

# Imposing codes of good conduct promotes social behaviour

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March 26, 2015

## Abstract

In this article we study experimentally how public statements about future social behaviour, used in oaths and code of conducts, affect individual decisions. While the literature focuses on bilateral interactions, we study a social dilemma situation. We show that in such a context compulsory statements may be more effective than voluntary ones.

A large part of human activities rely on the compliance of individuals with certain behavioural standards, especially when material incentives for opportunistic behaviour are prevalent. Good academic conduct or ethical behaviour in positions of political or economic power are examples. Oaths or Codes of conduct have been proposed as an instrument to fight this social dilemma. In this article we test the effect of such statement of intent and distinguish between voluntary and compulsory statements.

Three effects are prevalent: a selection effect, i.e. people with a general high propensity to contribute make a statement; a commitment effect, i.e. people making the statement increase their contribution; and a coordination effect, i.e. people increase their contributions due to the assurance that the other players also pledged the statement. The comparison of voluntary and compulsory statements shows, that the effect is strongest when the statement is imposed on everyone, emphasizing the role the coordination effect plays in social dilemma situations.

**keywords:** public statement, oath, codes of conduct, promise, commitment, public good

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\*The authors would like to thank Uri Gneezy, Nicholas Jaquemet, Richard Jefferson, Pedro Rey-Biel, Benno Torgler, Sarah Necker and Antoine Malezieux for very helpful comments on earlier versions of this paper. The authors also thank the participants at the French Experimental Economics Association conference, the Workshop on employees dishonesty at ESC Dijon and seminar participants at QUT, UCSD, UCSB, Maastricht University for valuable comments.

# 1 Introduction

Professional misconduct, for example by bankers or doctors, may seem at first like simple criminal behavior. The detection of respective breaches carries out legal consequences for the actor. But misconduct also has a second, wider dimension. Unethical behaviour destroys public trust in the industry, in which the actors are operating. In the past the literature focused on the first dimension of professional misconduct and assessed only the direct social costs that the opportunistic behaviour of the agent in charged imposed on direct transaction partner (Becker, 1968; Gneezy, 2005; Dulleck et al., 2011). In this article, we analyse the second, the social dimension of misconduct and will test whether public statements about good intentions can help to harness opportunistic behaviour in social dilemmas.

An individual actor can gain private benefits from deviating from professional standards, but potentially imposes through the misconduct costs on all other members of the profession. Academics, doctors or bankers rely on the trust society extends to them. When a fraud case becomes public, the consequent costs for the entire profession can be immense. As an example, for the case of detection of academic misconduct the entire scientific community loses credibility (Ioannidis, 2005; Martinson et al., 2005; Fanelli, 2009, for a general discussion on scientific fraud) (Begley and Ellis, 2012, for unreproducible 'landmark' studies in cancer research) (List et al., 2001; Necker, 2014, for a discussion in Economic research). Stronger regulations, less investments and client interactions can follow the failures regarding professional integrity.

Given this tragedy of the commons aspect of misconduct, we apply a public good game to study the effect of codes of good conduct. In the analysis we are able to identify three effects of such statements: 1. a selection effect - people with a higher propensity to contribute to the public good are likely to make such a statement voluntarily; 2. a commitment effect - people that make a statement, independent of whether it is voluntarily or compulsory, contribute more; 3. a coordination effect, if all group members make a statement, voluntarily or compulsory, contributions increase. The third effect can explain our finding that compulsory statement are the most effective to increase contributions.

\*\* In practice a common approach for dealing with the problem of conflicting interests is to require oral and written statements from actors in the respective field, promising proper, pro-social conduct. Statements of this kind are either voluntary or compulsory. Examples of compulsory statements are the Hippocratic oath of doctors or statements of good conduct that are compulsory for many academic journals. Recently, such oaths have also been proposed for managers<sup>1</sup>, economists (DeMartino, 2010) and bankers

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<sup>1</sup>The Harvard Business and Columbia Business School implemented, for example, an

(Boatright, 2013) <sup>2</sup>.

Considering the broad application of non-binding, public statements about good conduct; surprisingly little research has been done on the topic. Academic interest on oaths and codes of good conduct is only just emerging (de Bruin and Dolfmsma, 2013). First hypotheses on the effect can be drawn from related research in psychology and behavioural economics regarding promises and the consequent psychological commitment.

According to Festinger (1957)'s cognitive dissonance theory, individuals seek for consistency in behaviour. Individuals, who made a statement about future behaviour, are consequently highly likely to also perform these actions in order to avoid inner disharmony. Complementary research in experimental economics has found that a substantial number of individuals avoid lying even if they have to forego a material gain by doing so (Gneezy, 2005). People who make, in pre-play communication, a promise about future co-operative behaviour, are also likely to keep their word. The promise is taken by the interaction partner as a serious attempt to co-ordinate and can thus help to foster co-operation (e.g. Ellingsen and Johannesson, 2004; Charness and Dufwenberg, 2006; Vanberg, 2008). Further it has been found that the commitment effect varies with the form of the statement; thus is the autonomous decision to commit essential for the commitment effect (Kiesler, 1971; Schlesinger, 2011), elicited or pre-formulated promises have in contrast only a little effect (Charness and Dufwenberg, 2010; Belot et al., 2010). Public promises have a stronger commitment effect than private pledges (Joule and Beauvois, 1997). The effect of promises has been studied hereby only in one-to-one interactions.

To promote truthfulness in laboratory experiments Jacquemet and colleagues made use of these insights and offered a solemn oath to participants. Due to the oaths subjects were more likely to reveal their true preferences (Jacquemet et al., 2013a) and also communication between subjects was more truthful; co-ordination could be improved (Jacquemet et al., 2013b).

This research, in contrast, studies the effect of an institutionalised promise, given and predetermined by an institution and addressed to a group. It investigates whether a publicly made statement about intended social be-

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MBA oath in the graduate program. While the graduates from Harvard can freely decide, whether they want to pledge that the goal of a business manager is to serve the greater good, students at Columbia must honour the code.

<sup>2</sup>Especially since the financial crisis (GFC) the idea has gained popular support in order to restore professional integrity in the banking and management sectors. A code of conduct for bankers should encourage (...) *bankers to take into account the impact of their activities on the wider economy and on society, rather than focusing on making a short-term profit.*" (Webb, 2010). The Netherlands ultimately established such a code for bankers in 2010. All Dutch bankers have to declare the following oath now before entering the profession. *"I declare that I will perform my duties as a banker with integrity and care. I will carefully consider all the interests involved in the bank, i.e. those of the clients, the shareholders, the employees and the society in which the bank operates."*

haviour can help to overcome a social dilemma.

To the researchers' knowledge, all existing promise or oath studies identify the effect of a statement in a between-subject design. Consequently, the studies miss to control for endogeneity and it remains unclear whether an increase in social behaviour is due to a commitment effect or due to the fact that only socially oriented people are making a statement about intended social behaviour. The design of this research allows to address this issue and is thus able to test whether a commitment effect really exists. Furthermore, we will contrast in a treatment variation, a voluntary pledge, identified by the previous studies as more favourable, with a compulsory statement, which is more common in practice.

## 2 Experimental Design

In our experiment we used the classic public good game. Players have to decide how many units to contribute to a common resource pool. Contributions to the commons are increasing the collective output, but the individual's dominant strategy is to the endowment and free-ride on the commons contributions of the other players contributions to the common (see supplementary material for a precise description of the game).

Participants were allocated in three treatment groups. Every player went through three stages of the experiment. Table 1 summarises the design. In each stage the public good game was played ten times.

In the first stage all players played the standard public good game. This stage served as baseline to control for learning effects and heterogeneity between players.

After the first stage groups were rematched and in the two treatment groups a (non-binding) statement was introduced to communicate intended significant contributions to the commons in the second stage, i.e. to contribute 75 percent of the 20 unit endowment. The intervention took place before the second stage started.

In the voluntary oath group participants decided simultaneously whether they wanted to make the statement. It was made explicit that making the pledge has no consequences on the set of possible future choices and does not limit the decision later in the experiment, i.e. the statement was a form of cheap talk (for details please see the SOM).

All players learned who else made the oath in their group before the first contribution decision needed to be made. Oath-takers were labelled throughout the consequent ten rounds of Stage 2. In the compulsory treatment group, the statement was compulsory for all players and made in the same way than in the voluntary group.

In the last stage the same task and participants in the treatment group could/needed to again make the oath. Additionally a punishment option was now offered. After the players learned in the feedback round how much each of the other players contributed to the common, punishment points could be allocated. In order to identify the pure effect of punishment, half of the groups in the control group did not have the option to punish other group members in Stage 3. All decisions were payment relevant, please see for details the supplementary materials. Figure 1 provides an illustration of the game. The experimental procedure and instructions can be found in the SOM.

### Hypotheses

Under the assumption of purely selfish behaviour, favoured by economists, contributions are expected to be 0 in all groups and stages. Empirical evi-

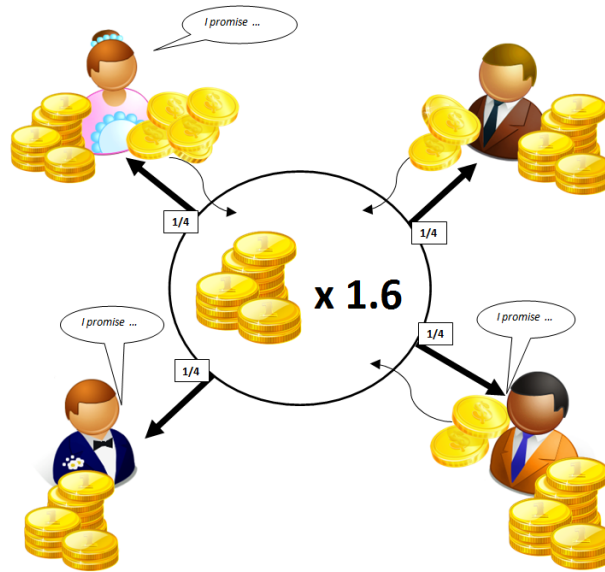


Figure 1: Illustration of Game

Table 1: Experimental Design

	STAGE 1	STAGE 2	STAGE 3	N
<b>CONTROL</b>	Standard PGG	Standard PGG	Standard PGG Punishment (50%)	96
<b>VOLUNTARY</b>	Standard PGG	<b>Voluntary Oath</b> Standard PGG	<b>Voluntary Oath</b> Standard PGG Punishment	96
hline				
<b>COMPULSORY</b>	Standard PGG	<b>Compulsory Oath</b> Standard PGG	<b>Compulsory Oath</b> Standard PGG Punishment	96

dence, however, exists that contributions in public good game are on average between 40 – 60% of the endowment and deteriorate over the course of the game.

Of interest for this research is the development of contributions between the first and second stage. In the treatment groups subjects pledged the good conduct before the second stage started. From previous research it is known that communication enhances the contribution levels significantly

(for an overview on the effect of communication Sally, 1995; Bochet et al., 2006; Balliet, 2009).

With respect to making a statement, the psychological literature suggests that statements affect behaviour, even when non-binding. Two theoretical explanations are offered by the literature. First, an aversion to lying exists, either because the person has a preference for keeping their word (Ellingsen and Johannesson, 2004; Vanberg, 2008) or because the promisor does not want to act against the social norm of not breaking a promise (Binmore, 2006; Bicchieri and Lev-On, 2007); the other explanation argues that the effect is indirect: the statement raises the expectations of others, the person making the statement anticipates this and is motivated not to disappoint the expectations of others (Charness and Dufwenberg, 2006). Both theories suggest that making a statement should increase contributions to the commons in this experiment.

Given the design of the experiment, three causes for the increase in contributions can be indentified.

First, we will be able to identify a *selection effect*, by testing whether contributions of participants, who are choosing to make a statements, are also higher in stage 1 than for subjects who decide not to make a statement.

Second, we are able identify a *commitment effect*, by comparing the difference in contributions from stage 1 to stage 2 for participants who made a statement. The baseline group serves as a control for normal deterioration of contributions due to the repetition.

In our study two types of statements were implemented; a voluntary statement and a compulsory pledge. From existing research (Kiesler, 1971; Schlesinger, 2011; Charness and Dufwenberg, 2010; Belot et al., 2010) we would assume that the effect of the compulsory statement is weaker, since participants did not decide autonomously to commit. With comparing the change of contributions between treatment 1 and treatment 2 we will test whether this is true or if the assurance that everyone signes up for the same rules leads to a potential *co-ordination effect*. It is known that contributions in a public good game increase with the contributions of the other group members. This is referred to as conditional reciprocity, a well-recognised driver for contributions to the commons (Fischbacher et al., 2001).

### 3 Results

We first discuss the effects of the statements without taking potential punishment into account, i.e. we consider Stage 1 and 2 of the experiment. Non-parametric tests are used for the ease of presentation, but the results are robust in regression analysis, which can be found in the supplementary material.

Under the assumption of rationality and self-regarding preferences we expect that the agents use the promise as a signal, if it is believed that the promise can influence the beliefs of the other players, but the commitment has no influence on the individual’s decision to maximize profits through freeriding. The interaction partners, on the other hand, identify the promise as cheap talk and do not get influenced by it. Ultimately the promise has no effect.

Contrarily to these assumptions we find evidence that a statement of intentions influences the promise-maker as well as the subjects receiving the promise.

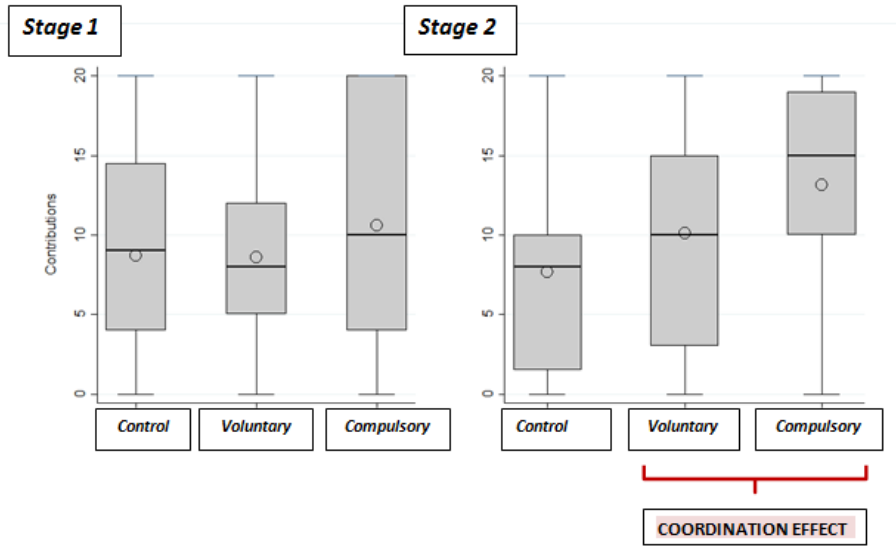


Figure 2: Contributions in Stage 1 and 2

In the voluntary treatment group, half of the subjects decided to make the statement of intent and increased their contributions substantially. Distinguishing hereby between participants who voluntarily pledged the statement, Oath-takers, and subjects who decided not to pledge the statement, Non-Oath-takers, we find evidence for a *selection effect*. Average contributions of participants who decided to make a voluntary statement, were also significantly higher (t-test,  $p < 0.001$ ) in Stage 1 than of participants who



decided not to make a statement. Figure 3 shows the respective average contributions for two types in the voluntary treatment group.

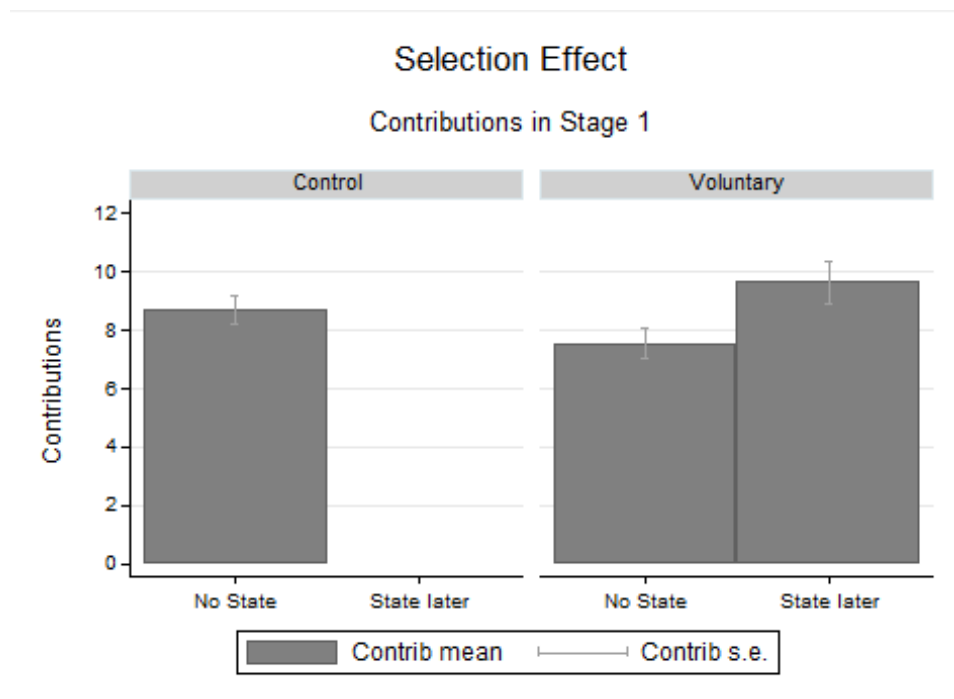


Figure 3: Selection effect

One question we asked was, whether the statement motivates higher contributions for participants who made the pledge, beyond the increase we observed in the selection effect. We therefore analyse the change in contributions for each individual between Stage 1 and Stage 2, i.e. before and after the statement was made. Figure 4 displays the average difference in contributions.

We see that average contributions increased significantly in Stage 2 when a statement was made (Voluntary Oath-takers - Stage 1 vs Stage 2: t-test,  $p < 0.001$ ). In opposite, for subjects who decided not to make the statement (voluntary treatment group) contributions did not change (t-test,  $p = 0.92$ ). If we compare the change in contributions between the two treatment groups, i.e. comparing the effect of a voluntary versus a compulsory oath, we find that the increase is stronger when the oath-taker made the pledge voluntarily, however the difference is not statistically significant (t-test,  $p = 0.29$ ). Thus, the on previous research based hypotheses that imposed commitments are significantly less effective does not hold. Furthermore if we consult the change on an aggregate level, i.e. pooling the data of voluntary oath- and non-oath-takers, the increase in the compulsory treatment is significantly higher (t-test,  $p = 0.03$ ) than in the voluntary treatment group. Figure

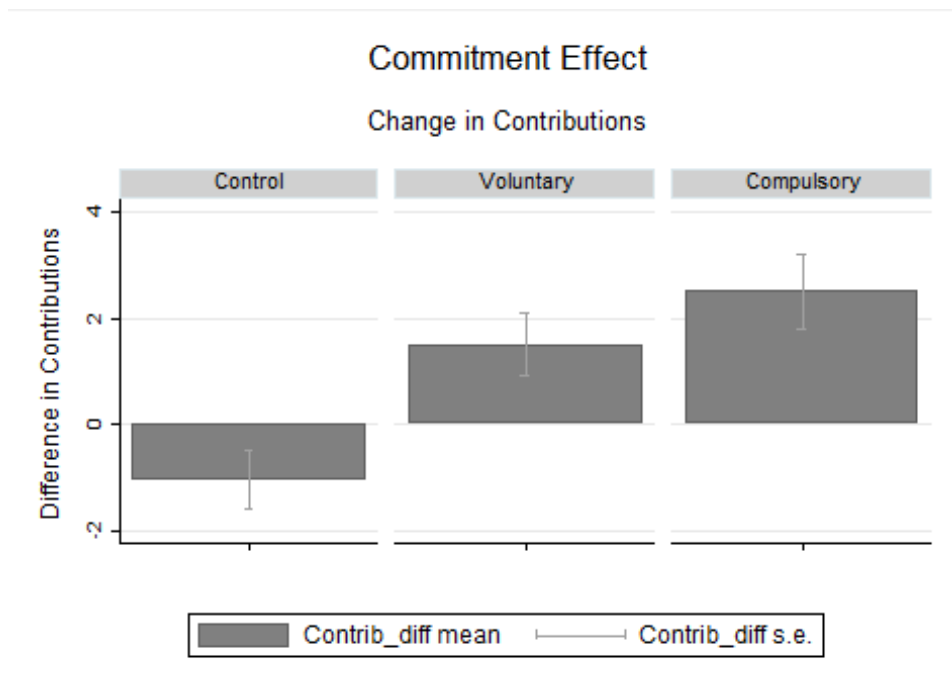


Figure 4: Commitment effect

5 displays the pooled data in comparison. We interpret this result as an additional coordination effect that operates additional to the commitment effect. In the compulsory group everyone has to make the statement and this assurance compensates for the fact that the oath is imposed.

Indicative of a difference in a commitment effect between the voluntary statement (treatment group 1) and a compulsory statement (treatment group 2) is the data of two experimental groups in the voluntary statement treatment, where all four group members chose to make a statement. In this case the contribution contributions and the change in contribution between Stage 1 and 2 outweighs all other groups (a graph with the respective contributions can be found in the supplementary material).

Further support for the effectiveness of compulsory statements and a coordination effect can be found in the development of contributions over time. Figure 6 shows the dynamic development of contributions in Stage 2, for ease of presentation we used fitted values (see SOM ?? for the raw data).

The effect of a voluntary statement is, in the beginning, as strong as of the compulsory statement, but the effect deteriorates faster when the statement was voluntary. The dynamic is driven by participants who made the statement and reduce their initial high contributions over time.

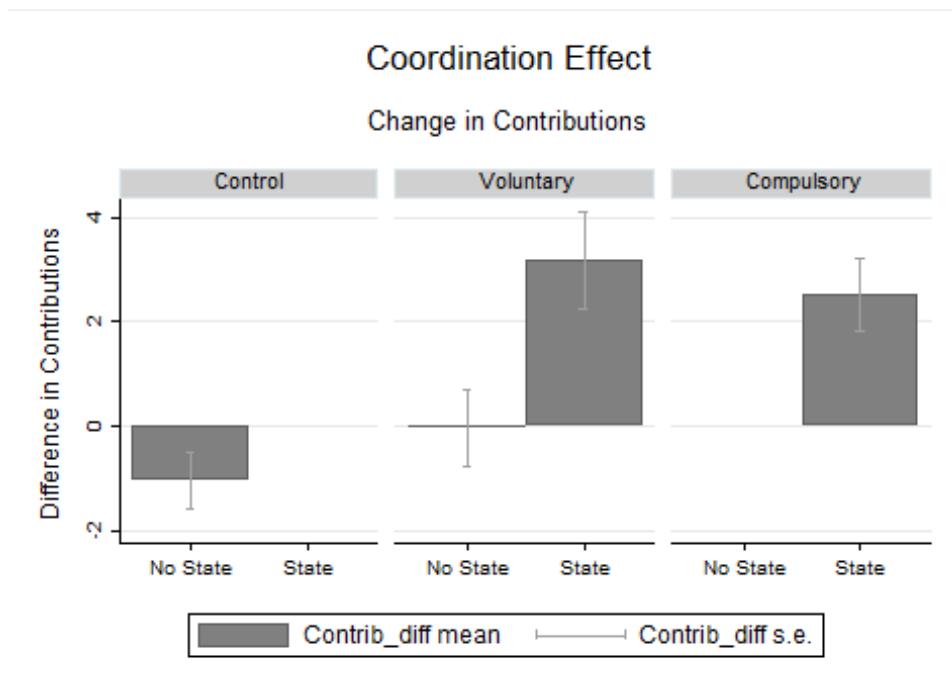


Figure 5: Coordination effect

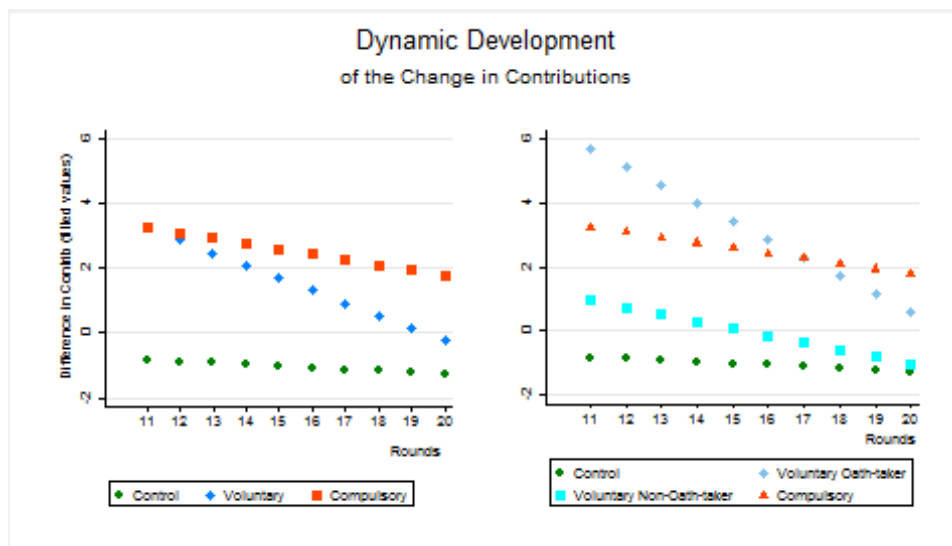


Figure 6: Dynamic development

### Enforcement of Statements

In a third stage of our experiment we allowed participants to distribute punishment points. Participants were able to see whether others in their group

made a statement and how much they contributed in the current round. In the supplementary material we present a detailed analysis of the contributions and punishment choices of participants. The important findings are: punishment points were awarded by high contributors to low contributors, and to a lesser extent from low contributors to high contributors. This is in line with the literature (Fehr and Gächter, 2000a,b). Comparing the treatments, we observe that subjects in the compulsory treatment receive harsher punishment for contributions below the promised level. In the voluntary treatment group, there is no significant disparity between participants who made a statement to participants who decided not to make a statement ( see SOM). Punishment was effective in increasing the contributions, but from a social perspective a lower welfare level was realised than without enforcement. In the voluntary treatment group the punishment reduced the overall surplus more than it increase contributions. Whereas in the compulsory treatment group the welfare level was higher in Stage 3 with punishment than in Stage 2 without punishment. The introduction of punishment lead to a higher contribution level and the social costs of punishment were less than the gain from increased contributions.

## 4 Conclusions

Our results indicate that public statements of good intention, used in oaths and codes of good conduct, can help to overcome social dilemmas. Under the assumptions of rationality and purely self-regarding preferences one would see such statements as merely cheap talk and assign the reason of behavioural changes is, if at all, to a *selection effect*. In this study we showed that this prediction is wrong: With a within subject design we controlled for endogeneity and show that the statement provokes an additional *commitment effect*. Once a statement has been made, it has a positive effect on the level of contributions. We have also found evidence for a *coordination effect*; contributions were higher when all all group members made a statement of good intention. Contrarily to bilateral interactions, this finding suggest compulsory statements of good conduct when the decision involves coordination.

To what extent are the results specific to the artificial situation in an experimental laboratory and what can be taken as implications for the real world? It can be criticized that contributions to commons are highly artificial in our design and misconduct is clearly defined. In natural environments this line is not as clear. While this is a general downside of abstract laboratory experiments, the purity creates high controllability and thus we could identify the three effects that motivate potential behavioural changes following public statements of good intentions. Our results suggest that public statements of good intentions can help to promote professional integrity.

Our findings support policies that request statements about conflict of interest or ethical conduct, as required for example to enter a profession or for submission of an article to an academic journal. In general, our research suggests that even a non-binding statement of intention to contribute to the commons, increases the overall level of contributions. Thus, where it may be politically difficult to get agreement to legally binding rules and regulations that ensure contributions to the commons, public statements may be a less invasive and politically easier solution to mitigate the problem.

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