Web Appendix

for the paper

"Who acts more like a game theorist? Group and individual play in a sequential market game and the effect of the time horizon"

by Wieland Müller and Fangfang Tan.

A Design details of specific studies mentioned in Section "Related literature"

Study	Game	Time horizon	Communication	Group size	Voting rule
Cason and Mui (1997)	dictator	one-shot	face to face	2	unanimity
Luhan *et al.* (2009)	dictator	one-shot	electr. chat	3	unanimity
Bornstein and Yaniv (1998)	ultimatum	one-shot	face to face	3	unanimity
Robert and Carnevale (1997)	ultimatum	one-shot	face to face	2/4	unanimity
Cox (2002)	trust	one-shot	face to face	3	unanimity
Kugler *et al.* (2007)	trust	one-shot	face to face	3	unanimity
Song (2006)	trust	one-shot	face to face	3	unanimity
Kocher and Sutter (2007)	gift exchange	one-shot	face to face/electr. chat	3	unanimity
Bosman *et al.* (2006)	power-to-take	one-shot	face-to-face	3	unanimity
Bornstein *et al.* (2004)	centipede	one-shot	face to face	3	unanimity
Cardella and Chiu (2012)	Stackelberg	one-shot	face-to-face	2	unanimity

Note: This table lists studies analysing intergroup versus interindividual behavior in sequential two-player games with one-shot interaction.

Table 6: Design details of related studies

B Results of simple linear response function estimations

B.1 Results for the 15-period random-matching treatments

As a quick diagnostic tool, we estimate simple linear response functions employed by second movers in the various treatments. We start with the truly sequential treatments and estimate the equation $q^F_{ijk} = \beta_0 + \beta_1 \times D_{\text{SEQ-TEAM}} + \beta_2 q^L + \beta_3 \times D_{\text{SEQ-TEAM}} \times q^L + \eta_i + + \eta_{ij} + \varepsilon_{ijk}$. In this equation, q^F_{ijt} is the quantity chosen by second-mover subject/group i in session j in period t. $D_{\text{SEQ-TEAM}}$ is a dummy that equals 1 if an observation stems from treatment SEQ-TEAM and equals 0 if an observation stems from treatment SEQ-IND.[28] The estimations results are as follows. (Recall that the standard best response function is given by $q^F = 12 - 0.5q^L$.)

$$
\begin{array}{cccccccccc}
q^F = & \beta_0 & + & \beta_1 \times D_{\text{SEQ-TEAM}} & + & \beta_2 q^L & + & \beta_3 \times D_{\text{SEQ-TEAM}} \times q^L & + & \varepsilon_{ijk}. \\
 & 8.920^{***} & & -2.570^{***} & & -0.111^{***} & & 0.324^{***} & & \\
 & (0.459) & & (0.773) & & (0.042) & & (0.078) & &
\end{array}
$$

From these estimation results it follows that the observed response function in treatment SEQ-IND (when $D_{\text{SEQ-TEAM}} = 0$) is $q^F = 8.920 - 0.111q^L$ whereas the response function in treatment SEQ-TEAM (when $D_{\text{SEQ-TEAM}} = 1$) is $q^F = (8.920 - 2.570) + (-0.111 + 0.324)q^L = 6.35 + 0.213\, q^L$. Hence, the response function in treatment SEQ-IND is *downward*-sloping, while the response function in treatment SEQ-TEAM is *upward*-sloping. This means that team followers reward more and punish harder than individual followers. Note that the estimates of the coefficients β_1 and β_3 are statistically significantly different from 0. This indicates that both the intercept and the slope of the response function employed in the individual-player treatment SEQ-IND are significantly closer to the ones of the rational best-response function than the intercept and slope of the response function in the team-player treatment SEQ-TEAM. Hence, it unambiguously appears that individual second movers behave more selfishly than team second movers. Again, this contradicts our main Hypothesis 1a. Given the more selfish behavior of individuals, it is no surprise that we observe individual first movers in the truly sequential treatment to choose on average higher quantities than team first movers (see Table 3).

Surely, the result of more reciprocal behavior in the sequential team treatment compared to the sequential individual treatment might be due to the different experience second movers make in the two treatments. To control for this feature, we estimate a similar equation as above using the data observed in the strategy-method treatments. For this purpose, we include all data of the complete response functions elicited in the strategy-method treatments. Hence, we compare individual and team second-movers on more equal grounds as we take their response at all first-

[28] As before, we ran the regressions using general linear latent and mixed models GLLAMM (Rabe-Hesketh and Skrondal, 2005). In the regressions, we take into account that subjects and groups are nested in matching groups by including nested random effects, which are assumed to be independently normally distributed (cf. η_i and η_{ij}).

mover quantities into account. The estimation results are as follows.

$$\begin{array}{lccccccccc} q^F = & \beta_0 & + & \beta_1 \times D_{\text{SM-TEAM}} & + & \beta_2 q^L & + & \beta_3 \times D_{\text{SM-TEAM}} \times q^L & +\eta_i + \eta_{ij} + \varepsilon_{ijk}. \\ & 10.225^{***} & & -0.712^{***} & & -0.233^{***} & & 0.152^{***} & \\ & (0.086) & & (0.141) & & (0.009) & & (0.014) & \end{array}$$

From these estimation results we infer that the observed response function in treatment SM-IND is $q^F = 10.225 - 0.233q^L$, whereas the one in treatment SM-TEAM is $q^F = 9.513 - 0.081\,q^L$. Hence, we find that the slope is negative in both treatments. However, as in the truly sequential treatment we find that the intercept (slope) of the observed response function in the individual treatment is significantly larger (smaller) than the intercept (slope) of the observed response function in the team treatment (see the significance levels of the estimated coefficients β_1 and β_3). This, again, implies that individuals appear to be more selfish than teams.

Note finally that once we consider only "relevant" data in the strategy-method treatments (i.e., only second-movers' reactions at quantities actually chosen by first movers), we again find that individuals' response function is (slightly) downward sloping (SM-IND: $q^F = 8.543 - 0.089\,q^L$) while teams' response function is upward sloping ($q^F = 7.615 + 0.106\,q^L$). This can be inferred from the following estimation results:

$$\begin{array}{lccccccccc} q^F = & \beta_0 & + & \beta_1 \times D_{\text{SM-TEAM}} & + & \beta_2 q^L & + & \beta_3 \times D_{\text{SM-TEAM}} \times q^L & +\eta_i + \eta_{ij} + \varepsilon_{ijk}. \\ & 8.543^{***} & & -0.928 & & -0.089^{**} & & 0.195^{**} & \\ & (0.415) & & (0.843) & & (0.044) & & (0.090) & \end{array}$$

As before, we find that the response functions of individual second-movers appear to be closer to the rational best-response than response functions of group second movers.[29]

B.2 Results for the one-shot treatments

The results of simple OLS regressions of second-mover behavior in the one-shot treatments look as follows. Consider first the sequential-move treatments.

$$\begin{array}{lccccccccc} q^F = & \beta_0 & + & \beta_1 \times D_{\text{SEQ-TEAM}} & + & \beta_2 q^L & + & \beta_3 \times D_{\text{SEQ-TEAM}} \times q^L & + & \varepsilon_{ijk}. \\ & 13.446^{***} & & -2.809 & & -0.585^{**} & & 0.267 & & \\ & (2.048) & & (3.260) & & (0.219) & & (0.343) & & \end{array}$$

From these estimation results it follows that the observed response function in treatment SEQ-IND is $q^F = 13.446 - 0.585q^L$, whereas the response function in treatment SEQ-TEAM is $q^F = 10.637 - 0.318\,q^L$. Hence, the response function in treatment SEQ-IND has a larger intercept and is steeper than the response function in treatment SEQ-TEAM. However, the response functions in the two treatments do not differ in a statistical sense, as the estimates of the coefficients β_1 and β_3 are statistically insignificantly different from 0.

Using all data of the strategy-method treatments and clustering observations on the indi-

[29] Using Tobit regression techniques delivers very similar results.

vidual or group level, we obtain the following results:

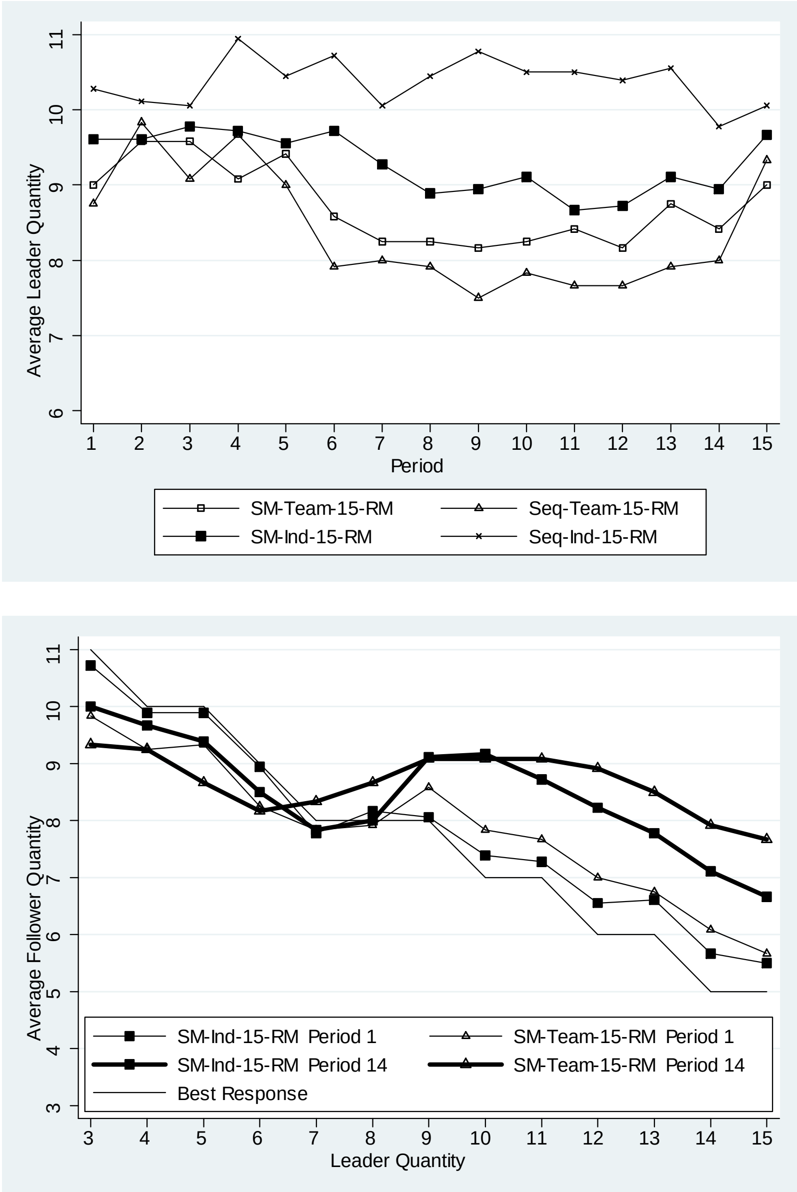
$$\begin{array}{cccccccccc} q^F = & \beta_0 & + & \beta_1 \times D_{\textsc{Sm-Team}} & + & \beta_2 q^L & + & \beta_3 \times D_{\textsc{Sm-Team}} \times q^L & + & \varepsilon_{ijk}. \\ & 11.445^{***} & & 0.427 & & -0.403^{***} & & -0.040 & & \\ & (0.366) & & (0.415) & & (0.042) & & (0.059) & & \end{array}$$

Hence, the observed response function in treatment SEQ-IND is $q^F = 11.445 - 0.403q^L$ whereas in treatment SEQ-TEAM it is $q^F = 11.872 - 0.443\,q^L$. Both the intercept and the slope of the team response function appears to be closer to the best response function (which is given by $q^F = 12 - 0.5q^L$). However, note that the estimates of the coefficients β_1 and β_3 are statistically insignificantly different from 0. Hence, again, we find that the response functions of teams and individual are statistically not different from each other.

C Evolution of behavior over time

To get some idea of behavior over time, refer to Figure 3. We briefly mention only the most striking features of the data. The top panel of Figure 3 shows the evolution of average leader quantities in the four multiple-period treatments. Importantly, in both the SEQ and the SM treatments, the average leader quantity of teams is usually lower than that of individuals. Furthermore, next to an endgame-effect (a rise in average quantities in the last period), we note that with the exception of treatment SEQ-IND-15-RM, average leader quantities become noticeably lower at some point (which is a result of punishments on the part of followers). The middle panel of Figure 3 shows the average complete response functions in the SM treatments as observed in period 1 and period 14.[30] Note that the basic pattern discussed in Section 4.1.2 of the main text and the relationship of the two response functions to each other are already clearly visible in the first period of the SM treatments. Importantly, the punishment behavior of followers becomes more pronounced over time (with teams punishing more severely than individuals). Because of the limited number of different choices of first movers in the sequential treatments, we present followers' average behavior in these treatments in the form of a table on the bottom of Figure 3, as a graph looks somewhat confusing. This is due to the fact that no clear pattern in follower behavior seems discernible over time, when analyzing just periods 1 and 14 in the SEQ treatments. Overall, it seems fair to state that over time groups diverge further away from the subgame perfect equilibrium prediction than individuals.

[30] As we show in Section F and G of this Web Appendix, there is also a clear change in average follower behavior in period 15. Therefore, we chose period 14 as it is a fair representation of experienced behavior of followers.



	Average Follower Quantity			
	Seq-Ind-15-RM		Seq-Team-15-RM	
Leader	Period		Period	
Quantity	1	14	1	14
6	7.50	8.00	7.00	—
7	—	7.50	8.00	7.67
8	—	8.00	8.00	8.12
9	8.50	9.50	—	—
10	8.20	7.40	7.50	—
11	7.00	—	—	7.00
12	7.83	9.00	7.00	—

Note: Leader quantities (top panel), Followers in SM treatments (middle panel), Followers in Seq treatments (bottom panel).

Figure 3: Evolution over time in the 15-periods random-matching treatments.

D Estimating a model of reciprocity

In this section we provide the details of the estimation of the emotion-driven reciprocity model of Cox, Friedman, and Gjerstad (2007) briefly mentioned in Section 4.1.3. In doing so, we closely follow their exposition. Cox-Friedman-Gjerstad postulate that agents have preferences over own or "my" (m) and "your" (y) payoffs that are represented by the following utility function:

$$u(m,y) = \begin{cases} (m^\alpha + \theta y^\alpha)/\alpha & \text{for} \quad \alpha \in (-\infty, 0) \cup (0,1] \\ (my^\alpha) & \text{for} \quad \alpha = 0. \end{cases} \tag{2}$$

The "convexity" parameter α determines the shape of the indifference curves. For $\alpha = 1$ preferences are straight lines, whereas they are strictly convex for $\alpha < 1$. The parameter θ represents the emotional state of an agent and is a function of the reciprocity and status variables r and s. Since player positions are randomly assigned to subjects rather than earned, Cox-Friedman-Gjerstad suggest to assume $s = 0$ in our case. The reciprocity variable r is a function $r = r(x) = m(x) - m_0$ where $m(x)$ is the maximum payoff the second mover can guarantee himself after the first mover's choice of x, and $m_0 = m(x_0)$ is the second mover's payoff for a "neutral" choice x_0 by the first mover, which will be estimated from the data. Cox-Friedman-Gjerstad suggest to normalize $r(x)$ such that it lies in the interval $[-1,1]$. With let $m_g = \max_x m(x)$ and $m_b = \min_x m(x)$, the normalized reciprocity is given by $r(x) = (m(x) - m_0)/(m_g - m_b)$, when $m_g > m_b$, and $r = 0$ otherwise. Given the first mover's choice $x \in \{3, 4, ..., 15\}$ in our game, we obtain $m(x) = (12 - 0.5x)^2$, and $m_g - m_b = m(3) - m(15) = 90$. Hence, $r(x) = \left((12-0.5x)^2 - (12-0.5x_0)^2\right)/90$ for a proper first-mover choice x_0. For estimation purposes, Cox-Friedman-Gjerstad impose two assumptions. Assumption A.1: Agents make choices to maximize the utility function given in equation (2). Assumption A.2: The emotional state function $\theta = \theta(r)$ is the same for all agents except for a mean zero idiosyncratic term ε. Hence, $\theta_i = \theta(r) + \varepsilon_i$.

Instead of assuming a specific distribution, Cox-Friedman-Gjerstad suggest to have the data select the error distribution. We use the following error power exponential distribution with density

$$f(z;\mu,\sigma,\nu) = \frac{\nu \exp(-0.5\,|z/d\sigma|^\nu)}{2^{1+1/\nu}\Gamma(1/\nu)\sigma d},$$

where $d = \left(2^{-2/\nu}\Gamma(1/\nu)/\Gamma(3/\nu)\right)^{0.5}$ for $z \in (-\infty, +\infty)$, $\mu \in (-\infty, +\infty)$, $\sigma, \nu > 0$. The parameters σ and ν will be estimated from the data.[31]

Cox-Friedman-Gjerstad show that the emotional state of a subject can be written as $\theta_i = ar(x) + \varepsilon_i = a\left((12-0.5x)^2 - (12-0.5x_0)^2\right)/90 + \varepsilon_i$, where a is a reciprocity parameter which, again, will be estimated from the data. Note that the emotional state of a follower reacts to the difference of the maximal payoff given a leader's choice x and the maximal payoff for the neutral leader choice x_0. With the above definitions in place, write the utility function (2) in terms of players' choices. That is, substitute the payoff functions $m(x,q) = (24 - x - q)q$ and

[31] The probability density of the exponential power error function used in CFG is: $f(z;b,c) = \frac{\exp\left(-0.5|z/b|^{2/c}\right)}{b2^{c/2+1}\Gamma(c/2+1)}$. There is one to one correspondence between our parameters and theirs ($b = d\sigma$, $c = 2/\nu$).

	15-Periods RANDOM-Matching Treatments					
	Truly Sequential Play		Strategy Method			
			All Data		Relevant Data	
	SEQ-IND	SEQ-TEAM	SM-IND	SM-TEAM	SM-IND	SM-TEAM
α	0.308**	−1.127***	0.901**	0.929***	0.400	−0.207
	(0.151)	(0.075)	(0.05)	(0.04)	(0.247)	(0.269)
a	0.977***	2.805***	0.131***	0.742***	0.406***	2.218***
	(0.144)	(0.070)	(0.01)	(0.026)	(0.094)	(0.514)
x_0	8.108***	8.022***	7.013***	6.396***	8.677***	7.970***
	(0.336)	(0.046)	(0.067)	(0.124)	(0.359)	(0.109)
σ	0.297***	0.170***	0.536***	0.560***	0.444***	0.297***
	(0.019)	(0.028)	(0.030)	(0.020)	(0.088)	(0.43)
ν	1.400***	0.563***	0.395***	0.639***	0.413***	0.618***
	(0.199)	(0.145)	(0.019)	(0.026)	(0.080)	(0.116)
LL	−403.882	−161.284	−4273.041	−4144.851	−362.734	−232.151
N	234	156	2535	1690	227	156
Hypothesis	$\alpha^{\text{Seq-Ind}} = \alpha^{\text{Seq-Team}}$		$\alpha^{\text{Sm-Ind}} = \alpha^{\text{Sm-Team}}$		$\alpha^{\text{Sm-Ind}} = \alpha^{\text{Sm-Team}}$	
Testing	$p < 0.001$	$(t = 8.511)$	$p = 0.662$	$(t = -0.437)$	$p = 0.097$	$(t = 1.662)$
	$a^{\text{Seq-Ind}} = a^{\text{Seq-Team}}$		$a^{\text{Sm-Ind}} = a^{\text{Sm-Team}}$		$a^{\text{Sm-Ind}} = a^{\text{Sm-Team}}$	
	$p < 0.001$	$(t = -12.679)$	$p < 0.001$	$(t = 21.934)$	$p < 0.001$	$(t = 3.468)$
	$x_0^{\text{Seq-Ind}} = x_0^{\text{Seq-Team}}$		$x_0^{\text{Sm-Ind}} = x_0^{\text{Sm-Team}}$		$x_0^{\text{Sm-Ind}} = x_0^{\text{Sm-Team}}$	
	$p = 0.799$	$(t = 0.254)$	$p < 0.001$	$(t = 4.378)$	$p = 0.060$	$(t = 1.884)$

Table 7: Estimation results for the Cox-Friedman-Gjerstad model

$y(x, q) = (24 - x - q)x$ to get

$$u_i(x,q) = \begin{cases} (24-x-q)^{\alpha}(q^{\alpha} + \theta_i x^{\alpha})/\alpha & \text{for} \quad \alpha \in (-\infty, 0) \cup (0, 1] \\ (24-x-q)^{1+\theta_i}(q x^{\theta_i}) & \text{for} \quad \alpha = 0. \end{cases} \tag{3}$$

The first-order condition of (3) w.r.t. q is $(24 - x - 2q)q^{\alpha-1} - \theta_i x^{\alpha} = 0$.[32] Cox-Friedman-Gjerstad show that this FOC is valid for all $\alpha \leq 1$ and that a unique maximizer $q^*(x, \alpha, \theta) = q^*(x, \alpha, a, x_0)$ of function (3) exists for all $(\theta, \alpha) \in (-\infty, \infty) \times (-\infty, 1]$. Summarizing, the goal of the estimation is to find α (the convexity parameter), a (the reciprocity parameter), x_0 (the reference choice of the first mover) and b and c (the parameters of the error distribution) by maximizing the log likelihood function

$$\ln L(\alpha, a, x_0, \sigma, \mu; x, q) = \prod_{i=1}^{N_{\text{Treatm}}} \ln \Pr\left[q_i = q \mid x_i, \alpha, a, x_0, \sigma, \mu\right]$$

for the N_{Treatm} observations in the treatment under consideration. To control for non-independence of observations, the model was estimated with robust standard errors and with observations clustered by individual subject or group. The estimation and test results are shown in Table 7.[33] We make the following observations.

First, as the estimated reciprocity parameter a is significantly larger than 0, the emotional

[32] Note that the standard best response is obtained for $\alpha = 1$, $a = 0$, and $x_0 = 12$.

[33] The same notes as for the estimation of the Fehr and Schmidt (1999) model apply (see footnote 18).

state θ is a positive function of the reciprocity r parameter in all treatments. More importantly for our main hypothesis, we find that the estimated reciprocity parameter a is larger in the group treatments than in the corresponding individual-player treatments. The test results shown at the bottom of Table 7 indicate that these differences are highly statistically significant. Hence, team followers appear to behave more reciprocal (or less "self-regarding") than individual followers. This is not in line with our main hypothesis.

Second, regarding the convexity parameter α, we find that its estimate in the group player treatment SEQ-TEAM-15-RM is significantly lower than its estimate in the corresponding individual treatment SEQ-IND-15-RM.[34] This means that, c.p., indifference curves of teams are shallower than those of individuals and, hence, teams are willing to give up more money in order to increase the leader's income by a unit than individuals (see Cox, Friedman, and Sadiraj, 2008). This is not in line with our main hypothesis. We obtain a similar result when only the relevant data in the strategy-method treatments are included in the estimation. Furthermore, when all data of the strategy-method treatments are taken into account, the estimates of the convexity parameter α are pretty similar and much closer to 1 (when indifference curves are linear), and not significantly different from each other.

Third, the neutral first-mover output x_0 is close to the Cournot quantity of 8 in both of the truly sequential treatments. The estimates of the neutral first-mover quantity x_0 are much lower in the strategy-method treatments when all data are taken into account. We find $\widehat{x}_0 = 7.013$ for treatment SM-IND-15-RM and $\widehat{x}_0 = 6.396$ for treatment SM-TEAM-15-RM. The test result indicate that these two parameter estimates are statistically significantly different. Hence, team second-movers start punishing "earlier" (that is, for lower first-mover quantities) than individual second-movers. Note that the estimates of x_0 in the strategy-method treatments are clearly higher (and again closer to the Cournot quantity of 8) when only the relevant data is taken into account. The test result indicates that this difference is statistically significant.[35]

Figure 4 shows the plots of the emotional state function θ for our four treatments given the estimated values of the reciprocity parameter a and the neutral first-mover choice x_0. We note that both for the sequential as well as for the strategy-method treatments, the emotional state of groups is more pronounced (both positively and negatively) for groups than that of individuals. Furthermore, perhaps not surprisingly, the emotional state of both individuals and groups seems to react somewhat stronger to the (hot) sequential treatment compared to the (cold) strategy-method treatments.

[34] Again, we use the Wald test to compare parameters, following similar procedures in the previous subsection. Since there is only one restriction on parameters, and we assume the parameter differences to be normal, it is statistically identical to a t-test.

[35] For the sake of comparison, CFG use the random-matching Stackelberg data of Huck*et al.* (2001) (which is closest to our treatment SEQ-IND) to estimate the same model. They find $\alpha = 0.285$, $a = 0.789$, and $x_0 = 5.669$.

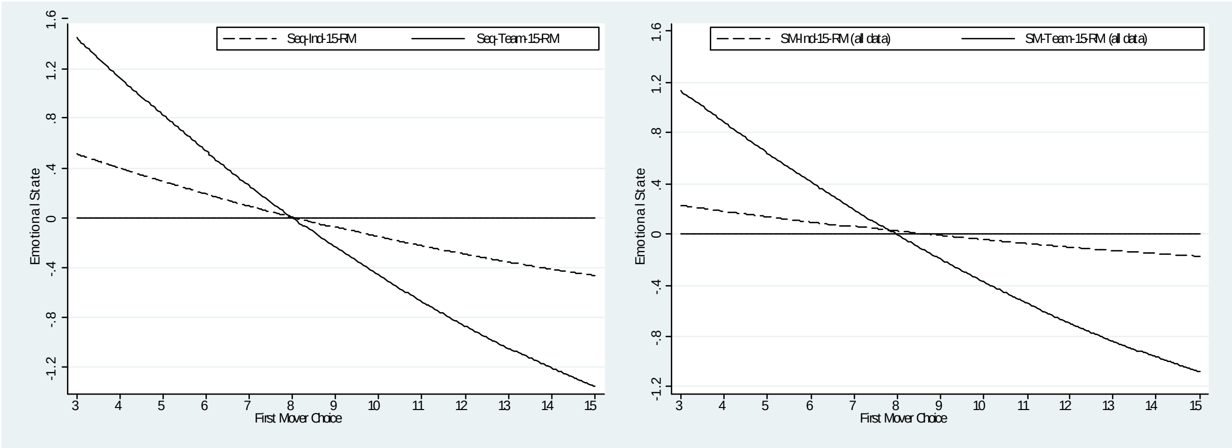


Figure 4: Plot of the estimated emotional state variable θ for the truly sequential treatments (left panel) and the strategy-method treatments (right panel).

E Quantity adjustment dynamics of leaders in the 15-period random-matching treatments

This section aims to show that the leaders in the 15-period, random-matching treatments behave adaptively in response to follower quantities they observe in the previous period. One way to analyze these dynamics is to study how a leader i adjusted its own quantity $q^L_{i,t+1}$ in period $t+1$ in relation to its own quantity $q^L_{i,t}$ in the current period t, in response to the difference $q^F_{j,t} - BR^F(q^L_{i,t})$ between a follower j's quantity in the current period, $q^F_{j,t}$, and the best response $BR^F(q^L_{i,t})$ of follower j to the observed leader quantity $q^L_{i,t}$ in the current period. We distinguish three cases (i) $q^L_{i,t} < 8$, (ii) $q^L_{i,t} = 8$, and (iii) $q^L_{i,t} > 8$, depending on whether the leader firm i's quantity in the current period was smaller than, equal to, or larger than the Cournot quantity of 8.[36] Likewise, a follower's reaction to the quantity choice of the leader can either be to decrease, to keep, or to increase its own quantity in the current period relative to the best response to the leader's quantity choice in the current period. Hence, we will distinguish between the three cases (i) $q^F_{j,t} - BR^F(q^L_{i,t}) < 0$, (ii) $q^F_{j,t} - BR^F(q^L_{i,t}) = 0$, and (iii) $q^F_{j,t} - BR^F(q^L_{i,t}) > 0$. Table 8 shows cross tables of the two variables q^L_t and $q^F_{i,t} - BR^F(q^L_t)$ for the 15-period Seq treatments (top) and the SM treatments (bottom). Each cell in Table 8 shows the following three pieces of information:

Number of observations in each cell
Percentage of observations in each cell (row-wise)
Average of $(q^L_{i,t+1} - q^L_{i,t})$

Analyzing behavior in treatments Seq-Ind-15-Rm and Seq-Team-15-Rm conditional on the value of $q^L_{i,t}$, we make the following observations:

- Leader quantity $q^L_{i,t} < 8$: In this case, followers play either best response (i.e., $q^F_{i,t} - BR^F(q^L_{i,t}) =$

[36] Looking at the followers' response function in Figure 2, one could argue that the Cournot qunatity of 8 is seen by followers as a "neutral" quantity to which they best respond in average.

0) or reward the leader by choosing a quantity smaller than the best response (i.e., $q^F_{i,t} - BR^F(q^L_{i,t}) < 0$). Leaders react to this behavior of followers in period t by increasing their quantity on average in the next period $t+1$. However, leaders increase their quantity in the next period to a larger extent after followers best responded in the current period than when they rewarded the leader's quantity smaller than 8.

- Leader quantity $q^L_{i,t} = 8$: In this case, followers best respond in the majority of cases (followers in treatment Seq-Team-15-Rm relatively more often than followers in treatment Seq-Ind-15-Rm). However, whereas leaders in treatment Seq-Ind-15-Rm increase their quantity in the next period clearly in the direction of the Stackelberg leader quantity of 12, leaders in treatment Seq-Team-15-Rm basically continue to choose the quantity of 8 in the next period.

- Leader quantity $q^L_{i,t} > 8$: In this case, followers either punish the leaders by choosing a quantity larger than the best response or best respond to the leader's quantity. (Note that in the team treatment followers punish relatively more often than in the individual-player treatment.) In reaction to followers behavior in the current period, leaders on average decrease their quantity in the next period. In line with the more cooperative behavior observed in the team treatment, leaders in Seq-Team-15-Rm reduce their quantity in the next period to a much larger extent in response to punishment by followers than leaders in treatment Seq-Ind-15-Rm.

Considering the adjustment dynamics in the SM treatments, behavior of leaders and followers is similar to their behavior in the corresponding Seq treatments. (One of the differences to the Seq treatments is the following. In case of the leader quantity being equal to 8, leaders in treatment SM-Ind-15-Rm increase their quantity on average less strongly than observed in treatment Seq-Ind-15-Rm, while leaders in treatment SM-Team-15-Rm increase their quantity more strongly than leaders in treatment Seq-Team-15-Rm.

Overall, we see that leaders increase their quantity in the next period after having chosen a quantity smaller or equal to the Cournot quantity of 8 in the current period (albeit clearly to a larger extent in case of a quantity choice smaller than 8 in the current period), and decrease it after having chosen a quantity larger than 8 in the current period.

The electronic chats of the leaders uncover their motives and provide further evidence that leaders behave adaptively. When deciding which quantity to choose, subjects in leader groups mostly talk about the follower quantity observed in the last period, and about expectations on follower's reactions to their quantity choice in the current period. Based on this, they try to choose a quantity that is expected to yield satisfactory profit for themselves. In most cases, the rationale of the leader groups to choose a quantity larger (smaller) than the Cournot quantity of 8, is the expectation or hope that followers will best respond (reciprocate). In the next period, subjects in leader groups mostly discuss the possibility of choosing another quantity if the actual follower reaction observed last deviated too much from their expectations. (See also Web Appendix K.)

Seq-Ind-15-Rm: $q^F_{j,t} - BR^F(q^L_{i,t})$

$q^L_{i,t}$		< 0	$= 0$	> 0	Total
	< 8	11 48% **1.36**	12 52% **2.75**	0 0% —	23 100% 2.09
	$= 8$	1 4% **2.00**	20 74% **2.45**	6 22% **1.50**	27 100% 2.22
	> 8	10 5% **0.30**	83 41% **−0.41**	109 54% **−0.74**	202 100% −0.55
	Total	22 8% 0.91	115 46% 0.42	115 46% −0.63	252 100% −0.02

Seq-Team-15-Rm: $q^F_{j,t} - BR^F(q^L_{i,t})$

	< 0	$= 0$	> 0	Total
< 8	34 67% **0.94**	16 31% **2.44**	1 2% **0.00**	51 100% 1.39
$= 8$	1 1% **−1.00**	68 91% **0.31**	6 8% **−0.17**	75 100% 0.25
> 8	0 0% —	7 17% **−0.43**	35 83% **−2.28**	42 100% −1.98
Total	35 21% 0.88	91 54% 0.63	42 25% −1.93	168 100% 0.04

SM-Ind-15-Rm: $q^F_{i,t} - BR^F(q^L_t)$

q^L_t		< 0	$= 0$	> 0	Total
	< 8	23 40% **1.17**	26 45% **1.92**	9 15% **2.56**	58 100% 1.72
	$= 8$	5 7% **1.00**	61 87% **1.21**	4 6% **0.75**	70 100% 1.17
	> 8	4 3% **−4.00**	67 54% **−1.09**	53 43% **−1.74**	124 100% −1.46
	Total	32 13% 0.50	154 61% 0.33	66 26% −1.00	252 100% 0.004

SM-Team-15-Rm: $q^F_{i,t} - BR^F(q^L_t)$

	< 0	$= 0$	> 0	Total
< 8	14 56% **1.64**	10 40% **1.40**	1 4% **2.00**	25 100% 1.56
$= 8$	3 4% **1.33**	68 81% **0.59**	13 15% **0.77**	84 100% 0.64
> 8	1 2% **−4**	22 37% **−1.41**	36 61% **−1.61**	59 100% −1.58
Total	18 11% 1.28	100 59% 0.23	50 30% −0.92	168 100% 0.00

Note: Each cell in this table shows the following three pieces of information: number of observations in each cell (top); percentage of observations in each cell, row-wise (middle); average of $(q^L_{i,t+1} - q^L_{i,t})$ (bottom, bold font).

Table 8: Adjustment dynamics of leaders in the 15-period, random-matching treatments

F Complete response functions in SM treatments

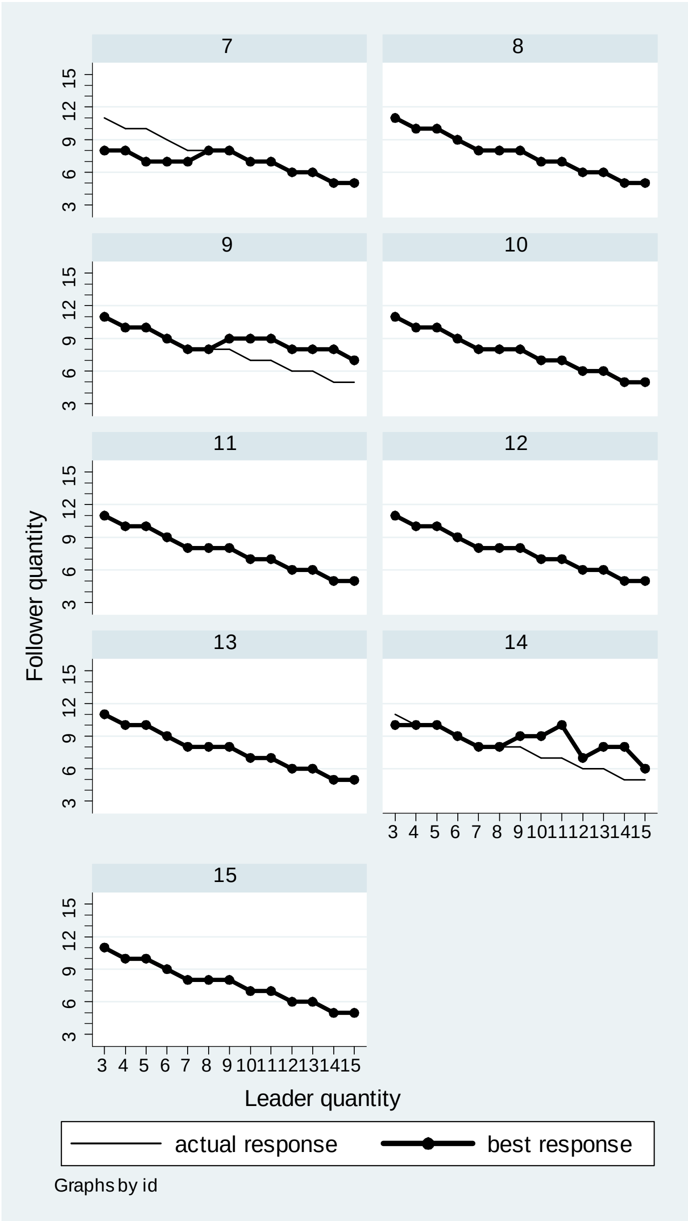


Figure 5: Individual response functions in Treatment SM-Ind-1

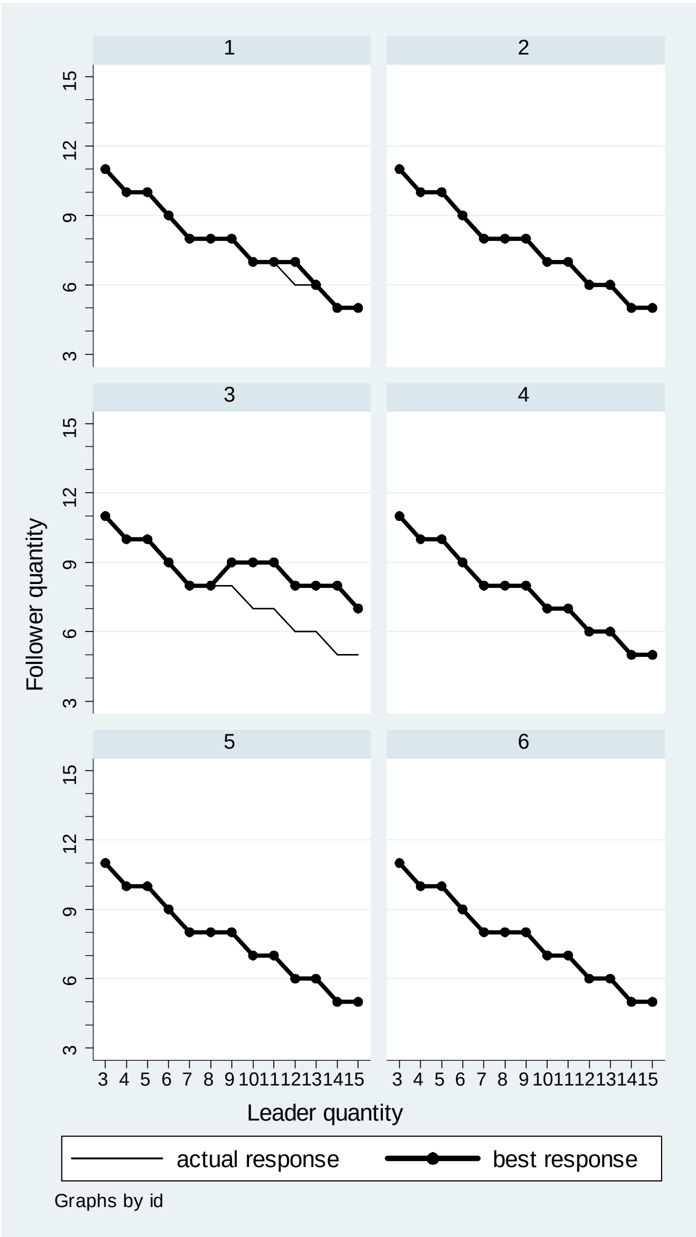


Figure 6: Individual response functions in Treatment SM-Team-1

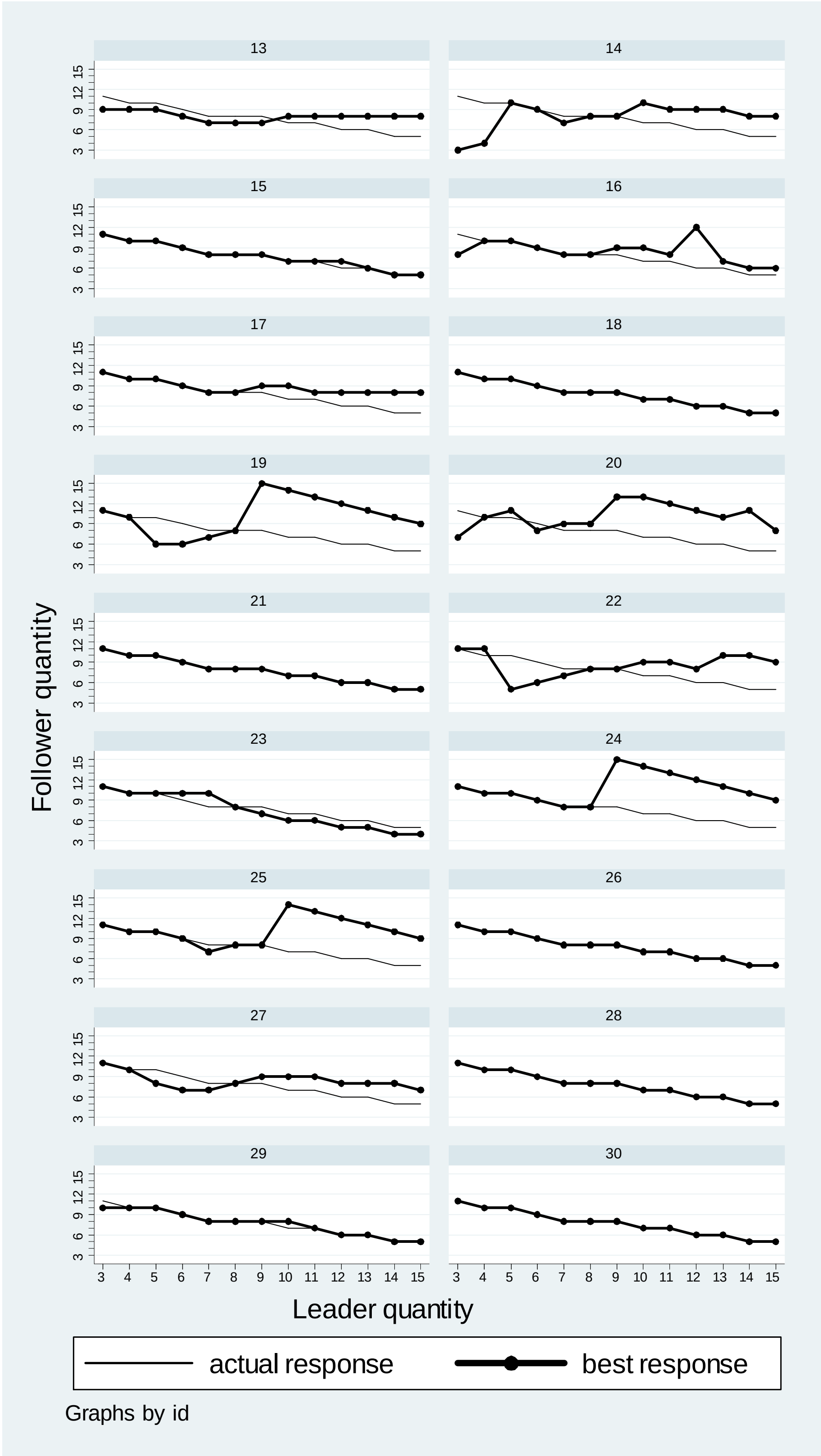


Figure 7: Individual response functions in period 14 in Treatment SM-Ind-15-Rm

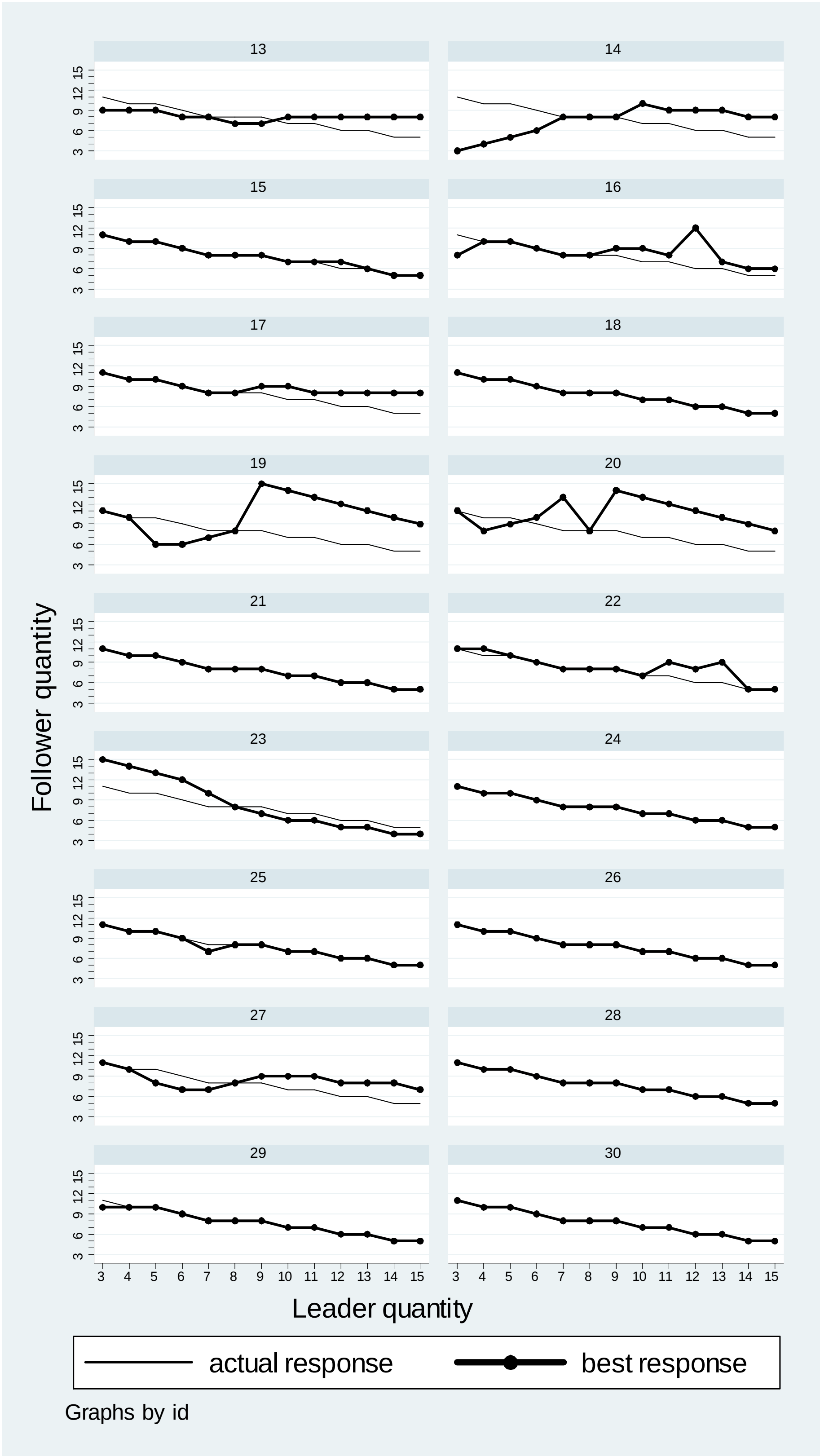


Figure 8: Individual response functions in period 15 in Treatment SM-Ind-15-Rm

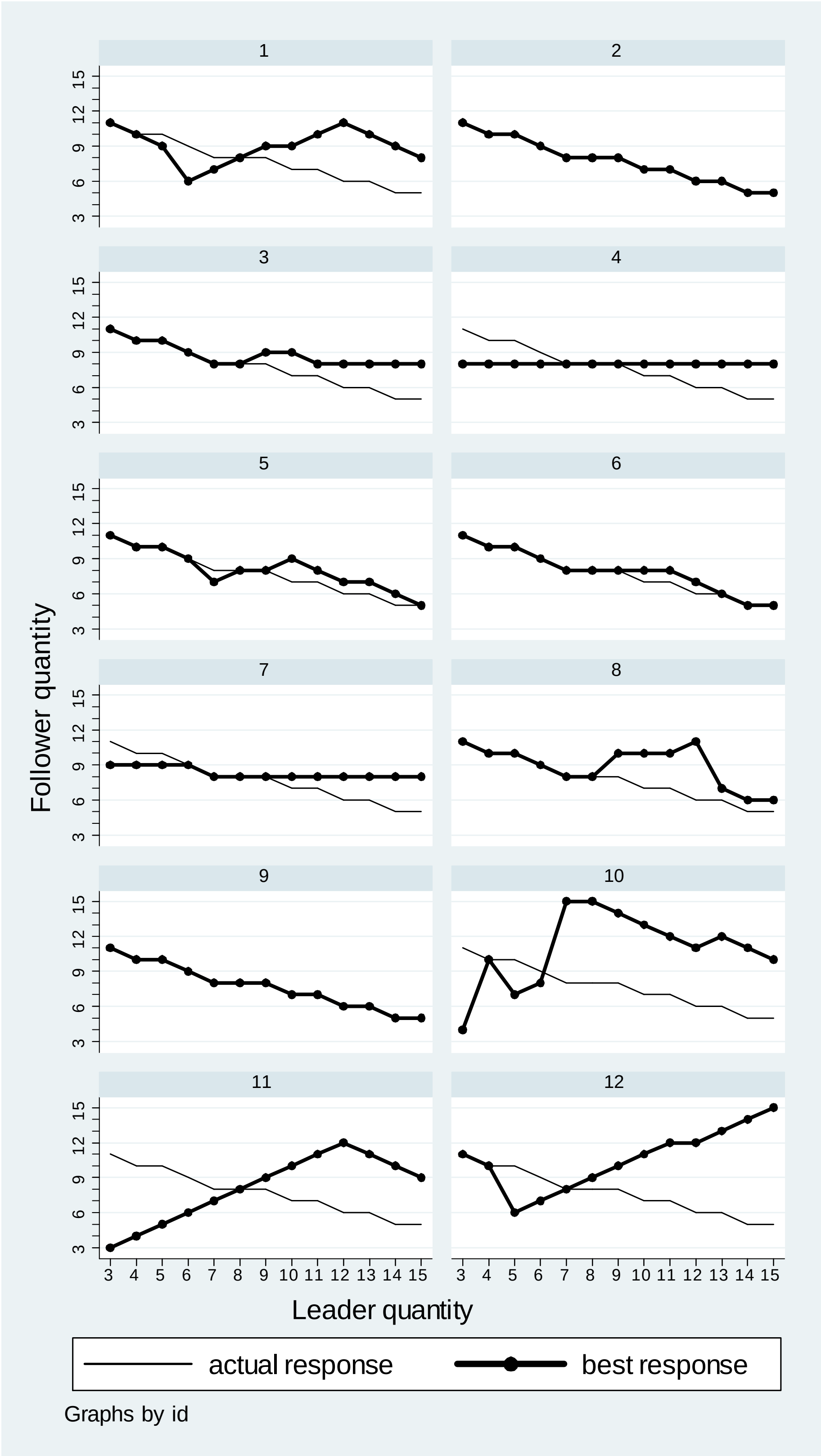


Figure 9: Individual response functions in period 14 in Treatment SM-Team-15-Rm

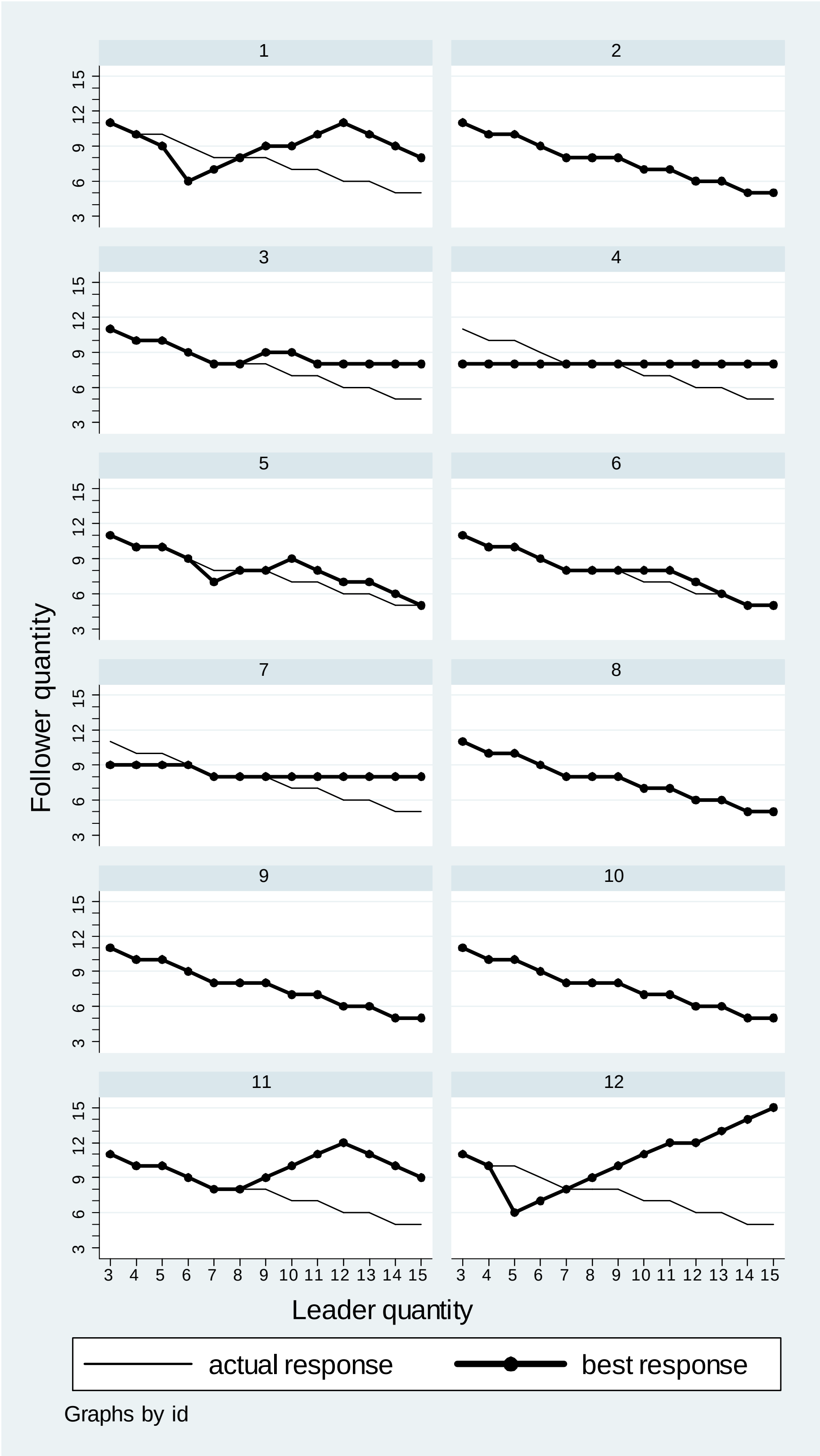


Figure 10: Individual response functions in period 15 in Treatment SM-Team-15-Rm

G Cluster analysis of individual complete response functions in Treatment Sm-Ind-15-Rm

In this section we briefly report the results of a hierarchical agglomerative cluster analysis of individual response functions observed in periods 14 and 15 in treatment SM-IND-15-RM. We do this in an effort to provide evidence for the existence of the types mentioned in Section 5 under the headline "Heterogeneity of subjects' types." In general, a hierarchical cluster analysis is a statistical method for identifying relatively homogeneous clusters of observations based on their characteristics, so that the distance between observations in the same cluster is "small," while the distance between clusters is "large." An agglomerative analysis starts with each observation (in our case the complete response function of a subject in period 14 or 15) as a separate cluster and then merges the two closest clusters into a single cluster. This process is repeated sequentially, thereby reducing the number of clusters at each step until only one cluster is left. To determine the distance between every two possible clusters, we use the average-linkage clustering package in STATA, which means that the closest two clusters are determined by the average (dis)similarity between the observations of the two clusters.

In Table 9, we report the results on the 6-cluster level. The table shows the cluster means of $q_F^{obs}(q_L) - BR(q_L)$, where $q_L \in \{3, 4, ...15\}$ is the leader quantity (shown in the first row), $BR(q_L)$ is the best response to leader quantity q_L (shown in the second row), and $q_F^{obs}(q_L)$ is the observed follower quantity at leader quantity q_L. Reporting cluster means of $q_F^{obs}(q_L) - BR(q_L)$ (that is, the deviation of an observed from the best response function), allows us to quickly recognize the basic pattern of the response functions assigned to each cluster. For both period 14 and period 15, Cluster 1 contains subjects employing best-response functions ("BR"), as the deviation from the best response function is close to 0 for each leader quantity q_L. A cluster for which

$$\text{mean of } q_F^{obs}(q_L) - BR(q_L) \begin{cases} \lessapprox & 0 \quad \text{for} \quad q_L < 8 \\ \approx & 0 \quad \text{for} \quad q_L = 8 \\ \gtrapprox & 0 \quad \text{for} \quad q_L > 8 \end{cases}$$

can be viewed as consisting of reward and punishment schemes (R&P). This is the case for clusters 2-5 in period 14 and clusters 2 and 3 in period 15. These clusters differ only in the extent to (or intensity of) which they follow R&P. Finally, cluster 6 in period 14 and clusters 4-6 in period 15 contain observed response functions that display more idiosyncratic behavior, and we will ignore them in what follows.

Using the notation introduced in Section 5 of the main text, a subject is a *PM* if it is in the BR cluster in both period 14 and period 15. A subject is classified as a *Strat-R& P* if it is in an R&P cluster in period 14, but in the BR cluster in period 15. Finally, a subject is classified as a *Pref-R& P* if it is in a R&P cluster in both period 14 and period 15. Using this classification, we find that 7 out of 18 subjects are *PM*s (subjects 15, 18, 21, 26, 28, 29, and 30), 5 out of 18 subjects are *Strat-R& P* (subjects 13, 17, 24, 25, and 27), and 2 out of 17 subjects are *Pref-R& P* (subjects 14 and 19).

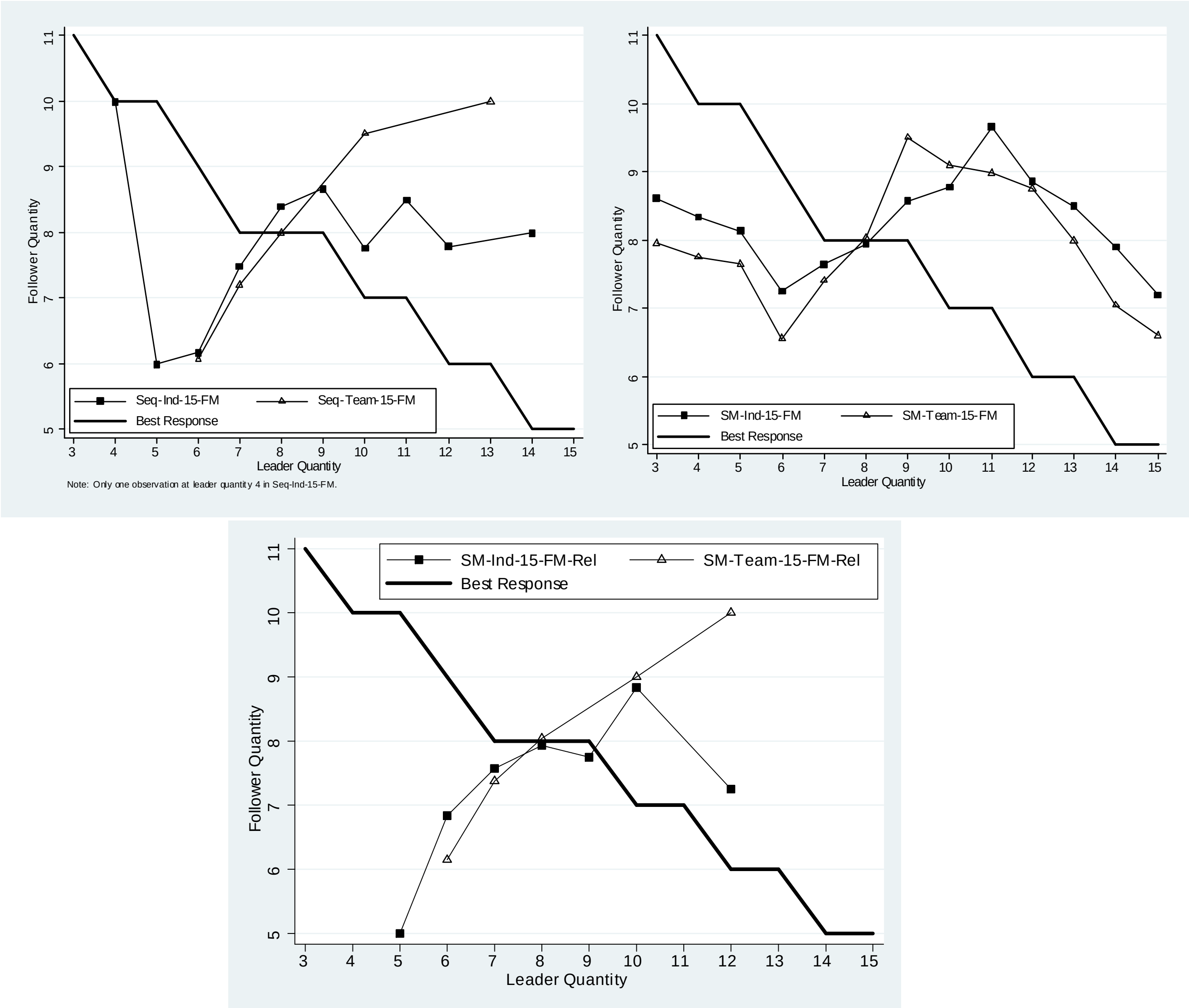
Table 9: Cluster analysis of complete individual response functions

Leader quantity	3	4	5	6	7	8	9	10	11	12	13	14	15	
Best response	11	10	10	9	8	8	8	7	7	6	6	5	5	Subject ID
							Period 14							
Cluster 1 ["BR"]	−0.13 (0.35)	0.00 (0.00)	0.00 (0.00)	0.13 (0.35)	0.25 (0.71)	0.00 (0.00)	−0.13 (0.35)	0.11 (0.53)	0.13 (0.35)	0.00 (0.53)	−0.13 (0.35)	−0.13 (0.35)	−0.13 (0.35)	15, 18, 21, 23, 26, 28, 29, 30
Cluster 2 ["R&P"]	−1.25 (1.50)	−0.25 (0.50)	−0.75 (0.96)	−0.75 (0.96)	−0.50 (0.58)	−0.25 (0.50)	0.50 (1.00)	1.75 (0.50)	1.25 (0.50)	3.00 (2.00)	1.75 (0.50)	2.50 (1.00)	2.25 (0.96)	13, 16, 17, 27
Cluster 3 ["R&P"]	0.00 (0.00)	0.00 (0.00)	−2.00 (2.83)	−1.50 (2.12)	−0.50 (0.71)	0.00 (0.00)	7.00 (0.00)	7.00 (0.00)	6.00 (0.00)	6.00 (0.00)	5.00 (0.00)	5.00 (0.00)	4.00 (0.00)	19, 24
Cluster 4 ["R&P"]	−2.00 (2.83)	0.00 (0.00)	0.50 (0.00)	−0.50 (0.71)	0.00 (0.71)	0.50 (1.41)	2.50 (0.71)	6.50 (3.54)	5.50 (0.71)	5.50 (0.71)	4.50 (0.71)	5.50 (0.71)	3.50 (0.71)	20, 25
Cluster 5 ["R&P"]	−8	−6	0	0	−1	0	0	3	2	3	3	3	3	14
Cluster 6 ["Other"]	0	1	−5	−3	−1	0	1	2	2	3	4	5	4	22
							Period 15							
Cluster 1 ["BR"]	−0.23 (0.6)	0.00 (0.41)	−0.23 (0.6)	−0.23 (0.6)	−0.15 (0.38)	−0.08 (0.28)	0.08 (0.49)	0.38 (0.77)	0.46 (0.78)	0.69 (0.95)	0.69 (1.11)	0.69 (1.32)	0.62 (1.19)	13, 15, 17, 18, 21, 22, 24, 25, 26, 27, 28, 29, 30
Cluster 2 ["R&P"]	−8	−6	−5	−3	0	0	0	3	2	3	3	3	3	14
Cluster 3 ["R&P"]	0	0	−4	−3	−1	0	7	7	6	6	5	5	4	19
Cluster 4 ["Reward"]	−3	0	0	0	0	0	1	2	1	6	1	1	1	16
Cluster 5 ["Other"]	0	−2	−1	1	5	0	6	6	5	5	4	4	3	20
Cluster 6 ["Other"]	4	4	3	3	12	0	−1	−1	−1	−1	−1	−1	−1	23

Note: The table reports cluster means of $q_F^{obs}(q_L) - BR(q_L)$. Standard deviations in parentheses.

H Observed response functions in the fixed-matching treatments

This Section presents graphs of the average response functions observed in the 15-periods fixed-matching treatments. Let us just highlight some of the more salient features. The upper left panel in Figure 11 shows the average response functions in the Seq-15-Fm treatments. We observe that for low leader quantities, individual and team followers behave similarly on average. For high leader quantities, however, we again observe harsher punishments by team followers than by individual followers on average. The upper right panel in Figure 11 shows the average complete response function in the Sm-15-Fm treatments. For low leader quantities, we observe the familiar pattern of teams rewarding more than individuals, whereas for high leader quantities the results are ambiguous as the average observed response functions of individuals and teams cross. (Note that followers in the Sm-15-Fm treatments hardly observe a leader quantity above 8.) However, taking only the relevant follower data into account (see the bottom panel in Figure 11), the earlier pattern re-emerges: by and large, team followers reward and punish more than individual followers.



Note: Average response functions observed in the 15-period fixed-matching sequential treatments (upper left), in the 15-period fixed-matching strategy-method treatments, all data (upper right), and in the 15-period fixed-matching strategy-method treatments, relevant data only (bottom).

Figure 11: Average response functions observed in the 15-period fixed-matching treatments.

I Estimating a model of inequality aversion: Fixed-matching data

Tables 10 and 11 in this Section present estimation results of the Lau and Leung (2010) model for the 15-period, fixed-matching treatments. To control for non-independence of observations, the model was estimated with robust standard errors and with observations clustered on the individual or team level. Concentrating on the SEQ treatments and in line with results in the random-matching treatments, in Table 10 (reporting the results for the restricted model with $\phi_{ns} = 1$) we find that the disadvantageous inequality parameter a is larger in the team treatment than in the individual treatment (while the parameter b is the same in both treatments). In Table 11 we find the probability ϕ_{ns} of non-standard types to be significantly higher in the team than in the individual treatment.[37] This again is evidence against Hypothesis 1a and support for Hypothesis 1b.

	Truly Sequential Play		Strategy Method (All Data)	
	SEQ-IND-15-FM	SEQ-TEAM-15-FM	SM-IND-15-FM	SM-TEAM-15-F
ϕ_{ns}	1.000	1.000	1.000	1.000
	—	—	—	—
a	0.305	2.25***	0.766***	0.574*
	(0.220)	(0.011)	(0.269)	(0.356)
b	0.484***	0.493***	0.407***	0.508***
	(0.015)	(0.006)	(0.099)	(0.128)
σ	1.230***	0.475***	2.408***	2.279***
	(0.188)	(0.119)	(0.248)	(0.201)
LL	−196.375	−52.561	−3494.767	−2273.867
N	117	78	1521	1014
Hypothesis Testing	$a^{\text{SEQ-IND-15}} = a^{\text{SEQ-TEAM-15}}$ & $b^{\text{SEQ-IND-15}} = b^{\text{SEQ-TEAM-15}}$		$a^{\text{SM-IND-15}} = a^{\text{SM-TEAM-15}}$ & $b^{\text{SM-IND-15}} = b^{\text{SM-TEAM-15}}$	
	$p = 0.0468$ ($\chi^2_{(2)} = 6.12$)		$p = 0.80$ ($\chi^2_{(2)} = 0.44$)	

Note: Estimations for the case $\phi_{ns} = 1$.

Table 10: Estimation results for Lau-Leung's implementation of the Fehr and Schmidt model (fixed-matching data).

[37] We report that for the relevant data of the SM treatments we did not get any estimates, which is presumably due to insufficient variation in the data. We do get estimates for all data of the SM treatments, but the estimates are either imprecise or the cross-treatment parameter tests reported in the lower rows of Tables 10 and 11 are insignificant.

	Truly Sequential Play		Strategy Method (All Data)	
	SEQ-IND-15-FM	SEQ-TEAM-15-FM	SM-IND-15-FM	SM-TEAM-15-FM
ϕ_{ns}	0.673***	0.931***	0.501***	0.475
	(0.156)	(0.035)	(0.104)	(0.972)
a	1.668***	2.25***	3.003***	2.646***
	(0.900)	(0.357)	(1.081)	(0.940)
b	0.583***	0.500***	0.966***	0.239
	(0.022)	(0.074)	(0.106)	(1.495)
σ	0.789***	0.220***	1.142***	1.188
	(0.149)	(0.046)	(0.328)	(5.089)
LL	−184.515	−100.456	−3133.241	−2103.376
N	117	78	1521	1014
Hypothesis	$\phi_{ns}^{\text{SEQ-IND-15}} = \phi_{ns}^{\text{SEQ-TEAM-15}}$		$\phi_{ns}^{\text{SM-IND-15}} = \phi_{ns}^{\text{SM-TEAM-15}}$	
Testing	$p = 0.036 \quad (\chi^2_{(1)} = 4.40)$		$p = 0.80 \quad (\chi^2_{(1)} = 0.06)$	

Note: Estimations for the unrestricted model.

Table 11: Estimation results for Lau-Leung's implementation of the Fehr and Schmidt model (fixed-matching data)

J Analysis of follower chats in the random-matching team treatments

In this Section, we analyze team chats to provide evidence for the existence of the kinds of subject types (i.e., *PM*, *Strat-R&P*, and *Pref-R&P*) introduced in Section 5 under the headline "heterogeneity in subjects' types." For this purpose, we concentrate on followers in the group treatments SEQ-TEAM-15-RM and SEQ-TEAM-1. The reason for not reporting on leader chats here is, next to space considerations, that followers' discussions simply provide "richer" material and a clearer picture, as the discussion evolve around concrete actions of the leaders instead of around conjectured responses by followers on the part of leaders. Moreover, leaders, arguably, do not appear to be the "driving force" of our results, rather, they appear to adjust to followers' reactions as we illustrate in Web Appendix 8.

We started the analysis by first listing all (interpretable) statements, proposals, motives, etc. that were voiced in any of the group chats in treatment SEQ-TEAM-15-RM. Then we tried to assign each of these statements to a broader category which would also reflect the type categories introduced above. These categories were: *PM*, *Strat-R&P*, *Pref-R&P*, *Non-PM*, and "*Other*". These categories are the column titles in Table 12, which summarizes our chat analysis of treatment SEQ-TEAM-15-RM. The complete list of all statements collected under the respective broad category for treatment SEQ-TEAM-15-RM is provided in the first column of Table 14. Statements summarized in category Non-PM are those that, arguably, belong to either category *Strat-R&P* or *Pref-R&P*. However, an assignment to either of these categories is not unambiguous which is why we summarize them in a separate category.

The next step of the analysis was to briefly summarize each group's discussion in each round of treatment SEQ-TEAM-15-RM. It turned out that each discussion can be summarized by one of eight headlines, which provide the row titles in the upper part of Table 12. Here "R" stands for

Overall characterization of a round's discussion	# Obs.	**Categories of motives mentioned in group discussions** PM	Strat R&P	Pref R&P	Non-PM	Other
Quick agreement on R	23	—	1	5	30	6
Quick agreement on PM	90	94	—	3	5	3
Quick agreement on P	15	—	2	13	13	7
PM vs R, R "wins"	10	18	19	9	12	2
PM vs R, PM "wins"	5	9	9	3	8	2
PM vs P, P "wins"	20	23	10	13	16	8
PM vs P, PM "wins"	7	20	1	4	6	5
How much P?	10	3	1	3	10	6
Σ	180	167 (41.5%)	43 (10.7%)	53 (13.2%)	100 (24.9%)	39 (9.7%)
Leaders' Choices						
$q_L = 6$	12	18	10	10	9	4
$q_L = 7$	42	31	13	6	34	5
$q_L = 8$	79	79	2	7	6	4
$q_L = 9$	4	—	2	—	5	3
$q_L = 10$	14	11	3	9	15	8
$q_L = 11$	9	11	4	5	8	5
$q_L = 12$	20	17	9	16	23	10
Σ	180	167	43	53	100	39

Notes: Abbreviations used: R = Reward, PM = Profit maximization, P = Punishment. Percentages in row "Σ" refer to percentages of cases in the columns labeled "Categories of motives mentioned in group discussions".

Table 12: Analysis of chat protocols in treatment SM-Team-15

reward, "PM" for profit maximization, and "P" for punishment, respectively. The upper half of Table 12 is a cross table of the short summaries of chat contents (column 1) and the broad categories of statements made during the chats (row 2). For instance, in the 23 cases that a round's chat could be summarized as "quick agreement on R" in treatment Seq-Team-15-Rm, there was one statement attributable to a *Strat-R&P* motive, five statements attributable to a *Pref-R&P* motive, 30 statements attributable to Non-PM motive, and six statements that could not be summarized under a common headline.[38] A different cross table is provided in the lower half of Table 12. Here we cross the leader groups' quantity choices with the broad categories of statements made in treatment Seq-Team-15-Rm. (A more detailed overview of the cross table is provided in Tables 14 and 15). The understandably less extensive categorization for treatment Seq-Team-1 is provided in Table 13, which has a similar structure as 12.

With these preparations in place, we can come back to the two points (see last paragraph of the section "*Heterogeneity in subjects' types*" in Section 5) we want to illustrate with the help of the chat protocols. Let us concentrate on Table 12, which shows the results for treatment Seq-Team-15-Rm. First, we observe that also in the chat protocols we find ample evidence for various types of subjects. In fact, the column sums in the upper (or lower) part of Table 12 suggest

[38] Note that the sum of these statements do not sum up to 23, the number of observations listed in column 2 in Table 12. This is so because typically many different statements were made during one group's discussion in a single round of the experiment.

Overall characterization of a round's discussion	# Obs.	Categories of motives mentioned in group discussions: PM	Non-PM	Other
PM vs R, PM "wins"	2	4	2	—
PM vs P, P "wins"	2	3	4	1
PM vs P, PM "wins"	2	6	2	5
Σ	6	13 (48.1%)	8 (29.6%)	6 22.2(%)
Leaders' Choices				
$q_L = 6$	1	2	1	—
$q_L = 8$	2	5	2	2
$q_L = 10$	1	1	1	1
$q_L = 12$	2	5	4	3
Σ	6	13	8	6

Notes: Abbreviations used: R = Reward, PM = Profit maximization, P = Punishment. Percentages in row "Σ" refer to percentages of cases in the columns labeled "Categories of motives mentioned in group discussions".

Table 13: Analysis of chat protocols in treatment SM-Team-1

that respectively 41.5%, 10.7%, and 13.2% of all interpretable statements made in treatment Seq-Team-15-Rm stem from subjects who can, respectively, be classified as (myopic) profit maximizers, strategic teachers, and other-regarding subjects. Second, row-wise inspection of Table 12 illustrates the conflicts that are carried out in group discussions. Surely, and almost tautologically, in cases in which there is quick agreement on an action we typically observe only one kind of argument. For instance, if there is quick agreement on best response (which typically happens in response to leader quantity 7 or 8, see the lower part of Table 12) there are almost no statements made in favor of a different action. On the other hand, if there is quick agreement on either reward or punishment, no statement is made in favor of best response. The more interesting cases arise, of course, when a group's discussion can be characterized as a conflict between best response and a rewarding or a punitive action. In these cases we typically observe arguments and statements that can be attributed to all kinds of motives ranging from myopic profit maximization to strategic teaching to other-regarding and non-profit maximizing behavior. For instance, in the 10 group discussions that revolve around the question whether the leader group should be best responded to or be rewarded, and rewarding is the result (see the row labeled "PM vs R, R wins" in Table 12), we observe 18 statements made in favor of profit maximization, and, respectively, 19, 9, and 12 statements in favor of strategic teaching, other-regarding motives, and non-profit maximization behavior. Not surprisingly, as there are many more statements made against best response, in these cases a response is chosen that rewards the leader's action. Similar patterns can be observed in the other discussions that are characterized by conflicts among group members. Note the fact that in conflict-laden group discussions it is typically the case that all kinds of arguments are exchanged, which can be seen by reading row-wise the lower part of Table 12. For instance in response to the collusive leader quantity $q_L = 6$, we see statements coming from all "camps." This applies likewise for higher leader quantities (≥ 10).

Table 14: List of statements made in follower discussions in treatment Seq-Team

	Leaders' Choices						
Categories of motives mentioned in follower group discussions	**Q=6**	**Q=7**	**Q=8**	**Q=9**	**Q=10**	**Q=11**	**Q=12**
	12	42	79	4	14	9	20
Best-response motives							
Proposal to play best response	11	24	72		4	4	9
Suggesting payoff maximization	5	5	6		2	2	3
Suggesting payoff maximization because of random matching	1	1			1	1	
Avoid punishment because of loss					1	2	3
Raising doubts on cooperative quantity because of random matching	1	1					
Raising doubts whether punishment is the right to do							
because of its questionable effect on leader firm			1		3	2	2
given random matching ("is punishment worth it")							
(Far-sighted) Strategic-teaching motives							
Proposal to collude because of long-term perspective	4	5	2				
Proposal to collude because it does not cost too much in the current period	4	4					
Proposal to collude because of high probability of meeting same leader again	1	1					
Proposal to punish because of long-term perspective				2	1	2	1
Suggesting that own payoff maximization might induce the leader to raise their quantity	1	3			2	2	3
Suggesting punishment because it is not too costly							4
Raising doubts whether payoff max. is the right thing to do in terms of long-term profit							1
Other-regarding motives							
Judging the leader's choice/ leader group itself as "unfair," "bad," "annoying," "greedy"			2		5	2	7
Punishment motive: Don't make firm a comfortable					1		2
Judging the leader to be a "good company"	6	2	3				
Motivation: trust and trust-worthy		3					
Motive: punishment makes the leaders lose more than followers themselves					2	3	5
Motive: fairness (profit sharing)	4	1	2		1		2

to be continued (see overleaf)

continued

Categories of motives mentioned in follower group discussions	Leaders' Choices						
	Q=6	**Q=7**	**Q=8**	**Q=9**	**Q=10**	**Q=11**	**Q=12**
Unidentifiable motives							
Proposal to cooperate	8	32	1	1	1		
Proposal to punish			3	4	14	7	21
Pointing at the fact that punishment comes with own loss				2	2	1	
Raising doubts on fairness	1		1			1	
Motive: Pareto optimality	1						
Motive: putting themselves into the shoes of the leader		3	1	1	1		2
Raising the question about motive behind the leader's quantity choice	1	2	1		2		2
Suggesting that Cournot outcome might be "best"			1		2	1	1
Suggesting that collusive outcome / cooperation might be "best"	1	2	2			1	1
Suggesting Stackelberg outcome as the result of (correct) backward induction.	1						2
Raising doubts whether payoff maximization is the right to do							1
Complaining about being in the disadvantaged player position					1	2	3

Note: Unidentifiable motives are those that can not be unambiguously be assigned to any of the other categories listed in this table. Entries in the table are numbers of observation.

Table 15: Motives mentioned in follower discussions in treatment SEQ-TEAM

Categories of motives mentioned in follower group discussions	**Overall characterization of a round's discussion** **Quick agreement on R**	**Quick agreement on PM**	**Quick agreement on P**	**PM vs R, R wins**	**PM vs R, PM wins**	**PM vs P, P wins**	**PM vs P, PM wins**	**How much P?**
	23	90	15	10	5	20	7	10
Best-response motives								
Proposal to play best response		90		11	5	11	7	
Suggesting payoff maximization		4		5	3	7	4	
Suggesting payoff maximization because of random matching					1		3	
Avoid punishment because of loss							3	3
Raising doubts on cooperative quantity because of random matching				2				
Raising doubts whether punishment is the right to do because of its questionable effect on leader firm given random matching ("is punishment worth it")						5	3	
(Far-sighted) Strategic-teaching motives								
Proposal to collude because of long-term perspective				7	4			
Proposal to collude because it does not cost too much in the current period				8				
Proposal to collude because of high probability of meeting same leader again				2				
Proposal to punish because of long-term perspective						4		1
Suggesting that own payoff maximization might induce the leader to raise their quantity	1		1	1	5	2	1	
Suggesting punishment because it is not too costly						4		
Raising doubts whether payoff maximization is the right to do in terms of long-term profit				1				

to be continued (see next page)

continued

Categories of motives mentioned in follower group discussions	Quick agreement on R	Quick agreement on PM	Quick agreement on P	PM vs R, R wins	PM vs R, PM wins	PM vs P, P wins	PM vs P, PM wins	How much P?
Other-regarding motives								
Judging the leader's choice/ leader group itself as "unfair," "bad," "annoying," "greedy"			10			3	1	2
Punishment motive: Don't make firm a comfortable			3					
Judging the leader to be a "good company"	4	3		2	2			
Motivation: trust and trust-worthy				2	1			
Motive: punishment makes the leaders lose more than followers themselves						7	2	1
Motive: fairness (profit sharing)	1			5		3	1	
Unidentifiable motives								
Proposal to cooperate	30			7	6			
Proposal to punish			13	4		16	6	10
Pointing at the fact that punishment comes with own loss								2
Raising doubts on fairness						2	1	
Motive: pareto optimality				1				
Motive: putting themselves into the shoes of the leader	3		2			1	1	1
Raising the question about motive behind the leader's quantity choice	1		2			2	1	2
Suggesting that Cournot outcome might be "best"	1	2				1	1	
Suggesting that collusive outcome / cooperation might be "best"		5			2			
Suggesting Stackelberg outcome as the result of (correct) backward induction.	1				2			
Raising doubts whether payoff maximization is the right to do								
Complaining about being in the disadvantaged player position		1	1	1		2		1

Notes: Abbreviations used: R = Reward, PM = Profit maximization, P = Punishment. In case there are two motives, the motive marked in bold font is the "winning" motive. Unidentifiable motives are those that can not be unambiguously be assigned to any of the other categories listed in this table. Entries in the table are numbers of observation.

K Analysis of leader chats regarding beliefs about follower behavior in the random-matching team treatments

In this section we briefly present an analysis of leaders' chats in the one-shot and 15-period random-matching team treatments. We do not try to give a full account of the chats' contents. Rather, we scan the chats for cases in which beliefs about followers' likely behavior in response to the leaders' action was the subject of a group's discussion. We find that those "belief" discussions basically fall into three categories: followers are expected to (*i*) play best response (BR), (*ii*) choose a "rewarding" action (R) or choose an action that maximizes joint profits (JPM), or (*iii*) play a punitive (P) or an exploitative (E) quantity.

These three categories are the column heads in Table 16, which summarizes our chat analysis regarding beliefs. The rows are organized according to an overall characterization of a period's group discussion. For instance, the first category in Table 16 summarizes a group's discussion as "Quick agreement on $q_L = 12$." Entries in the Table 16 are numbers of observation. In each of the analyzed treatments there are six leaders, implying that there are always 6 chats per treatment and period. For the 15-period treatments, results for each set of 5 periods are reported. Hence, an entry of the form $(x,\ y,\ z)$ means that there are x observations in periods 1-5 of the kind characterized by the respective row and column head, y observations in periods 6-10, and z observations in period 11-15, respectively. Given six leaders per group, the total numbers of observed chats in the 15-period treatments are (30, 30, 30). For instance, the entry (3, 1, 1) in the north-west corner in Table 16 means that there were 3 out of 30 chats in periods 1-5 in treatment Seq-Team-15-Rm, in which followers discussed the possibility of followers playing a best response and leaders quickly agreed on choosing the quantity $q_L = 12$. The respective number of observations was 1 (1) in periods 6-10 (11-15).

Let us concentrate on the columns sums provided at the bottom of Table 16. We make the following observations. First, in the early periods of the experiment leader groups most commonly discuss the possibility of followers best responding (column 2 in Table 16), which, however, clearly becomes less frequent in leader group discussions over the course of the experiment. Second, discussions about followers rewarding, exploiting or punishing possible leader quantity choices can be observed throughout the experiment (columns 3 and 4 in Table 16). Third, looking at the overall frequencies shown in the lower right-hand corner of Table 16 reveals that "belief" discussions sharply decline after the first 5 periods. For example, in treatment Seq-Team-15-Rm in only 15 out of 90 cases (16 out of 90 cases) do groups discuss beliefs in periods 6-10 (11-15).

Table 16: Leaders' beliefs about followers' behavior mentioned in the random-matching team treatments

Overall characterization of a round's discussion	Categories of beliefs mentioned in group discussions: Follower believed to play BR	Follower believed to play R or JPM	Follower believed to play P or E	Row Sum
Quick agreement on $q_L = 12$				
Seq-Team-15-Rm	(3, 1, 1)			(3, 1, 1)
Sm-Team-15-Rm	(4, 1, 1)			(4, 1, 1)
Seq-Team-1	1			1
Sm-Team-1	1			1
Quick agreement on $q_L \in \{9, 10, 11\}$				
Seq-Team-15-Rm	(3, 0, 0)	—	(1, 0, 0)	(4, 0, 0)
Sm-Team-15-Rm	(3, 1, 0)	(1, 0, 0)	—	(4, 1, 0)
Seq-Team-1	—	—	—	—
Sm-Team-1	—	—	—	—
Quick agreement on $q_L = 8$				
Seq-Team-15-Rm	(3, 0, 0)			(3, 0, 0)
Sm-Team-15-Rm	(4, 3, 0)			(4, 3, 0)
Seq-Team-1	—			—
Sm-Team-1	—			—
Quick agreement on $q_L \in \{6, 7\}$				
Seq-Team-15-Rm		(4, 5, 2)		(4, 5, 2)
Sm-Team-15-Rm		(2, 1, 1)		(2, 1, 1)
Seq-Team-1		—		—
Sm-Team-1		—		—
$q_L = 12$ versus $q_L \in \{8, 9, 10, 11\}$, 12 wins				
Seq-Team-15-Rm	(2, 0, 1)			(2, 0, 1)
Sm-Team-15-Rm	(3, 1, 0)			(3, 1, 0)
Seq-Team-1	—			—
Sm-Team-1	3			3
$q_L = 12$ versus $q_L \in \{8, ..., 11\}$, 12 loses				
Seq-Team-15-Rm	—	(2, 0, 1)	(3, 0, 3)	(5, 0, 4)
Sm-Team-15-Rm	(1, 0, 0)	—	(1, 0, 1)	(2, 0, 1)
Seq-Team-1	—	1	1	2
Sm-Team-1	—	1	—	1
$q_L = 12$ versus $q_L \in \{6, 7\}$, 12 wins				
Seq-Team-15-Rm	(4, 0, 0)			(4, 0, 0)
Sm-Team-15-Rm	(2, 0, 0)			(2, 0, 0)
Seq-Team-1	1			1
Sm-Team-1	—			—

to be continued (see next page)

continued

Overall characterization of a round's discussion	Categories of beliefs mentioned in group discussions: Follower believed to play BR	Follower believed to play R or JPM	Follower believed to play P or E	Row Sum
$q_L = 12$ versus $q_L \in \{6, 7\}$, 12 loses				
Seq-Team-15-Rm	(1, 0, 0)	(0, 1, 0)	—	(1, 1, 0)
Sm-Team-15-Rm	—	(1, 1, 0)	(1, 0, 0)	(2, 1, 0)
Seq-Team-1	1	—	1	2
Sm-Team-1	—	—	—	—
$q_L = 8$ versus $q_L \in \{9, 10, 11\}$, 8 wins				
Seq-Team-15-Rm	(2, 0, 1)		(0, 1, 1)	(2, 1, 2)
Sm-Team-15-Rm	(3, 4, 0)		(2, 0, 0)	(5, 4, 0)
Seq-Team-1	—		—	—
Sm-Team-1	—		—	—
$q_L = 8$ versus $q_L \in \{9, 10, 11\}$, 8 loses				
Seq-Team-15-Rm	(2, 1, 0)		(0, 0, 1)	(2, 1, 1)
Sm-Team-15-Rm	(4, 1, 1)		(0, 0, 1)	(4, 1, 2)
Seq-Team-1	—		—	—
Sm-Team-1	—		—	—
$q_L = 8$ versus $q_L \in \{6, 7\}$, 8 loses				
Seq-Team-15-Rm	(0, 0, 1)	(1, 3, 2)	—	(1, 3, 3)
Sm-Team-15-Rm	(2, 0, 0)	(0, 0, 1)	(1, 0, 0)	(3, 0, 1)
Seq-Team-1	—	—	—	
Sm-Team-1	—	—	—	
$q_L = 8$ versus $q_L \in \{6, 7\}$, 8 wins				
Seq-Team-15-Rm	(1, 2, 2)		(0, 1, 0)	(1, 3, 2)
Sm-Team-15-Rm	(3, 1, 0)		(0, 1, 0)	(3, 2, 0)
Seq-Team-1	—		—	—
Sm-Team-1	1		—	1
Column Sum				
Seq-Team-15-Rm	(21, 4, 6)	(7, 9, 5)	(4, 2, 5)	(32, 15, 16)
Sm-Team-15-Rm	(29, 12, 2)	(4, 2, 2)	(5, 1, 2)	(38, 15, 6)
Seq-Team-1	3	1	2	6
Sm-Team-1	5	1	—	6

Notes: Entries in the table are numbers of observation. In each treatment there are six leaders, implying that there are always 6 chats per treatment and period. For the 15-period treatments, results for each set of 5 periods are reported. Hence, an entry of the form $(x,\ y,\ z)$ means that there are x observations in periods 1-5, y observations in periods 6-10, and z observations in period 11-15, respectively. Given six leaders per group, the total numbers of observed chats in the 15-period treatments are (30, 30, 30). Abbreviations used: BR = Best response, R = Reward, JPM = Joint profit maximization, P = Punishment, E = Exploitation.

L Instructions (for the 15-period random-matching treatments)

- Please read these instructions carefully!
- Please do not talk to your neighbours and remain quiet during the entire experiment.
- If you have a question, please raise your hand. We will come up to you to answer it.

General information

- In this experiment you can earn money by interacting with other participants.
- Your earnings will be measured in "Points". The number of Points that you can earn depends on the decisions that you and other participants make.
- At the beginning of the experiment, every participant will receive 75 Points as an initial endowment.
- Your total number of Points at the end of the experiment will be equal to the sum of the Points you have earned in each round plus your initial endowment.
- For every 50 Points you will be paid 1 Euro in cash.

Description of the experiment

- The experiment consists of 15 periods.
- You will act in the role of a firm which produces the same product as another firm in a market.
- There are two types of firms: A-firms and B-firms. In each period each A-firm will be randomly matched with a B-firm. Both firms have to decide which quantities they want to produce.
- In the attached table, you can see the resulting profits of both firms for all possible quantity combinations.
- The table is read as follows: the head of each row represents an A-firm's quantity and the head of each column represents a B-firm's quantity. Inside the little box where row and column intersect, the A-firm's profit matching this combination of quantities stands up to the left and the B-firm's profit matching these quantities stands down to the right.
- How are decisions made in each period? The procedure is that first the A-firm and then the B-firm decides. This means that the A-firm chooses its quantity first (selects a row in the table). Then the B-firm is informed about the A-firm's choice. Knowing the quantity produced by the A-firm, the B-firm then decides on its quantity (selects a column in the table).

  [The following paragraph only in Sm-Team-15-Rm *and* Sm-Ind-15-Rm *treatments]*

- But the above procedure will be conducted in the following way: Instead of deciding one after the other, both firms decide about their quantities at the same time. But while the A-firm only has to choose one quantity, the B-firm has to make a number of conditional quantity choices. More precisely, for every possible quantity of the A-firm (i.e., for every row in the table), the B-firm has to choose a quantity (i.e., a column in the table). That is, the B-firm has to make "if-then decisions" of the form: "If the A-firm chooses quantity x, I (the B-firm) will choose quantity y." As there are thirteen possible quantities, the B-firm has to make thirteen decisions. This procedure corresponds to the one described above where the A-firm chooses its quantity first followed by the B-firm who chooses its quantity after being informed about the A-firm's quantity decision. This is so, since the B-firm has to decide how it would react to each possible quantity the A-firm can select. It is then possible to match the A-firm's quantity with the relevant quantity of the B-firm to determine the outcome in the market.

[The following four sections only in SM-TEAM-15-RM *and* SEQ-TEAM-15-RM *treatments]*

Acting in teams

- You will be acting in teams. At the beginning of the experiment, the computer will randomly match you with two other participants and the three of you will act as a team throughout the experiment, either representing an A-firm or a B-firm.
- What does it mean to act as a team? As a team you will make decisions jointly. That is, the three of you must decide together what choices to make (either as an A-firm or as a B-firm) and the payoffs of all three of you will depend on these choices. To facilitate team coordination, there will be a place on your screen to send messages back and forth to each other. Although we will record these messages, only you and your team members will see them. Think of the message space as your own private chat system to help you decide what to do. More on how this will work shortly. Note, in sending messages back and forth between you and your team members we request you follow three simple rules: (1) Discussion must be in English. No other language is allowed. (2) Be civil to each other, don't use bad language, and don't make any threats to each other. (3) Do not identify yourself, your seat number or anything that might reveal your identity. The communication channel is intended for you to use to discuss and coordinate your choices and should be used that way.

Description of the communication and decision-making screen

- In the following we will describe the structure of the communication and decision-making screen that each member of an A-firm and each member of a B-firm will face during the experiment. Basically, for both a member of an A-firm and a member of a B-firm the screen consists of three boxes: the dialogue box, the decision-making box, and a box that shows which decisions have been made so far in a given period by all members of a team (which we call the "Decisions made so far" box).

Screen for a member of an A-firm

- We will first describe the communication and decision-making screen for a member of an A-firm. This screen is shown on the next page. Imagine in what follows that you are a member of an A-firm.
- The line on top of the screen indicates that this is a screen of a member of an A-firm. It also indicates the ID of this participant who is called “A1”. The IDs of the other members of an A-firm are “A2” and “A3”. Each member of an A-firm will be informed about his/her ID in this top line of the decision screen.
- The dialogue box is on the left hand side of the screen. If you click on to the lower (light grey) part of the box you can type a message to your team members (only you and your team members can see your messages, no other participants can see them). You can use this box to discuss what choice you want to make. To send a message hit the enter key. Both your messages and your team members’ messages will be reported at the top of the dialogue box with the ID in front. In the sample screen on the next page, member A1 has already sent the message “Hello?” and has just typed the new message “How are you?”
- The decision-making box is in the middle of this screen. Since as an A-firm you are acting as teams, you and your team members must coordinate on your quantity choice. As described above, members of an A-firm will have to coordinate on a single quantity they want to produce. To make a quantity decision, each member of an A-firm will have to type in the quantity you agreed upon using the dialogue box. You type in the quantity that you and your team members agreed on into the box in the middle of the decision-making box, followed by a click on the “Submit” button. The quantity you and your team members submit will immediately appear in the box on the right hand side of your screen which is called “Decisions made so far.” (Look at the “Decisions made so far” box on the sample screen on the next page. The three “–” below the IDs of the A-firm members in this box indicate that none of the team members of this particular A-firm has yet submitted a quantity.)

If the quantities you and your team members typed in are not the same, an error message will appear at the top of the “Decisions made so far” box, informing you that your and your team members’ quantities do not match and that there is still disagreement. You can then use the chat box again to reach agreement. It might then be necessary that you revise your choice, type in a revised quantity in the decision-making box, and click the “Submit” button again.

If the quantities you and your team members typed in are the same, the decision screen will disappear and a message will indicate that your team has reached agreement.

Screen for a member of a B-firm

- We will now describe the communication and decision-making screen for a member of a B-firm. This screen is shown on the next page. Imagine in what follows that you are a member of a B-firm.

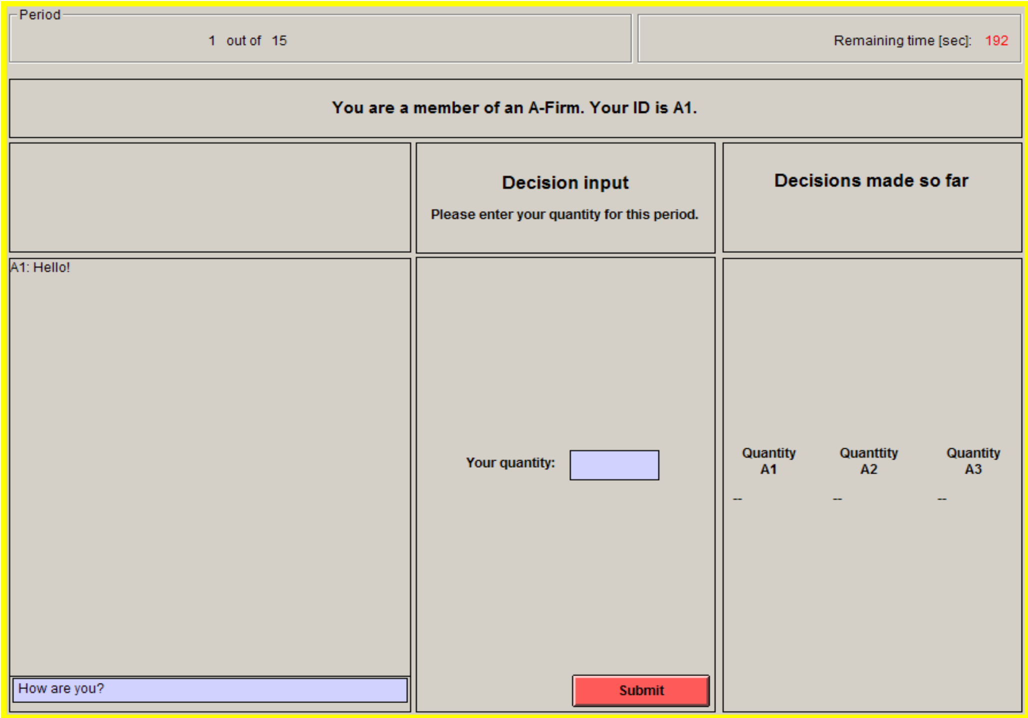


Figure 12: Screen shot for SM-TEAM-15 first mover

- The line on top of the screen indicates that this is a screen of a member of a B-firm. It also indicates the ID of this participant who is called “B1”. The IDs of the other members of a B-firm are “B2” and “B3”. Each member of a B-firm will be informed about his/her ID in this top line of the decision screen.

- The dialogue box is located on the left hand side of the screen and works as described above for a member of an A-firm. The only difference is, of course, that messages sent are displayed with the ID of a B-firm in front.

- The decision-making box is in the middle of this screen. Since as a B-firm you are acting as teams, you and your team members must coordinate on your quantity choices. [The following sentences in parenthesis only in SMTEAM-15-RM treatment](As described above, members of a B-firm will have to make contingent decisions specifying how they react to each possible quantity of the A-firm. The column on the left of the decision-making box, labelled “A-firm’s quantity, ” shows all possible quantities of the A-firm. Next to each of these quantities, in the column labelled “Your quantity” you will have to type in the quantity with which you and your B-firm team members want to react to each of the A-firm’s quantities.) [The following sentence in parenthesis only in SEQTEAM-15-RM treatment. Note that the screen shot in the SEQTEAM-15-RM treatment for B firms is identical to the screen of A-firms except the labels.](On top of the decision-making box the quantity chosen by the A-firm is indicated.) To make quantity decisions, each member of a B-firm will have to type in the quantities you agreed upon using the dialogue box. After typing the quantities, click the “Submit” button. The quantities you and your team members submit will immediately appear in the box on

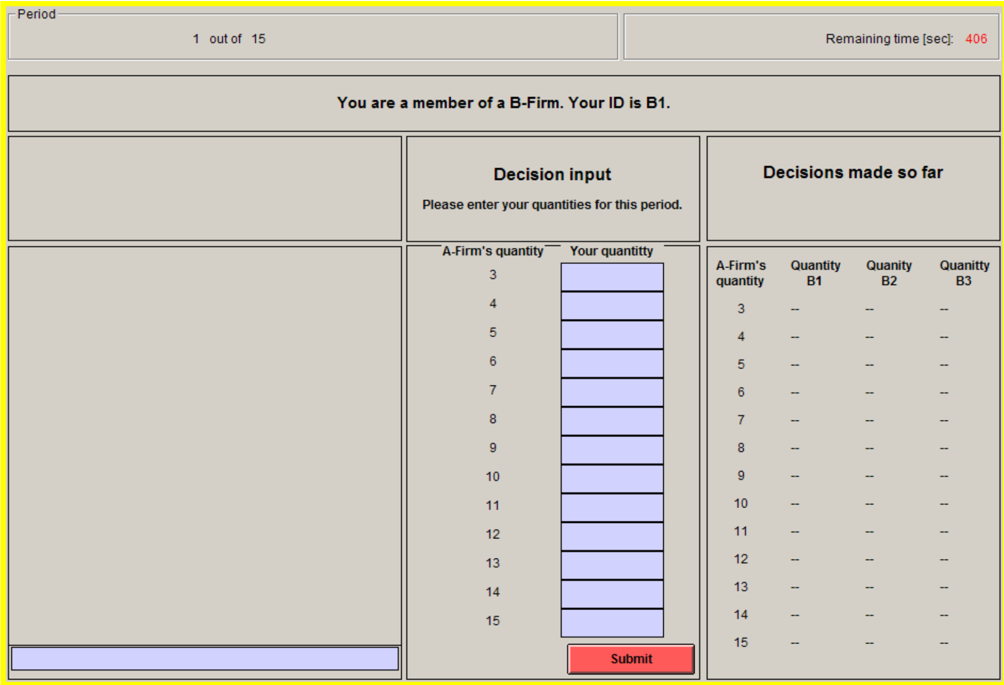


Figure 13: Screen shot for SM-TEAM second mover

the right hand side of your screen which is called "Decisions made so far." (The meaning of the Look at the "Decisions made so far" box on the sample screen on the next page. The "–" below the IDs of the B-firm members in this box indicate that none of the team members of this particular B-firm has yet submitted a quantity.)

If the quantities you and your team members typed in are not the same, an error message will appear at the top of the "Decisions made so far" box, informing you that your and your team members' quantities do not match and that there is still disagreement. You can then use the chat box again to reach agreement. It might then be necessary that you revise your choice(s), type in revised quantities in the decision-making box, and click the "Submit" button again.

If the quantities you and your team members typed in are the same, the decision screen will disappear and a message will indicate that your team has reached agreement.

[The following subsection only for SM-IND-15-RM *and* SEQ-IND-15-RM *treatments]*

Description of the decision-making screen

- In the following we will describe the decision-making screen that an A-firm and a B-firm will face during the experiment.

Screen for a member of an A-firm

- We will first describe the decision-making screen of an A-firm. This screen is shown on the next page. Imagine in what follows that you are an A-firm.

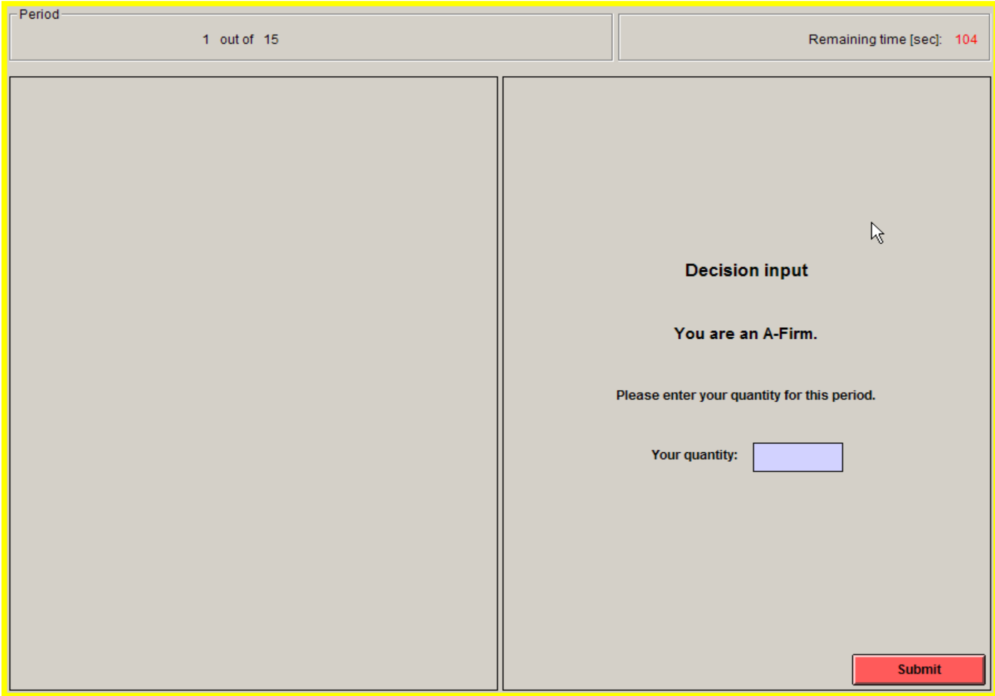


Figure 14: Screen shot for SM-IND first mover

- The second line from above in the box on the right-hand side indicates that this is a screen of an A-firm. You type the quantity you want to choose into the box on the bottom of decision-making box, followed by a click on the "Submit" button.

Screen for a member of a B-firm

- We will now describe the decision-making screen of a B-firm. This screen is shown on the next page. Imagine in what follows that you are a B-firm.
- The second line from above in the box on the right-hand side indicates that this is a screen of a B-firm. [The following sentences in parentheses only in SEQ-IND-15-RM treatment. Note that the screen shot in the SEQ-TEAM-15-RM treatment for B firms is identical to the screen of A-firms except the labels.] (On the next line the quantity chosen by the A-firm is indicated. You type the quantity that you want to choose, followed by a click on the "Submit" button.)

[The following bullet list only in SM-IND-15-RM *treatment]*

- As described above, a B-firm will have to make contingent decisions specifying how it reacts to each possible quantity of the A-firm. The column on the left of the decision-making box, labelled "A-firm's quantity, " shows all possible quantities of the A-firm. Next to each of these quantities, in the column labelled "Your quantity" you will have to type in the quantity with which you want to react to each of the A-firm's quantities, followed by a click on the "Submit" button.

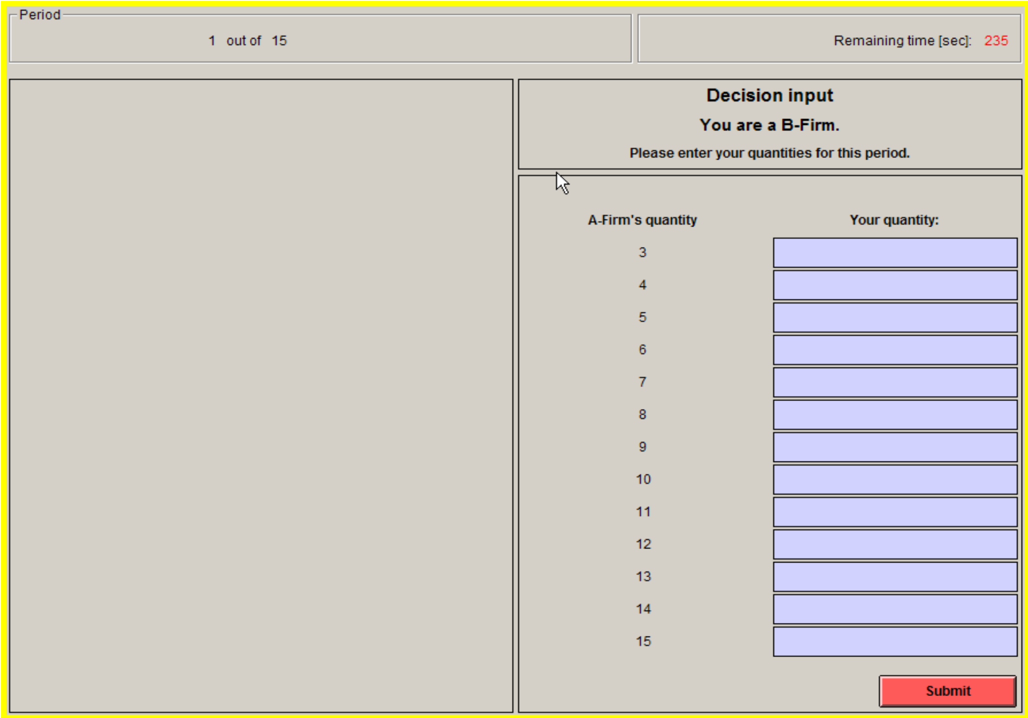


Figure 15: Screen shot for SM-IND-15 second mover

Payoffs, information during the experiment, and matching

- Payoff in a period: Each member of an A-firm or a B-firm will earn the amount indicated in the table for the selected quantity combination of both firms.
- At the start of a new period, all members of both firms will be informed about the quantity of the A-firm, the relevant quantity of the B-firm, and own profit in the previous period.
- When the experiment starts, you will be told on your computer screen whether you are a member of an A-firm or a B-firm. You will then keep this role during the entire experiment.

[The following bullet list only in SM-TEAM-15-RM *and* SEQ-TEAM-15-RM *treatments]*

- Of the 18 participants in the room, 3 teams acting as A-firms and 3 teams acting as B-firms will be randomly formed at the beginning of the experiment. In each period, A-firms will be randomly matched with any of the B-firms in the room. You will not know the identity of the other firm (and its team members) you are matched with in any period. Remember, that the composition of all teams of 3 participants each remains fixed throughout the entire experiment.

[The following bullet list only in SM-IND-15-RM *and* SEQ-IND-15-RM *treatments]*

- Of the participants in the room, groups of 6 participants each will be randomly formed at the beginning of the experiment. (The composition of these groups of 6 participants each will remain the same throughout the entire experiment.) In each group, 3 participants will act as an A-firm and 3 participants will act as a B-firm. In each period, A-firms of a group will be randomly matched with any of the B-firms of the same group. You will not know the identity of the other firm you are matched with in any period.

Table 17: Payoff-table

Quant.	3	4	5	6	7	8	9	10	11	12	13	14	15
3	54 / 54	51 / 68	48 / 80	45 / 90	42 / 98	39 / 104	36 / 108	33 / 109	30 / 110	27 / 108	24 / 104	21 / 98	18 / 90
4	68 / 51	64 / 64	60 / 75	56 / 84	52 / 91	48 / 96	44 / 99	40 / 100	36 / 99	32 / 96	28 / 91	24 / 84	19 / 75
5	80 / 48	75 / 60	70 / 70	65 / 78	60 / 84	55 / 88	50 / 89	45 / 90	40 / 88	35 / 84	29 / 78	25 / 70	20 / 60
6	90 / 45	84 / 56	78 / 65	72 / 72	66 / 77	60 / 80	54 / 81	48 / 80	41 / 77	36 / 72	30 / 65	24 / 56	18 / 45
7	98 / 42	91 / 52	84 / 60	77 / 66	70 / 70	63 / 72	55 / 71	49 / 70	42 / 66	35 / 60	28 / 52	21 / 42	14 / 30
8	104 / 39	96 / 48	88 / 55	80 / 60	72 / 63	64 / 64	56 / 63	48 / 60	40 / 55	32 / 48	24 / 39	16 / 28	8 / 15
9	108 / 36	99 / 44	89 / 50	81 / 54	71 / 55	63 / 56	54 / 54	45 / 50	36 / 44	27 / 36	18 / 26	9 / 14	0 / 0
10	109 / 33	100 / 40	90 / 45	80 / 48	70 / 49	60 / 48	50 / 45	40 / 40	30 / 33	20 / 24	10 / 13	0 / 0	−10 / −15
11	110 / 30	99 / 36	88 / 40	77 / 41	66 / 42	55 / 40	44 / 36	33 / 30	22 / 22	11 / 12	0 / 0	−11 / −14	−22 / −30
12	108 / 27	96 / 32	84 / 35	72 / 36	60 / 35	48 / 32	36 / 27	24 / 20	12 / 11	0 / 0	−12 / −13	−24 / −28	−36 / −45
13	104 / 24	91 / 28	78 / 29	65 / 30	52 / 28	39 / 24	26 / 18	13 / 10	0 / 0	−13 / −12	−26 / −26	−39 / −42	−52 / −60
14	98 / 21	84 / 24	70 / 25	56 / 24	42 / 21	28 / 16	14 / 9	0 / 0	−14 / −11	−28 / −24	−42 / −39	−56 / −56	−70 / −75
15	90 / 18	75 / 19	60 / 20	45 / 18	30 / 14	15 / 8	0 / 0	−15 / −10	−30 / −22	−45 / −36	−60 / −52	−75 / −70	−90 / −90

Note: The head of the row represents one firm's quantity and the head of the column represents the quantity of the other firm. Inside the box at which row and column intersect, one firm's profit matching this combination of quantities stands up to the left and the other firm's profit stands down to the right. As mentioned in the text, 14 entries were manipulated in order to get unique best replies.