Dependent variables

* Percent of compliance (Overharvest of 0 units equals 100% compliance, while an overharvest of 50 units equals 0% compliance)
* Percent of compliance only in the peer-enforced stage (CL 2009)
* Report

Explanatory variables

* Frame (CEAR or OA)
* Association type (High performance or Low performance)
* Stage of the game (Non-enforced or peer-enforced)
* Round
* Behavior in the game:
  + Average subject’s compliance in non-enforced rounds (CL 2009)
  + Average compliance of other group members in previous round (CL 2009)
  + Subject was reported in the previous round (CL 2009)
  + Subject was reported in the second previous round (CL 2009)
  + Subject chooses to report in previous round (CL 2009)
  + Subject’s compliance minus the average group compliance (CL 2009)
  + Number of overharvested units observed by the inspector
  + Number of overharvested units observed by the inspector in the previous round
  + Difference between the overharvest observed by the inspector and the average overharvest in the previous round
  + Cumulative reports

Model specification

1. Models with frame, association type and variables collected during the game without interactions (do not allow to see differences in potential mechanisms between treatment and association types)
2. Separated models for each treatment association type combination (CL 2009)
3. Interact each behavioral variable with frame and association type

Model structure

1. OLS
2. Individual random effects (CL 2009)
3. Rounds and experimental sessions as fixed effects (CL 2009)

Results

Individual percent of compliance regressed on the average contribution of other group members in the previous round, whether the subject was punished in the previous round, whether the subject report her peer in the previous round, and rounds in the non-enforced and the peer-enforced stage.

Table SXX. Regression models to explore the determinants of compliance at the individual level under each treatment per association type. Individual random effect.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dependent variable:**  **Individual compliance** | **HP CEAR** | **HP OA** | **LP CEAR** | **LP OA** |
| **Average subject’s compliance in non-enforced rounds** | 0.75\*\*\* | 1.11\*\*\* | 0.53\*\* | 1.01\*\*\* |
|  | *(0.21)* | *(0.14)* | *(0.20)* | *(0.22)* |
|  |  |  |  |  |
| **Average compliance of other group members in previous round** | -0.28 | 0.29\* | 0.14 | -0.24 |
|  | *(0.26)* | *(0.14)* | *(0.26)* | *(0.16)* |
|  |  |  |  |  |
| **Subject was reported in the previous round** | -16.77 | 2.89 | 2.51 | -38.65\*\*\* |
|  | *(11.03)* | *(10.97)* | *(13.02)* | *(11.89)* |
|  |  |  |  |  |
| **Subject was reported in the second previous round** | 7.58 | 8.51 | -39.47 \*\*\* | -0.95 |
|  | *(10.81)* | *(8.82)* | *(13.27)* | *(9.25)* |
|  |  |  |  |  |
| **Subject chooses to report in previous round** | XX | XX | XX | XX |
|  | *()* | *()* | *()* | *()* |
|  |  |  |  |  |
| **Observed overharvest in previous round** | XX | XX | XX | XX |
|  | *()* | *()* | *()* | *()* |
|  |  |  |  |  |
| **Round** | 2.01 | 2.21 | -1.67 | -5.21\*\*\* |
|  | *(1.67)* | *(1.93)* | *(1.96)* | *(1.32)* |
|  |  |  |  |  |
| **Constant** | 36.48 | -27.08\* | 45.41\*\* | *45.87\*\** |
|  | *(27.76)* | *(13.51)* | *(17.38)* | *(16.93)* |
|  |  |  |  |  |
| **Nm. Observations, Nm. subjects** | 300, 30 | 300, 30 | 300, 30 | 300, 30 |
| **Pseudo R2** |  |  |  |  |
| **AIC** |  |  |  |  |
|  |  |  |  |  |

Each model presents a different combination of explanatory variables. Variables “CEAR treatment”, “High-performance association”, and “Peer-enforcement stage” are dummy variables while “Non-enforced rounds” and “Peer-enforced rounds” enumerate rounds of the game in each stage (from 0 to 9). Standard errors are robust and shown in parentheses. Significance levels are represented by the following notation \*\*\* = p < 0.01, \*\* = p < 0.05, \* = p <0.1. Note that the dependent variable is a percent. The shaded column shows the most parsimonious model based on Akaike’s information criteria (i.e. the model with the lowest AIC score).

Table SXX. Results of OLS regression models to explore the determinants of compliance at the individual level under each treatment per association type in the peer-enforced stage. Individual random effects.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dependent variable:**  **Individual compliance** | **HP CEAR** | **HP OA** | **LP CEAR** | **LP OA** |
| **Average subject’s compliance in non-enforced rounds** | 0.75\*\*\* | 0.98\*\*\* | 0.88\*\*\* | 0.84\*\*\* |
|  | *(0.11)* | *(0.07)* | *(0.10)* | *(0.15)* |
|  |  |  |  |  |
| **Average compliance of other group members in previous round** | 0.026 | 0.21\*\*\* | -0.10 | 0.16 |
|  | *(0.09)* | *(0.07)* | *(0.11)* | *(0.11)* |
|  |  |  |  |  |
| **Cumulative number of times the subject was reported in previous rounds** | -1.68 | -0.90 | -3.36 | 6.22\* |
|  | *(1.65)* | *(2.18)* | *(3.05)* | *(3.71)* |
|  |  |  |  |  |
| **Subject choose to report in previous round** | -1.69 | 3.29 | -11.00 | -9.70 |
|  | *(4.50)* | *(4.47)* | *(7.11)* | *(7.36)* |
|  |  |  |  |  |
| **Observed overharvest in previous round** | 0.12 | -0.07 | 0.12 | 0.07 |
|  | *(0.73)* | *(0.08)* | *(0.13)* | *(0.10)* |
|  |  |  |  |  |
| **Round** | 0.74\* | -0.72 | 0.15 | -1.47 |
|  | *(0.42)* | *(0.44)* | *(0.63)* | *(0.58)* |
|  |  |  |  |  |
| **Constant** | 20.95\*\* | 1.78 | 21.85\*\*\* | 6.63 |
|  | *(9.34)* | *(4.63)* | *(6.87)* | *(9.04)* |
|  |  |  |  |  |
| **Nm. Observations, Nm. subjects** | 300, 30 | 300, 30 | 300, 30 | 300, 30 |
| **Pseudo R2** |  |  |  |  |
| **AIC** |  |  |  |  |
|  |  |  |  |  |

Each model presents a different combination of explanatory variables. Variables “CEAR treatment”, “High-performance association”, and “Peer-enforcement stage” are dummy variables while “Non-enforced rounds” and “Peer-enforced rounds” enumerate rounds of the game in each stage (from 0 to 9). Standard errors are robust and shown in parentheses. Significance levels are represented by the following notation \*\*\* = p < 0.01, \*\* = p < 0.05, \* = p <0.1. Note that the dependent variable is a percent. The shaded column shows the most parsimonious model based on Akaike’s information criteria (i.e. the model with the lowest AIC score).

Evolution of the probability of reporting. Probability of reporting estimated as the number of reports over the number of opportunities to report in each round.

Chart, box and whisker chart

Description automatically generated