Not just hot air: Normative codes of conduct induce cooperative behavior

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Abstract

The shirking incentives arising within team production are in general counteracted by monitoring and sanctioning. However, these mechanisms are usually associated with high monitoring costs and cannot be applied to all parts of the production process. In a laboratory experiment we analyze the impact of less costly elements of organizational structure, such as normative codes of conduct and screening tests, on team production efficiency. We find that more allusions to a firm context lead to higher contributions. In particular, codes of conduct significantly increase cooperation and at the same time reduce free-riding behavior. Our study provides empirical evidence that normative codes of conduct are an effective means of increasing team production efficiency.

Keywords: public good; framing; team production; codes of conduct

JEL: C92; D23; D70; H41

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1. Introduction

"Two men jointly lift heavy cargo into trucks. Solely by observing the total weight loaded per day, it is impossible to determine each person's marginal productivity. With team production it is difficult, solely by observing total output, to either define or determine each individual's contribution to this output of the cooperating inputs. The output is yielded by a team, by definition, and it is not a sum of separable outputs of each of its members." Alchian and Demsetz (1972) use this example to illustrate that in team production the individual inputs of the team members are typically imperfectly observable and/or verifiable and therefore team payment schemes often reward members by the success of the total team output and not on the basis of the actual individual contributions. In such cases team production shares the dilemma structure of public good provision by offering opposed individual and collective incentives. Individuals have an incentive to free ride on the contributions of others, although it is disadvantageous for the whole team. Shirking may ruin the whole team project. In their seminal contribution, Alchian and Demsetz (1972) argued that one of the

essential characteristics of firms is that they solve the problem of shirking through the introduction of a centralized contractual agent, i.e. an owner-manager or a manager, who is equipped with the capability to monitor and the rights to sanction the behavior of all team members in order to ensure cooperative behavior which is beneficial for the whole team (see also Kräkel 2004). Potters, Sefton, and van der Heijden (2005) compared team performance in the presence and absence of a manager in a controlled laboratory experiment and found that the presence of a team leader significantly improves team performance. However, monitoring technology and sanctioning are costly both in explicit monetary terms (Williamson 1975, 1985, 1991) and implicitly in terms of the cooperation crowding out effects of control (Falk and Kosfeld 2005) and the detrimental effects of sanctioning (Fehr and Rockenbach 2003). It is a challenge to assess whether the benefits of monitoring and sanctioning outweigh the costs.

Apart from explicit monitoring and sanctioning technologies, firms have developed other (less costly) instruments to increase the cooperation of their members and overcome the shirking problem (for a summary, see Frey and Osterloh 2002, Chan et al 2004). Prominent and widely used examples (Kaptein 2004) are a verbal framing of work tasks or work environments with cooperative connotations, for example in the form of normative codes of conduct, the spread of taken-for-granted beliefs of appropriate behaviors in organizations (Peters and Waterman 1982, Deal and Kennedy 1982, Scott 2001), and the encouragement of employee commitment through the recruitment procedure (Lazear 1998, Irlenbusch and Harbring 2003). The effectiveness of these mechanisms has not

yet been systematically tested. Thus, the questions whether they are effective means to enhance cooperative behavior at all and to what extent they may substitute the more costly mechanism of monitoring or sanctioning remain unanswered. Since disentangling the confounding effects is hardly possible in a field study, we rely on a controlled laboratory experiment and for now focus on the first question.

We empirically investigate the effect of three instruments frequently applied in firms: verbal framing with company cues, employee commitment through a recruitment test, and codes of conduct. We compare the effects of these instruments (isolated and in combination) on the efficiency of team production, both between each other and to a baseline treatment without any organizational cues. We find that neither verbal framing with company cues nor the recruitment test have a significant effect on cooperation enhancement whereas the introduction of normative codes of conduct significantly boosts cooperation. This effect is even stronger when codes of conduct are combined with the recruitment test.

In the next section we will present the theoretical framework of our study and the hypotheses we derive from it. In section 3 we will describe the experimental design and the procedure. In section 4 we will present our findings. Finally, we will discuss the results and implications of our study.

2. Theoretical Framework and Assumptions

We study team production in a team of four members. Each member is equipped with 20 token of input which he/she may either keep for private use or invest in the team project. Each unit invested in the team project generates a benefit of 1.6 units for the entire team, which is equally divided among the four team members. Hence, although investment in the team project is beneficial for the entire team, it only yields an individual return of 0.4, whereas each unit kept for private use generates an individual benefit of 1. Neither is the individual input observable by the other team members, nor does the team members have any means to sanction their team mates. A (rational) team member seeking individual payoff maximization keeps all units, resulting in the failure of the production of the beneficial team output if all members maximize their individual payoff. The opposite individual and collective interests describe incentives both in teams which are solely rewarded by the team output (independent of the individual input) and in the provision of public goods. Decades of experimental research have shown that in the absence of any institutional regulations team performance as well as the provision of public goods is sub-optimal and even deteriorates over time (Ledyard 1995, Ostrom 2000, Camerer 2003). There is, however, a considerable amount of literature elaborating on the effects of framing in public good provision. Andreoni (1995) showed that a strategically identical situation leads to higher contributions when it is framed positively than when a negative frame is used. Similarly, Sonnemans, Schram, and Offerman (1998) show that behavior differs if an identical situation is framed as the provision of a public

good or the prevention of a public bad. Interestingly, also certain goal frames affect the degree of cooperative behavior (Liberman et al 2003, Lindenberg and Steg 2007). In our study we also use different frames of a strategically identical situation. However, in contrast to previous research we established the allusion that the decision is embedded in an organization or firm, in order to identify more cost-effective alternatives that increase cooperation in team production than the monitor proposed by Alchian and Demsetz (1972). Identifying those mechanisms would not only be of theoretical, but also of practical relevance (see, for example, Walgenbach 2000).

In fact many scholars in management and organizational behavior argue that those alternatives exist and are already used in companies and other kinds of organizations (see, for example, Frey and Osterloh 2002, Chan et al 2004, Lok and Crawford 2004). Other scholars argue that the fact that a firm represents a distinctive context with many characteristics fundamentally diverging from the kind of team production as described by Alchian and Demsetz, allows less demanding solutions. Zucker (1977, 1983), for example, argues that a formal organization is a cognitive-cultural institution, which directly affects the behavior of individuals even in situations where only weak signals indicating an organizational context are being emitted. In a laboratory experiment she shows that with an increasing number of allusions to an organizational context, subjects perceived less commitment to their personal judgments and a greater commitment to the organization, i.e. they feel more normatively constrained in their decisions. These findings support the assumption that team orientation and cooperation are

connotations and perceived behavioral expectations – activated by terms like firm, company, employees and profits[1] – that have a positive impact on the cooperative behavior of individuals which increases with the number and the intensity of hints indicating an organizational or firm context. Employee commitment may also be related to the "social identity" of the groups. A social identity may exist either on natural characteristics such as gender or race or on rather artificial features. In their classic study Tajfel and Billig (1974) showed that non-task related distinctive features (the authors used the subjects' preferences for Klee or Kandinsky's paintings to divide them into two groups) induce strong intergroup discrimination. Recent studies (Eckel and Grossman 2005, Chen and Li 2006, McLeish and Oxoby 2007) find that even artificially implemented identities alter cooperative behavior and especially strengthen cooperation between members of the same group (minimal group paradigm) if the induced identity is strong enough. Moreover, some experimental studies investigate in- and outgroup differences in voluntary contribution mechanisms using natural identities such as gender, race or ethnicity. While Cadsby and Maynes (1998) find that gender has no significant effect on contributions, whereas Solow and Kirkwood (2002) and Croson and Marks and Snyder (2003) report a significant influence from gender as distinctive feature.

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[1] These terms are frequently mentioned in many job offerings in newspapers, presumably to activate cooperation. We exemplify this argument with the job offers listed on the web-sites of two large German newspapers, namely the "Frankfurter Allgemeine Zeitung" (FAZ) and "Die Welt". We screened both databases for all job-offers that contained at least one of the following terms: team (Team), teamwork (Teamwork, Teamfähigkeit), cooperation (Zusammenarbeit) or cooperative (teamfähig, kollegial). The "Frankfurter Allgemeine Zeitung" listed 6.457 (03/13/2006) job-offers and 3.488 (54%) of them contained at least one the terms mentioned above. On the same day (03/13/2006) "Die Welt" listed 25.205 job-offers with 15.280 (61%) referring to these behavioral expectations.

We implement four treatment variations of a baseline treatment, all of them with identical explicit incentives, namely an identical strategy space and identical payoffs. The treatments solely vary in the framing, i.e. the allusion to a firm context, whereas the number and intensity of allusions increases in later treatments. The *baseline treatment* (T1) is a pure linear public goods game without any hints to a firm context. In the *company treatment* (T2) the public-good situation is framed as a firm context. The *recruitment test treatment* (T3) additionally contains a recruitment test as a typical tool used for personnel selection. This treatment variation is motivated by the claim that firms make use of a large number of devices to shape the behavior of organizational members and to increase the likelihood of their cooperation (Barnard 1938, March and Simon 1958, Chan et al 2004). For example, the selection of personnel based on recruitment tests or assessment centers is not only a means to identify those individuals who are best suited to fill a certain position within a firm, but it is also regarded as a means to increase the motivation of individuals to contribute to the well-being of the firm (Lazear 1998, Irlenbusch and Sliwka 2005, Yu and Egri 2005).

The *code of conduct treatment* (T4) is motivated by the argument that normative codes of conduct influence the behavior of individuals and are regarded as a means of increasing the probability of cooperative behavior (Stitzel 2004, Chan et al 2004, Yu and Egri 2005, Steinmann and Schreyögg 2005). In T4 the experimental situation is framed as a firm context and the framing is augmented by the presentation of normative codes of conduct containing the explicit

expectation to cooperate. Finally, the last treatment variation (*test and code treatment* (T5)) combines the framing of a firm context, normative codes of conduct, as they are typically embedded in the corporate culture of firms, and a screening test used for personnel selection.

In reflection of the literature mentioned above we expect the cooperation rate to increase with the number of hints to a firm context, i.e. average contributions should rise with higher treatment numbers. In addition, increasing cooperation rates and commitment should not only be observable in average contributions, but also in a bigger share of high-contribution decisions and a declining number of low-contribution decisions.

3. Methods

Basic design and parameters

In order to test our assumptions, we experimentally study a simple public goods provision task. The dependent variable of our analysis is the efficiency of team production, i.e. the ratio of actual team contributions to maximum possible team contributions. In our model efficiency is identical to the cooperation rate. The experiment was conducted in the Laboratorium für experimentelle Wirtschaftsforschung (*eLab*) at the University of Erfurt. A total of 120 students from different disciplines participated in the experiment. Students who had been involved in similar experiments were not allowed to participate. The participants were randomly distributed to the baseline treatment and the four test treatments. In each treatment we collected six independent observations.

Each subject was placed in a closed cubicle equipped with a computer which was connected to the experimenter's server. The experimental software was written with z-tree (Fischbacher 2007). In each of the 20 identical rounds, each participant was endowed with 20 tokens (e_i) and then decided on the amount he or she wanted to contribute (c_i) to the group project. Only integer numbers between 0 and 20 were accepted as valid inputs. Each token invested in the group project was deducted from the contributor's private account and generates a surplus for the entire group (as it is multiplied by 1.6). The group account was evenly distributed among all four group members. Hence, subjects' payoffs were known to be calculated according to the following payoff-function:

$$\Pi_i = e_i - c_i + \frac{1.6}{4} \cdot \sum_{j=1}^{4} c_j$$

As soon as all subjects had entered their decision, subjects were informed about their individual payoff and the sum of contributions within their group. The period payoffs were accumulated to a total payoff. The amount of earned tokens was converted into Euro at an exchange rate of € 1 for 30 tokens and paid to the participants at the end of the experiment. This basic design and the explained parameters are identical in all five treatments.

Written instructions (see appendix A) handed out to all subjects and read out by one of the authors provide information on the payoff function, individual endowments and group size. All decisions and payoffs were completely anonymous. Thus, the participants were not able to draw any conclusions with respect to the individual contribution of their group members in any treatment.

Treatments

The first treatment (T1 – *baseline treatment*) is used as a control treatment in order to establish a baseline for further comparison. The execution is exactly as described above and the written instructions contain only neutral terms like group, member, and result of the project.

A first stage of framing is adopted by changing these terms in order to indicate that the decision should be seen as happening in an organizational or firm context. More specifically, participants of the experiment are called *employees*, the term group is replaced by the term *firm* and the result of the project is now named *business result*. Therefore the second treatment (T2) is referred to as the *company treatment*. These terms are also used in all following treatments (T3, T4, and T5).

To intensify the cues of an organizational context the subjects of the third treatment (T3) have to undertake a screening test composed of different questions before they were allocated to the groups. The questions of the screening test are taken from a typical intelligence test. This treatment is called the *recruitment test treatment*. After the last question of the test had been answered the following message appeared on the computer:

"You passed the test and you (along with 3 other participants) have been selected as an employee of company X.".

As we are interested in the impact of situational framing, the results of the computer based test does not affect the distribution of the subjects to particular

groups and has no impact on the rest of the experimental design. Furthermore it is not supposed to predict performance in any way. In fact the screening test is some kind of cheap talk and is only used to strengthen the cohesiveness within the team by giving the subjects a feeling of being part of an exclusive group (see, for example, Yu and Egri 2005, Simpson 2006). The further procedure of this treatment is exactly as described above.

In the fourth treatment (T4 – *code of conduct treatment*) another hint of a firm context is used. At the outset of the first round, all subjects see a screen presenting a typical statement as can be found on the websites of many large companies and which contains normative codes of conduct. Normative codes of conduct are a means to communicate the values and norms of an organization. The statement is based on the codes of conduct of a large German automobile manufacturer (BMW) which are slightly adapted for our experiment. To avoid the influence of individual preferences, the codes of conduct are presented without any explicit business objectives.

You (along with 3 other participants) have been selected as an employee of company X. The following sentences describe the corporate culture of this company:

> *"Our employees are our most important resource. The cooperation and the commitment of our employees are of vital importance in maintaining our leading market position. Only fair and committed teamwork will secure our operating efficiency in the long run."*

The statement is presented for at least 30 seconds and is not repeated in later periods.

Table 1: Summary of experimental design

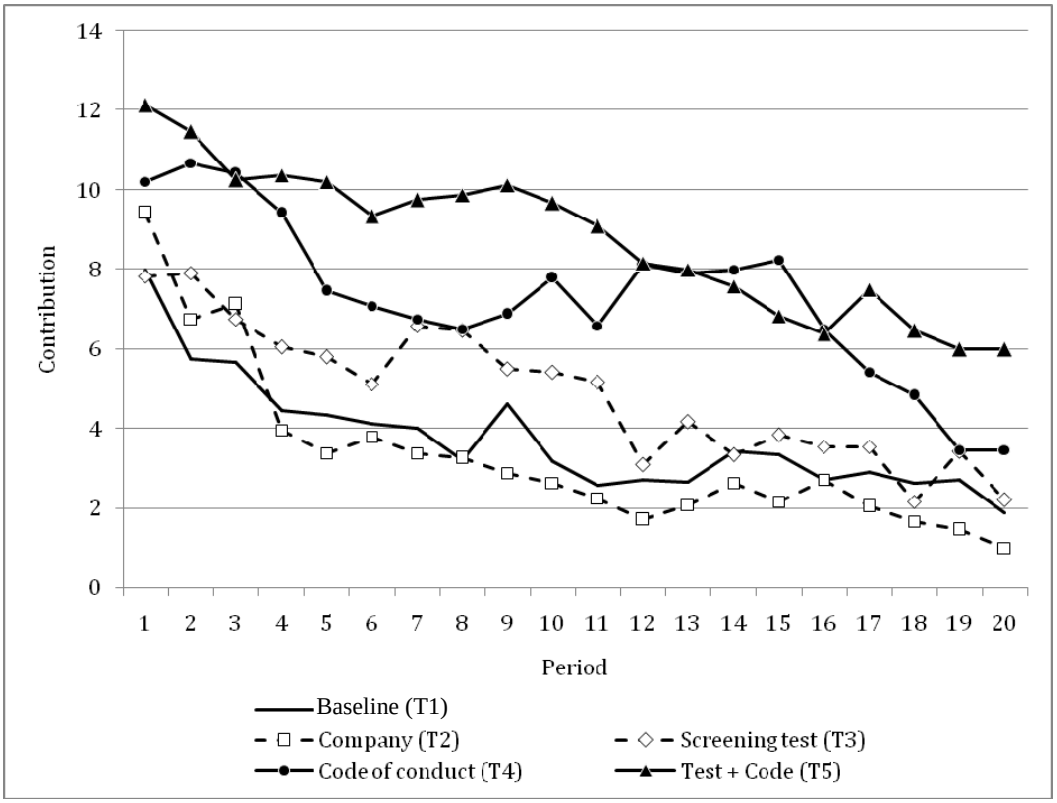
			Elements of design		
Treatment-name	Treatment-number	# independent observations	Company frame	Screening test	Code of conduct
Baseline	T1	6	-	-	-
Company	T2	6	X	-	-
Recruitment test	T3	6	X	X	-
Code of conduct	T4	6	X	-	X
Recruitment test and code of conduct	T5	6	X	X	X
Global parameters: group size = 4; endowment = 20; # Periods = 20; multiplier = 1.6					

The highest number of hints of a firm context is reached in the last treatment (T5 – *test and code treatment*). In this treatment the screening test (T3) and the code of conduct statement (T4) are combined. The particular elements of the experimental design are summarized in table 1. To investigate the influence from a growing number of hints to a firm context, we put the treatments presented above into two alternative orders. The first sequence contains the baseline treatment (T1), the company treatment (T2), the screening-test treatment (T3) and the test and code treatment (T5). The second sequence contains T1, T2, the code of conduct treatment (T4) and T5.

4. Results

As expected, the pattern of cooperative behavior observed in the baseline treatment is in line with the findings of former experimental studies based on a public goods game (Ledyard 1995, Fehr and Gächter 2000, Camerer 2003). In the first period an average contribution rate of about 40% could be observed and the slope of the regression line between contribution and period is strictly declining (–0.20 token/period).

Figure 1: Average contributions in treatment T1 –T5



The slopes of the regression lines in the other treatments are also strictly declining (–0.3 in T2, –0.27 in T3, –0.28 in T4, and –0.3 in T5) but on different levels of contribution (see figure 1).

Considering that most framing elements only appeared at the beginning of the experiment and were not repeated in later periods, it seems reasonable to assume that the used elements influenced behavior if at all only for a limited amount of periods. However, we find at least some evidence, that cooperation behavior is influenced even in the last periods.

A first analysis of the effects of the different framings is based on a comparison of the average contributions and the frequency of different levels of contributions over all treatments (see table 2 and table 3).

Table 2: Summary of treatment results

	Treatments				
Observation	Baseline (T1)	Company (T2)	Test (T3)	Code (T4)	Test + Code (T5)
Average contribution	3.74	3.31	4.89	7.29	8.76
Share of low-contributions (0-5 token)	73.3 %	77.3 %	69.4 %	43.1 %	39.4 %
Share of high-contributions (15-20 token)	3.3 %	4.4 %	10.0 %	11.6 %	23.8 %

In particular we focus on low contributions (0-4 tokens) and high contributions (16-20 tokens). In the first alignment of treatments containing the baseline treatment (T1), the company treatment (T2), the screening test treatment (T3) and the test and code treatment (T5) we find a significant ($p = 0.005$ Jonckheere-Terpstra-Test, exact, two-tailed) increase of contributions, as well as in the second treatment sequence with code of conduct treatment (T4) instead of T3 ($p = 0.001$). In fact, elements of an organizational or company context, as, for

example, normative codes of conduct, seem to significantly increase the propensity to cooperate.

Table 3: Summary of main results

	Company effect [1]	*Recruitment test-effect* [1]		*Code of conduct effect* [1]		*Density of hints effect* [2]	
	T1/T2	*T2/T3*	*T4/T5*	*T3/T5*	*T2/T4*	Sequence 1 T1,2,3,5	Sequence 2 T1,2,4,5
Average contribution p-value	0.974	0.394	0.485	0.041**	0.015**	0.005***	0.001***
Low contributions p-value	0.459	0.147	0.699	0.089*	0.009***	0.032**	0.008***
Endgame contribution p-value	0.504	0.225	0.180	0.009***	0.009***	0.005***	0.001***

[1]Mann-Whitney-test, exact, two-tailed
[2]Jonckheere-Terpstra-Test, exact, two-tailed

* significant at 10%
** significant at 5%
*** significant at 1%

Beside this general comparison over all treatments we also investigate the three single effects of the actual framing-elements. Contrary to our assumption, the first simple framing of an organizational or firm context does not affect any of the tested variables (see table 3). It neither alters the average contribution nor does it have an effect on the share of low contributions or on the contributions near the known end of the game. A comparison of the company treatment (T2) and the screening-test treatment (T3) reveals a similar finding.

The rate of cooperation in the screening-test treatment (24.5%) is indeed somewhat higher but not significantly different from the one in the baseline treatment. The second recruitment test effect between treatment 4 and 5 is also not significant, although the average cooperation rate is slightly higher in the

treatment containing the test (T5) and even the endgame contribution is somewhat higher than in treatment 4.The first considerable increase in the degree of cooperation can be observed in the code of conduct treatment (T4) (36.4%). Actually, the implementation of the codes of conduct significantly increased the average contributions (for T2 to T4: $p = 0.015$ and for T3 to T5: $p = 0.041$ Mann-Whitney-test, exact, two-tailed). The code of conduct-effect also raises the endgame contribution in both cases and reduces the share of low and zero contributions significantly.

5. Discussion and Implications

The most important finding of our study is that normative codes of conduct increase cooperation in team production framed in a firm context. It is not only the significantly higher contributions in the code of conduct treatment (T4) and the test and code of conduct treatment (T5) but also the declining number of free-riding decisions and the higher endgame contribution which support this result. The positive impact on cooperation can be seen as stemming from the explicit communication of expected behavior in normative codes of conduct. Thus, our study provides evidence that there are other and probably more cost-effective alternatives to Alchian and Demsetz's (1972) monitoring and sanctioning contractual agent. Thus, inducing cooperative behavior by normative codes of conduct seems to be an especially helpful means in situations where individual inputs to joint production cannot be observed at all or cannot be observed without monitoring costs that outweigh the benefits of team production. Further, considering the fact that the situation represented by a public goods game

provides an exceptionally strong incentive to free-ride at the expense of other team members, the presented results affirm practitioners' hopes that cooperative behavior can be established by corporate culture or other normative codes of conduct. However, before a final statement can be made with respect to the cost-effectiveness of normative codes of conduct, further studies are required which compare the effects of a centralized contractual agent and normative codes of conduct on the probability of cooperative behavior in different situations, i.e., situations where non-cooperative behavior can be easily detected versus those where such behavior is difficult or costly to identify.

Despite the important finding that normative codes of conduct increase the likelihood of cooperation, our study reveals that simple allusions to a company context (T2 and T3) had no effect on the decision to cooperate. These results, which diverge systematically from those we expected based on the findings of Zucker's study (1977), may be due to the different tasks given to the participants in the respective experiments. While in Zucker's study the participants were asked to judge the distance which a stationary pinpoint of light presented in a totally dark room appears to move (auto kinetic effect, which is based on a distortion of the perception of individuals), the participants of our study had to decide how many tokens to contribute in order to achieve the goal of the group or the firm. Thus, the situation in our experiment is less ambiguous and provides clear and strong incentives to act on personal judgment and preferences. The incentive structure of a public goods game may simply be too strong to be reduced by implicit normative behavioral expectations which are carried by

institutionalized conceptions of firms or organizations in general (T2) or by adding a screening-test to the allusion of an organizational or firm context (T3).

However, it can be stated that organizational or company framing is able to alter the behavior of individuals, but that the framing has to be strong enough to suppress the incentives given by a standard public goods game. Our study can be seen as a starting point for further investigations analyzing other means of behavioral control used in practice and discussed in the organizational behavior literature, such as rules and routines (March and Simon 1958, Cyert. and March 1992). Using the controlled conditions of laboratory experiments, it should be possible to identify the effects which elements of organizational structure (other than reward and punishment) have on the propensity to cooperate, and to determine their actual effectiveness.

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Appendix A1 – Experiment Introduction – Control Treatment

General information

You are a member of a group with four members. During the whole experiment you will only interact with the members of your group.

Course

The experiment consists of 20 periods. Every group member receives an *endowment of 20 tokens* at the beginning of every period. You have to decide how many tokens you want to contribute to the group project. You keep the remaining tokens. At the end of every period you will receive information about the sum of all tokens contributed by the group members. You will also receive information about your individual payoff.

Payoff

Your payoff is divided into two parts:

- *The tokens you kept* = Endowment – your contribution to the project
- *Your share of the project result* = project-result / number of group-members
  Project-result = 1.6 x sum of all tokens contributed by the group-members

Your Payoff:

20 **–** Your contribution to the project **+** (*1.6 x* sum of all tokens contributed by the group-members) */ 4*

Total payoff of the experiment

Your total payoff is the sum of the payoffs of all periods. It will be paid out to you at the end of the experiment at an exchange rate of 1 € per 30 tokens.

Important notes:

You are not allowed to talk to the other participants during the experiment. All decisions are anonymous. Nobody knows the identity of a participant who made a certain decision. The payoffs are also anonymous. No participant knows the payoff of the other participants.

Good luck!

Appendix A2 – Experiment Introduction – Company Treatment

General information

You are an employee of a firm with four employees. **A firm is a pool of resources in which the employees contribute resources to reach the goals of the firm.** During the whole experiment you will only interact with the members of your group.

Course

The experiment consists of 20 periods. Every employee receives an *endowment of 20 tokens* at the beginning of every period. You have to decide how many tokens you want to contribute for achieving the business objective. You keep the remaining tokens. At the end of every period you will receive information about the sum of all tokens contributed by the employees. You will also receive information about your individual payoff.

Payoff

Your payoff is divided into two parts:

- *The tokens you kept* = Endowment – your contribution to the project
- *Your share of the business result* = business-result / number of employees
  business-result = 1.6 x sum of all tokens contributed by the employees

Your Payoff:

20 – Your contribution for achieving the business objective + (*1.6 x* sum of all tokens contributed by the employees) / *4*

Total payoff of the experiment

Your total payoff is the sum of the payoffs of all periods. It will be paid out to you at the end of the experiment at an exchange rate of 1 € per 30 tokens.

Important notes:

You are not allowed to talk to the other participants during the experiment. All decisions are anonymous. Nobody knows the identity of a participant who made a certain decision. The payoffs are also anonymous. No participant knows the payoff of the other participants.

Good luck!

Appendix A3 – Experiment Introduction – Recruitment Test Treatment

General information

You are an employee of a firm with four employees. **A firm is a pool of resources in which the employees contribute resources to reach the goals of the firm.** During the whole experiment you will only interact with the members of your group.

Recruitment Test

The employees are selected by a recruitment test which will be conducted at the beginning of the experiment. The recruitment test should assure an optimal composition of employees to reach the firm's business objective.

Course

The experiment consists of 20 periods. Every employee receives an *endowment of 20 tokens* at the beginning of every period. You have to decide how many tokens you want to contribute for achieving the business objective. You keep the remaining tokens. At the end of every period you will receive information about the sum of all tokens contributed by the employees. You will also receive information about your individual payoff.

Payoff

Your payoff is divided into two parts:

- *The tokens you kept* = Endowment – your contribution to the project
- *Your share of the business result* = business-result / number of employees
  business-result = 1.6 x sum of all tokens contributed by the employees

Your Payoff:

20 **–** Your contribution for achieving the business objective **+** (*1.6 x* sum of all tokens contributed by the employees) */ 4*

Total payoff of the experiment

Your total payoff is the sum of the payoffs of all periods. It will be paid out to you at the end of the experiment at an exchange rate of 1 € per 30 tokens.

Important notes:

You are not allowed to talk to the other participants during the experiment. All decisions are anonymous. Nobody knows the identity of a participant who made a

certain decision. The payoffs are also anonymous. No participant knows the payoff of the other participants.

Good luck!