1,   104) =    0.51
              Prob > F =    0.4787

502 test 1.Cost_t#1.Incomplete = 1.Cost_t#1.Even

   ( 1)  1.Cost_t#1.Incomplete - 1.Cost_t#1.Even = 0

         F(  1,   104) =    1.06
              Prob > F =    0.3055

503 test 1.Group_t#1.Incomplete = 1.Group_t#1.Even

   ( 1)  1.Group_t#1.Incomplete - 1.Group_t#1.Even = 0

         F(  1,   104) =    2.64
              Prob > F =    0.1074

504 // tests across source of advantage; incomplete information
505 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   104) =    0.01
              Prob > F =    0.9323

506 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   104) =    0.19
              Prob > F =    0.6618

507 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   104) =    0.37
              Prob > F =    0.5423

508 // tests across source of advantage; even contests
509 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  Group_t - 1.Cost_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   104) =    4.76
              Prob > F =    0.0314

510 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   104) =    7.09
              Prob > F =    0.0090

511 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + 1.Cost_t#1.Even - 1.Value_t#1.Even = 0

         F(  1,   104) =    0.00
              Prob > F =    0.9499
```

```
512 * Model (3)
513 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Incomplete 1.Value_t#1.Incomplete 1.G
  > roup_t#1.Incomplete 1.Cost_t#1.Even 1.Value_t#1.Even 1.Group_t#1.Even 1.Cost_t#c.Rou
  > nd_m10 1.Value_t#c.Round_m10 1.Group_t#c.Round_m10 [pweight=wt_g10] if id==1 & Round
  > >10, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =        990
Absorbing 1 HDFE group                            F(  11,    104) =       8.98
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.0756
                                                  Adj R-squared   =     0.0652
Number of clusters (cluster1) =        105        Within R-sq.    =     0.0756
Number of clusters (cluster2) =        126        Root MSE        =    38.5858

                          (Std. err. adjusted for 105 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort |  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
         Value_t |  -2.386977   4.942516    -0.48   0.630    -12.18817    7.414217
         Group_t |   27.26978   5.574148     4.89   0.000     16.21603    38.32352
                 |
  Cost_t#Incomplete |
               1 1 |   21.45464    5.15842     4.16   0.000      11.2253    31.68398
                 |
 Value_t#Incomplete |
               1 1 |   19.97103   6.336562     3.15   0.002     7.405387    32.53667
                 |
 Group_t#Incomplete |
               1 1 |  -6.125556   6.426378    -0.95   0.343    -18.86931    6.618194
                 |
        Cost_t#Even |
               1 1 |   13.22846   4.850795     2.73   0.008     3.609149    22.84777
                 |
       Value_t#Even |
               1 1 |   14.98808   4.190644     3.58   0.001     6.677871    23.29828
                 |
       Group_t#Even |
               1 1 |    9.47518   6.529331     1.45   0.150    -3.472728    22.42309
                 |
 Cost_t#c.Round_m10 |
                 1 |  -1.629125   .9490579    -1.72   0.089    -3.511143     .252892
                 |
Value_t#c.Round_m10 |
                 1 |   .3557803   .9584743     0.37   0.711     -1.54491    2.256471
                 |
Group_t#c.Round_m10 |
                 1 |  -2.768604   1.185938    -2.33   0.021    -5.120364   -.4168448
                 |
           _cons |   46.33761   3.967368    11.68   0.000     38.47017    54.20505
------------------------------------------------------------------------------

514 // export results
515 outreg using "Results\TableB7.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "(3)") nodisplay statfont(fs12) merge

516 // tests across incomplete and even contests
517 test 1.Value_t#1.Incomplete = 1.Value_t#1.Even

   ( 1)  1.Value_t#1.Incomplete - 1.Value_t#1.Even = 0

         F(  1,   104) =    0.49
              Prob > F =    0.4857
```

```
518 test 1.Cost_t#1.Incomplete = 1.Cost_t#1.Even

   ( 1)  1.Cost_t#1.Incomplete - 1.Cost_t#1.Even = 0

         F(  1,   104) =    1.00
              Prob > F =    0.3187

519 test 1.Group_t#1.Incomplete = 1.Group_t#1.Even

   ( 1)  1.Group_t#1.Incomplete - 1.Group_t#1.Even = 0

         F(  1,   104) =    2.70
              Prob > F =    0.1033

520 // tests across source of advantage; incomplete information
521 test Group_t + 1.Group_t#1.Incomplete = 1.Cost_t#1.Incomplete

   ( 1)  Group_t - 1.Cost_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   104) =    0.00
              Prob > F =    0.9596

522 test Group_t + 1.Group_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Incomplete + 1.Group_t#1.Incomplete = 0

         F(  1,   104) =    0.22
              Prob > F =    0.6377

523 test 1.Cost_t#1.Incomplete = Value_t + 1.Value_t#1.Incomplete

   ( 1)  - Value_t + 1.Cost_t#1.Incomplete - 1.Value_t#1.Incomplete = 0

         F(  1,   104) =    0.36
              Prob > F =    0.5521

524 // tests across source of advantage; even contests
525 test Group_t + 1.Group_t#1.Even = 1.Cost_t#1.Even

   ( 1)  Group_t - 1.Cost_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   104) =    4.62
              Prob > F =    0.0339

526 test Group_t + 1.Group_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Even + 1.Group_t#1.Even = 0

         F(  1,   104) =    6.88
              Prob > F =    0.0100

527 test 1.Cost_t#1.Even = Value_t + 1.Value_t#1.Even

   ( 1)  - Value_t + 1.Cost_t#1.Even - 1.Value_t#1.Even = 0

         F(  1,   104) =    0.01
              Prob > F =    0.9430

528
529
```

```
530 ** Table B8. Analysis of group-level effort across strong and weak groups, by contes
  > t type (last 10 rounds)
531 * Uneven
532 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong 1.Cost_t#c.Round_m10 1.Value_t#c.Round_m10 1.Group_t#c.Round_m10  [pweight=w
  > t_g10] if id==1 & Uneven==1 & Round>10, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =        202
Absorbing 1 HDFE group                            F(   8,     46) =      41.98
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.5891
                                                  Adj R-squared   =     0.5720
Number of clusters (cluster1) =         47        Within R-sq.    =     0.5891
Number of clusters (cluster2) =         51        Root MSE        =    26.7771

                          (Std. err. adjusted for 47 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort |  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |   3.271171   3.555688     0.92   0.362    -3.886058     10.4284
     Group_t |   21.90821   6.032044     3.63   0.001     9.766333    34.05008
             |
  Cost_t#Strong |
         1 1 |   55.84848   6.893531     8.10   0.000     41.97253    69.72444
             |
 Value_t#Strong |
         1 1 |   44.69767   4.296416    10.40   0.000     36.04944    53.34591
             |
 Group_t#Strong |
         1 1 |      66.84   10.99643     6.08   0.000     44.70533    88.97467
             |
Cost_t#c.Round_m10 |
           1 |  -1.938438   .9925557    -1.95   0.057    -3.936349     .059473
             |
Value_t#c.Round_m10 |
           1 |   .3339475     1.0577     0.32   0.754    -1.795093    2.462988
             |
Group_t#c.Round_m10 |
           1 |  -4.246603   1.104979    -3.84   0.000    -6.470809   -2.022396
             |
       _cons |   18.33651   2.502796     7.33   0.000     13.29864    23.37438
------------------------------------------------------------------------------

533 // export results
534 outreg using "Results\TableB8.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Uneven") replace nodisplay statfont(fs12) title("Table B.8 Analysis of
  > group-level effort across strong and weak groups, by contest type (last 10 rounds)")

535 // tests across source of advantage; Strong groups
536 test Group_t + 1.Group_t#1.Strong = 1.Cost_t#1.Strong

   ( 1)  Group_t - 1.Cost_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    46) =    9.52
              Prob > F =    0.0034

537 test Group_t + 1.Group_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    46) =   20.21
              Prob > F =    0.0000
```

```
538 test 1.Cost_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + 1.Cost_t#1.Strong - 1.Value_t#1.Strong = 0

         F(  1,    46) =    0.87
              Prob > F =    0.3563

539 * Even
540 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong 1.Cost_t#c.Round_m10 1.Value_t#c.Round_m10 1.Group_t#c.Round_m10  [pweight=w
  > t_g10] if id==1 & Even==1 & Round>10, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =        248
  Absorbing 1 HDFE group                            F(   8,     49) =      16.42
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.4198
                                                    Adj R-squared   =     0.4004
  Number of clusters (cluster1) =         50        Within R-sq.    =     0.4198
  Number of clusters (cluster2) =         59        Root MSE        =    32.8016

                              (Std. err. adjusted for 50 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort |  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |  -3.759188   9.628831    -0.39   0.698    -23.10905     15.59067
     Group_t |  -1.380778   7.616693    -0.18   0.857     -16.6871     13.92554
             |
  Cost_t#Strong |
         1 1 |   28.86927   10.46268     2.76   0.008     7.843725     49.89482
             |
 Value_t#Strong |
         1 1 |   34.62495   6.003923     5.77   0.000     22.55962     46.69029
             |
 Group_t#Strong |
         1 1 |   79.24853   10.40721     7.61   0.000     58.33446     100.1626
             |
 Cost_t#c.Round_m10 |
           1 |   .0089934   2.460834     0.00   0.997    -4.936238     4.954225
             |
 Value_t#c.Round_m10 |
           1 |  -1.087933   1.506101    -0.72   0.474    -4.114557      1.93869
             |
 Group_t#c.Round_m10 |
           1 |  -.1550044   1.790183    -0.09   0.931    -3.752512     3.442503
             |
       _cons |   44.94679   7.301253     6.16   0.000     30.27437     59.61921
------------------------------------------------------------------------------

541 // export results
542 outreg using "Results\TableB8.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Even") nodisplay statfont(fs12) merge

543 // tests across source of advantage; Strong groups
544 test Group_t + 1.Group_t#1.Strong = 1.Cost_t#1.Strong

   ( 1)  Group_t - 1.Cost_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    49) =   12.30
              Prob > F =    0.0010
```

```
545 test Group_t + 1.Group_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    49) =   19.08
              Prob > F =    0.0001

546 test 1.Cost_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + 1.Cost_t#1.Strong - 1.Value_t#1.Strong = 0

         F(  1,    49) =    0.04
              Prob > F =    0.8522

547 * Incomplete Information
548 reghdfe GroupEffort Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1
  > .Strong 1.Cost_t#c.Round_m10 1.Value_t#c.Round_m10 1.Group_t#c.Round_m10  [pweight=w
  > t_g10] if id==1 & Incomplete==1, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =        540
  Absorbing 1 HDFE group                            F(   8,     54) =      80.67
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.4282
                                                    Adj R-squared   =     0.4196
  Number of clusters (cluster1) =         55        Within R-sq.    =     0.4282
  Number of clusters (cluster2) =         66        Root MSE        =    28.8169

                              (Std. err. adjusted for 55 clusters in cluster1 cluster2)
------------------------------------------------------------------------------
             |               Robust
  GroupEffort|  Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
     Value_t |   13.67853   7.290468     1.88   0.066    -.9379786    28.29504
     Group_t |   1.967908   4.639067     0.42   0.673    -7.332861    11.26868
             |
  Cost_t#Strong |
         1 1 |   52.38583   2.532143    20.69   0.000     47.30919    57.46247
             |
 Value_t#Strong |
         1 1 |   30.36194   5.760788     5.27   0.000     18.81226    41.91163
             |
 Group_t#Strong |
         1 1 |   60.88418   6.014376    10.12   0.000     48.82609    72.94228
             |
 Cost_t#c.Round_m10 |
           1 |  -.9522902    .894378    -1.06   0.292     -2.74541    .8408296
             |
 Value_t#c.Round_m10 |
           1 |  -.0408514   1.777989    -0.02   0.982    -3.605504    3.523802
             |
 Group_t#c.Round_m10 |
           1 |   -2.26443   1.534268    -1.48   0.146    -5.340453     .811593
             |
       _cons |   35.05228   2.594642    13.51   0.000     29.85033    40.25422
------------------------------------------------------------------------------

549 // export results
550 outreg using "Results\TableB8.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(2)
  >  ctitle("", "Incomplete Info.") nodisplay statfont(fs12) merge
```

```
551 // tests across source of advantage; Strong groups
552 test Group_t + 1.Group_t#1.Strong = 1.Cost_t#1.Strong

   ( 1)  Group_t - 1.Cost_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    54) =    2.16
              Prob > F =    0.1471

553 test Group_t + 1.Group_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + Group_t - 1.Value_t#1.Strong + 1.Group_t#1.Strong = 0

         F(  1,    54) =    4.67
              Prob > F =    0.0352

554 test 1.Cost_t#1.Strong = Value_t + 1.Value_t#1.Strong

   ( 1)  - Value_t + 1.Cost_t#1.Strong - 1.Value_t#1.Strong = 0

         F(  1,    54) =    1.55
              Prob > F =    0.2183

555
556
557 ** Table B9. Analysis of probability of winning in uneven contests
558 // demean variable 'Round'
559 drop Round_m

560 sum Round if id==1
```

Variable	Obs	Mean	Std. dev.	Min	Max
Round	1,988	10.48994	5.782364	1	20

```
561 gen Round_m = Round - r(mean) if id==1
  (5,212 missing values generated)

562 * Complete information
563 reghdfe ProbWin Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1.Str
  > ong 1.Cost_t#c.Round_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m [pweight=wt_g] if Une
  > ven==1 & id==1, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)
  warning: missing F statistic; dropped variables due to collinearity or too few cluster
  > s

  HDFE Linear regression                            Number of obs   =        422
  Absorbing 1 HDFE group                            F(   8,     91) =          .
  Statistics robust to heteroskedasticity           Prob > F        =          .
                                                    R-squared       =     0.7345
                                                    Adj R-squared   =     0.7293
  Number of clusters (cluster1) =         92        Within R-sq.    =     0.7345
  Number of clusters (cluster2) =        100        Root MSE        =    16.1788

                              (Std. err. adjusted for 92 clusters in cluster1 cluster2)
```

ProbWin	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	5.854795	2.255934	2.60	0.011	1.373661	10.33593
Group_t	4.795076	2.446514	1.96	0.053	-.0646242	9.654777
Cost_t#Strong 1 1	60.48105	3.569229	16.95	0.000	53.39121	67.57088
Value_t#Strong 1 1	48.77146	2.759991	17.67	0.000	43.28907	54.25384
Group_t#Strong 1 1	50.8909	3.346989	15.20	0.000	44.24251	57.53928
Cost_t#c.Round_m 1	-8.73e-09	1.99e-08	-0.44	0.662	-4.83e-08	3.08e-08

Value_t#c.Round_m 1	**1.37e-08**	**1.33e-08**	**1.03**	**0.306**	**-1.27e-08**	**4.00e-08**
Group_t#c.Round_m 1	**6.83e-08**	**2.44e-08**	**2.81**	**0.006**	**1.99e-08**	**1.17e-07**
_cons	**19.75948**	**1.784614**	**11.07**	**0.000**	**16.21456**	**23.30439**

```
564 // export results
565 outreg using "Results\TableB9.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(3)
  >  ctitle("", "Complete Info.") replace nodisplay statfont(fs12) title("Table B.9 Anal
  > ysis of probability of winning in uneven contests")

566 * Incomplete information
567 reghdfe ProbWin Value_t Group_t 1.Cost_t#1.Strong 1.Value_t#1.Strong 1.Group_t#1.Str
  > ong 1.Cost_t#c.Round_m 1.Value_t#c.Round_m 1.Group_t#c.Round_m [pweight=wt_g] if Une
  > ven_Incomplete==1 & id==1, cluster(cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                            Number of obs   =        482
Absorbing 1 HDFE group                            F(   8,    101) =      44.37
Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                  R-squared       =     0.6053
                                                  Adj R-squared   =     0.5986
Number of clusters (cluster1) =        102        Within R-sq.    =     0.6053
Number of clusters (cluster2) =        110        Root MSE        =    14.8850

                      (Std. err. adjusted for 102 clusters in cluster1 cluster2)
```

ProbWin	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Value_t	**4.812678**	**2.467443**	**1.95**	**0.054**	**-.0820646**	**9.707421**
Group_t	**-8.400955**	**2.725401**	**-3.08**	**0.003**	**-13.80742**	**-2.994493**
Cost_t#Strong 1 1	**34.27781**	**3.182187**	**10.77**	**0.000**	**27.96521**	**40.59042**
Value_t#Strong 1 1	**24.72888**	**3.829794**	**6.46**	**0.000**	**17.1316**	**32.32616**
Group_t#Strong 1 1	**51.13997**	**4.472342**	**11.43**	**0.000**	**42.26804**	**60.01189**
Cost_t#c.Round_m 1	**-.0599115**	**.0174318**	**-3.44**	**0.001**	**-.0944915**	**-.0253315**
Value_t#c.Round_m 1	**.0025044**	**.005847**	**0.43**	**0.669**	**-.0090945**	**.0141034**
Group_t#c.Round_m 1	**.0220684**	**.0786158**	**0.28**	**0.780**	**-.1338843**	**.178021**
_cons	**32.82238**	**1.555401**	**21.10**	**0.000**	**29.73688**	**35.90788**

```
568 // export results
569 outreg using "Results\TableB9.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(3)
  >  ctitle("", "Incomplete Info.") nodisplay statfont(fs12) merge
```

```
570
571
572 ** Table B10. Free-riding behavior (Probit model)
573 global controls Round Experience RiskAverse Female GPA

574 gen Group_Incomplete=Group_t*Incomplete

575 gen Group_Strong=Group_t*Strong

576 gen Group_Even=Group_t*Even

577 probit ZeroEffort 1.Group_t 1.Incomplete Group_Incomplete 1.Strong Group_Strong 1.Ev
  > en Group_Even $controls [pweight=wt_i], cluster(SubjectID)

  Iteration 0:  Log pseudolikelihood = -3702.3882
  Iteration 1:  Log pseudolikelihood = -3329.9551
  Iteration 2:  Log pseudolikelihood = -3324.4268
  Iteration 3:  Log pseudolikelihood = -3324.4215
  Iteration 4:  Log pseudolikelihood = -3324.4215

  Probit regression                                     Number of obs =  7,200
                                                        Wald chi2(12) =  201.44
                                                        Prob > chi2   =  0.0000
  Log pseudolikelihood = -3324.4215                     Pseudo R2     =  0.1021

                                (Std. err. adjusted for 360 clusters in SubjectID)
```

ZeroEffort	Coefficient	Robust std. err.	z	P>|z|	[95% conf.	interval]
1.Group_t	-.1529396	.1576285	-0.97	0.332	-.4618858	.1560066
1.Incomplete	-.6590768	.1318256	-5.00	0.000	-.9174502	-.4007034
Group_Incomplete	.5582379	.2127937	2.62	0.009	.1411701	.9753058
1.Strong	-.7653246	.0895031	-8.55	0.000	-.9407475	-.5899018
Group_Strong	.5853151	.1242953	4.71	0.000	.3417009	.8289293
1.Even	-.5283602	.0861787	-6.13	0.000	-.6972675	-.359453
Group_Even	.1171878	.1625511	0.72	0.471	-.2014065	.4357821
Round	.0279009	.0035119	7.94	0.000	.0210177	.034784
Experience	.2706034	.1058115	2.56	0.011	.0632167	.47799
RiskAverse	.2475679	.1040124	2.38	0.017	.0437073	.4514285
Female	-.2543308	.1005068	-2.53	0.011	-.4513205	-.0573411
GPA	.0896585	.1298952	0.69	0.490	-.1649314	.3442485
_cons	-.9577078	.4455663	-2.15	0.032	-1.831002	-.084414

```
578 // some results
579 lincom 1.Incomplete + Group_Incomplete

  ( 1)  [ZeroEffort]1.Incomplete + [ZeroEffort]Group_Incomplete = 0
```

ZeroEffort	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
(1)	-.1008388	.1662858	-0.61	0.544	-.426753	.2250753

```
580 lincom 1.Strong + Group_Strong

  ( 1)  [ZeroEffort]1.Strong + [ZeroEffort]Group_Strong = 0
```

ZeroEffort	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
(1)	-.1800095	.0879634	-2.05	0.041	-.3524146	-.0076045

```
581 // export results
582 outreg using "Results\TableB10.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(3
  > ) ctitle("", "Coefficients") replace nodisplay statfont(fs12) title("Table B.10 Free
  > -riding behavior (Probit model)")

583 // obtain marginal effects
584 margins, dydx(*) post
  note: option continuous implied because a factor with only one level was specified in
        option dydx().

  Average marginal effects                                  Number of obs = 7,200
  Model VCE: Robust

  Expression: Pr(ZeroEffort), predict()
  dy/dx wrt:  1.Group_t 1.Incomplete Group_Incomplete 1.Strong Group_Strong 1.Even
              Group_Even Round Experience RiskAverse Female GPA
```

	dy/dx	Delta-method std. err.	z	P>|z|	[95% conf.	interval]
1.Group_t	-.0396375	.0408645	-0.97	0.332	-.1197304	.0404554
1.Incomplete	-.1708138	.0330468	-5.17	0.000	-.2355843	-.1060432
Group_Incomplete	.1446792	.054766	2.64	0.008	.0373399	.2520185
1.Strong	-.1983502	.0216402	-9.17	0.000	-.2407641	-.1559362
Group_Strong	.1516969	.0319688	4.75	0.000	.0890391	.2143546
1.Even	-.1369358	.0217275	-6.30	0.000	-.179521	-.0943506
Group_Even	.0303717	.0420266	0.72	0.470	-.051999	.1127424
Round	.0072311	.0009294	7.78	0.000	.0054096	.0090526
Experience	.0701326	.0269485	2.60	0.009	.0173145	.1229507
RiskAverse	.0641625	.0271069	2.37	0.018	.0110339	.1172911
Female	-.0659152	.0258506	-2.55	0.011	-.1165814	-.0152491
GPA	.0232369	.0335286	0.69	0.488	-.042478	.0889518

```
585 // export results
586 outreg using "Results\TableB10.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(3
  > ) ctitle("", "Marginal Effects") merge nodisplay statfont(fs12)

587
588
589 ** Table B11. Analysis of individual effort: dynamics
590 global controls Round Experience RiskAverse Female GPA

591 * Model controlling for prior loss
592 reghdfe IndivEffort Group_t Incomplete 1.Group_t#1.Incomplete Strong 1.Group_t#1.Str
  > ong Even 1.Group_t#1.Even L_Loss 1.L_Loss#1.Incomplete 1.L_Loss#1.Even $controls [pw
  > eight=wt_i19], cluster(SubjectID cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

  HDFE Linear regression                            Number of obs   =      6,840
  Absorbing 1 HDFE group                            F(  15,    209) =      33.81
  Statistics robust to heteroskedasticity           Prob > F        =     0.0000
                                                    R-squared       =     0.2229
  Number of clusters (SubjectID) =        360       Adj R-squared   =     0.2212
  Number of clusters (cluster1) =         210       Within R-sq.    =     0.2229
  Number of clusters (cluster2) =         210       Root MSE        =    14.1984

                (Std. err. adjusted for 210 clusters in SubjectID cluster1 cluster2)
```

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
Group_t	3.49572	1.785487	1.96	0.052	-.024153	7.015593
Incomplete	6.545624	1.545981	4.23	0.000	3.497909	9.59334
Group_t#Incomplete 1 1	-5.37275	2.265493	-2.37	0.019	-9.838897	-.9066025
Strong	13.72284	.8496065	16.15	0.000	12.04794	15.39773
Group_t#Strong						

1 1	**-14.31567**	**1.354917**	**-10.57**	**0.000**	**-16.98672**	**-11.64461**
Even	**5.577248**	**1.005476**	**5.55**	**0.000**	**3.595074**	**7.559422**
Group_t#Even						
1 1	**-2.804801**	**1.542387**	**-1.82**	**0.070**	**-5.845431**	**.2358291**
L_Loss	**-.4404655**	**.6689211**	**-0.66**	**0.511**	**-1.759163**	**.8782318**
L_Loss#Incomplete						
1 1	**-.3701848**	**.7908886**	**-0.47**	**0.640**	**-1.929326**	**1.188957**
L_Loss#Even						
1 1	**-1.439964**	**.8748107**	**-1.65**	**0.101**	**-3.164548**	**.2846194**
Round	**-.3115046**	**.0462182**	**-6.74**	**0.000**	**-.4026182**	**-.220391**
Experience	**-4.278455**	**1.104817**	**-3.87**	**0.000**	**-6.456468**	**-2.100441**
RiskAverse	**-3.523432**	**1.131015**	**-3.12**	**0.002**	**-5.753091**	**-1.293772**
Female	**2.008316**	**1.039774**	**1.93**	**0.055**	**-.0414726**	**4.058105**
GPA	**-2.332624**	**1.181528**	**-1.97**	**0.050**	**-4.661864**	**-.0033837**
_cons	**23.69591**	**4.140922**	**5.72**	**0.000**	**15.53258**	**31.85924**

```
593 // some tests
594 lincom L_Loss + 1.L_Loss#1.Incomplete
```

(1) **L_Loss + 1.L_Loss#1.Incomplete = 0**

IndivEffort	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
(1)	**-.8106503**	**.4199263**	**-1.93**	**0.055**	**-1.638484**	**.0171838**

```
595 lincom L_Loss + 1.L_Loss#1.Even
```

(1) **L_Loss + 1.L_Loss#1.Even = 0**

IndivEffort	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
(1)	**-1.88043**	**.7175767**	**-2.62**	**0.009**	**-3.295046**	**-.465814**

```
596 // export results
597 outreg using "Results\TableB11.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(3
  > ) ctitle("", "Prior Loss") replace nodisplay statfont(fs12) title("Table B.11 Analys
  > is of individual effort: behavioral dynamics")

598 * Model controlling for group effort from prior round
599 reghdfe IndivEffort Group_t Incomplete 1.Group_t#1.Incomplete Strong 1.Group_t#1.Str
  > ong Even 1.Group_t#1.Even L_GroupEffort c.L_GroupEffort#1.Incomplete c.L_GroupEffort
  > #1.Even $controls [pweight=wt_i19], cluster(SubjectID cluster1 cluster2)
  (MWFE estimator converged in 1 iterations)

HDFE Linear regression                          Number of obs   =      6,840
Absorbing 1 HDFE group                          F(  15,    209) =      55.06
Statistics robust to heteroskedasticity         Prob > F        =     0.0000
                                                R-squared       =     0.2606
Number of clusters (SubjectID) =       360      Adj R-squared   =     0.2590
Number of clusters (cluster1) =        210      Within R-sq.    =     0.2606
Number of clusters (cluster2) =        210      Root MSE        =    13.8491
```

(Std. err. adjusted for **210** clusters in **SubjectID cluster1 clu**
> ster2)

IndivEffort	Coefficient	Robust std. err.	t	P>|t|	[95% conf. int
					> erval]
Group_t	**1.119767**	**1.813043**	**0.62**	**0.537**	**-2.454428**	**4.**
					> 693963
Incomplete	**4.486814**	**1.581428**	**2.84**	**0.005**	**1.36922**	**7.**
					> 604409
Group_t#Incomplete 1 1	**-4.536829**	**2.139974**	**-2.12**	**0.035**	**-8.75553**	**-.**
					> 318128
Strong	**13.65349**	**.8414481**	**16.23**	**0.000**	**11.99468**	**1**
					> 5.3123
Group_t#Strong 1 1	**-14.54785**	**1.360038**	**-10.70**	**0.000**	**-17.229**	**-1**
					> 1.8667
Even	**4.049013**	**1.093003**	**3.70**	**0.000**	**1.89429**	**6.**
					> 203737
Group_t#Even 1 1	**-3.37461**	**1.577358**	**-2.14**	**0.034**	**-6.48418**	**-.2**
					> 650392
L_GroupEffort	**.0654966**	**.0112401**	**5.83**	**0.000**	**.0433382**	**.**
					> 087655
Incomplete#c.L_GroupEffort 1	**.0139478**	**.0157783**	**0.88**	**0.378**	**-.0171572**	**.0**
					> 450528
Even#c.L_GroupEffort 1	**.0106381**	**.0129428**	**0.82**	**0.412**	**-.0148772**	**.0**
					> 361533
Round	**-.1905139**	**.0354338**	**-5.38**	**0.000**	**-.2603672**	**-.1**
					> 206605
Experience	**-3.907329**	**1.025881**	**-3.81**	**0.000**	**-5.929729**	**-1.**
					> 884929
RiskAverse	**-3.460592**	**1.047781**	**-3.30**	**0.001**	**-5.526165**	**-1.**
					> 395018
Female	**1.888094**	**.9684139**	**1.95**	**0.053**	**-.0210176**	**3.**
					> 797205
GPA	**-2.146336**	**1.095256**	**-1.96**	**0.051**	**-4.305502**	**.0**
					> 128288
_cons	**17.81305**	**3.895967**	**4.57**	**0.000**	**10.13263**	**25**
					> .49348

```
600 // some tests
601 lincom L_GroupEffort + c.L_GroupEffort#1.Incomplete
```

(1) **L_GroupEffort + 1.Incomplete#c.L_GroupEffort = 0**

IndivEffort	Coefficient	Std. err.	t	P>|t|	[95% conf. interval]
(1)	**.0794444**	**.0115889**	**6.86**	**0.000**	**.0565982**	**.1022906**

```
602 lincom L_GroupEffort + c.L_GroupEffort#1.Even

  ( 1)  L_GroupEffort + 1.Even#c.L_GroupEffort = 0
```

IndivEffort	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
(1)	**.0761346**	**.0121872**	**6.25**	**0.000**	**.052109**	**.1001603**

```
603 // export results
604 outreg using "Results\TableB11.doc", stat(b se) starlevels(10 5 1) starloc(1) bdec(3
  > ) ctitle("", "Prior Group Effort") merge nodisplay statfont(fs12)

605
606 log close
      name:  <unnamed>
       log:  D:\Research\Group contest\Analysis\Group_Contest.smcl
  log type:  smcl
 closed on:  22 Mar 2025, 11:35:44
```