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Seminar Experimental Economics: Does a joint task shift loyalty?

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Seminar Experimental Economics

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I. Motivation

In standard economic theory (SET) of the homo oeconomicus, fairness and loyalty are not considered in individual's decision making. However, nobody contests that perceptions about fairness and loyalty have implications for many daily decisions. According to SET, rational economic agents should not forgo opportunities that benefit them. Nevertheless contrasting human behaviour is often observable. A common example is the lost-and-found principle. There is no (executive) rule enforcement which forces the finder to bring the lost purse to the office, but often people do – even if the finder's reward is small. For the most part it is perceived as fair that nobody keeps other's belongings. Another example would be customer loyalty. People keep purchasing goods from the same dealer, because they have been doing it for a long time, or feel connected to a brand although other retailers offer the same quality at lower prices. Fairness and loyalty are basic moral values, which are rooted in cultural background. Experimental economics expands the SET model by including social preferences, such as fairness and loyalty to explain economic decisions. We wanted to examine how people derive their decisions when fairness and loyalty are contrasting effects. This is typically the case in whistleblowing. The decision of person A to report misbehaviour of person B can be a moral dilemma for him, depending on the kind of relationship between them. On the one side he has a sense of loyalty to his partner, whereas on the other side he might feel obligated to be fair (i.e. to report the wrongdoing) to a third external party C. The relationship between A and B could be a formal one, like employee and employer, or a personal like friends. Because of their nature personal relationships are not easy to examine. These are usually established over time and through common experiences. We try to circumvent this by focusing more on the effects of collaboration and by assuming some kind of group sentiment among student from the same university. This group feeling should be independent of their courses of studies (The "C" represents the feeling to the whole group of students). In order to establish a relationship between A and B, we have our participants do a real effort task, either as joint partner task or as single task. Our research question can be formulated as the following: Does a joint task increase the probability to behave antisocially? We focus on different situations preceding individual decision making. The main aim of our study is to analyze whether completing a real effort task jointly (i.e. earning income in groups of two) upfront individual decisions will increase the probability to behave antisocial towards the rest of a group. The remaining part of this paper is structured as follows. In section II we discuss some related literature. The experimental design will then be presented in section III. By contrasting assumptions of the homo oeconomicus with findings from our related literature we build up our hypotheses in section IV, before presenting the results in section V. Finally, Section VI concludes this paper.

II. Related Literature

Preferences for being treated fairly and treat others fair, as well as loyalty have been analysed quite a lot in experimental economics. Many important determinants of the interaction of fairness and loyalty have been examined in the context of blowing the whistle.

First of all, whistleblowing decisions do not only depend on the existing relationship between the actors, but on its possible consequences. These are huge impact factors for the final decision. On the one side, whistleblowers earn respect and reputation in society but on the other side they can also face dire personal consequences. The willingness to enforce a fair outcome can be at cost to themselves. Of course, individuals are more likely to blow the whistle when they have no fear of any legal or other negative repercussions. A study of Dyck et al shows (2010) that in the field of corporate fraud it is not the heroic acclaim that leads to whistleblowing. The authors find evidence that monetary incentives increase whistleblowing. However, monetary incentives are rare most of the time. A prominent example is the case of Edward Snowden. He could have been a loyal employee and kept his company secrets. Nevertheless his sense of fairness towards a third external party – ordinary citizens – made him reveal secret information. As a consequence he was prosecuted against national security and he had to flee from his home country.

Second, individual differences in valuing fairness over loyalty lead to different willingness to report unethical behavior. Fairness and loyalty are basic moral values which are transmitted from one generation to the next. But the content of what is regarded as fair or loyal differs with cultural background, as well as age and education (Oosterbeek et al 2004). In their ultimatum game they showed that fairness is not solely determined by age, education and personal preferences but is also positively linked to the extent of market integration. Also the extent to which unfair behavior is punished is positively related to community size (Ensminger and Henrich 2014).

Broadly speaking fairness captures the concept that all persons and groups are treated equally. Previous research has shown that this perception changes with age. In a competitive environment toddlers take fairness into consideration, but value loyalty (e.g. by reciprocity) more. Social distance is another important determinant. Olson & Spelke (2008) also show that children choose to be loyal to family members more often than to strangers. There is research which determines this also for adults. For example adults are more likely to share their endowment in dictator games when they know details about the other persons, so that social distance is less (Charnessa & Gneezy 2008). Falk and Fischbacher (2006) also show that behaving fair or not also depends from the underlining intention of the action. People reciprocate the perceived kindness or unkindness by rewarding or punishing.

Third, the decision to blow the whistle is driven by various psychological aspects. Behaving not loyal or behaving dissimilar is often punished. Adults value telling secrets and tattling as reprehensible because it undermines the feeling of a group membership (Friman et al 2004). Psychological studies also show that 9- and 14-month-old infants prefer individuals who treat similar others well and treat dissimilar others badly (Hamlin et al 2011 and 2013). Literature gives the impression that although the norm of fairness impacts individual's decision making, it is usually overtaken by the norm of loyalty (Waytz et al 2013). Most of the time loyalty is stronger than fairness to the external party.

Fourth, several experimental studies show that fairness and loyalty are linked to entitlement. Here entitlement is used in the context of having achieved a position in which one can demand loyalty or a fair

outcome because one has already exerted some effort to get in this position. Existing literature refers to this as property rights. Oxoby and Spraggon (2008) show in a dictator game that when dictators earn their endowment, the allocations to receivers decline. On the other side when receivers also earned wealth dictators offer them more. Similar evidence is found by Fahr and Irlenbusch (2008). In their trust game one group of the participants had to perform a real effort working task (they were asked to crack walnuts) and the others had leisure time. Their results show that trustees return significantly more, the stronger the property rights of the trustors are. The authors explain this by the fact that the trustees who did not have to perform the task appreciated the work of trustors and regarded their position as earned. Interestingly trustors do not foresee the reciprocal behaviour of the trustee and exploit their strategic advantage by investing more upfront (p.281). Effort is usually rewarded with regard to how much is contributed to a task. In relationships the partner evaluates other's effort and judges whether it is fair that he is given a reward in return. Even children take merit into account. Kanngiesser et al (2012) found that even children before age two expect resources to be divided fairly among them according to each individual's effort to a contribution to a group task. These results emphasize that property rights play a key role in individual's attitude towards fairness and that they can be introduced by real effort tasks. Therefore we also decided to implement a real effort task in order to simulate property rights and creating artificial loyalty.

III. Experimental Design

The experiment was conducted at University of Passau using the software zTree (Fischbacher 2007). In total 199 subjects participated in the experiments, almost all of them students or employees at the University from various fields. Within the scope of the seminar no monetary incentives could be given to participants, i.e. they could not *earn* any real money. Thus, we rely on the participants' good will that they played as if they were to win the payoffs mentioned in the experiment. Still, our results are limited with regard to generalization. One session (with two experiments being played) took 17 minutes on average and the experiment itself ten minutes. After general instructions were read out loud to the participants, more precise information about the experiment was presented on screen. The experiment may be categorized as a mixture of a public goods game and a trust game. At first, all participants had to perform a *real effort task* by setting as many sliders as possible, ranging from zero to 100, equal to 50 (see Fig.1).



Figure 1: Slider Task based on the code by Gill and Prowse (2010)

Before the task all participants got the information that there will be two roles in the experiment, labeled *player 1* and *player 2*. We implemented two different treatments, played simultaneously during a session. Depending on the treatment, the own account was either labeled *partner account* (partner treatment; PT) or *own account* (single treatment; ST). In the first treatment, participants were given the information that they will play together with a partner and roles were assigned before the slider task, thus, the partner account would be shared 50:50. On the contrary, in ST participants performed the task *on their own*, signaling that the earned income on their *own account* was fully theirs and roles were assigned *after* the slider task.

In the next step, all *player 1* were given the choice to embezzle 9 Taler from the group account or not to embezzle. However, they were given the information that they are watched by their assigned *player 2*. If *player 1* chose the option “embezzle 9 Taler”, *player 2* then could choose if they want to report the embezzlement to the group. *Player 1* then would be charged with a fine of 5 Taler and the embezzled 9 Taler would be transferred back to the group account. However, if *player 2* chose not to report the embezzlement he would receive a hush money of 4 Taler from *player 1*. Hence, the amount on the *group account* decreased with every pair of choices *embezzle 9 Taler/not report* and consequently the amount an individual player received from the *group account*. In all sessions choosing *embezzle* (and *player2* does not report) would have increased *player 1's* payoff. However, if *player2* does not reciprocate the respective payoff decreases. Therefore, *player 1* either has to trust his assigned fellow player or he must not be risk averse. The frames of both treatments were loaded with corruption wording, i.e. as labeled so far. A game tree with choice options and changes in payoff structure depending on these choices was presented to all participants from *player 1's first choice* stage until the end of the experiment (Fig. 2).

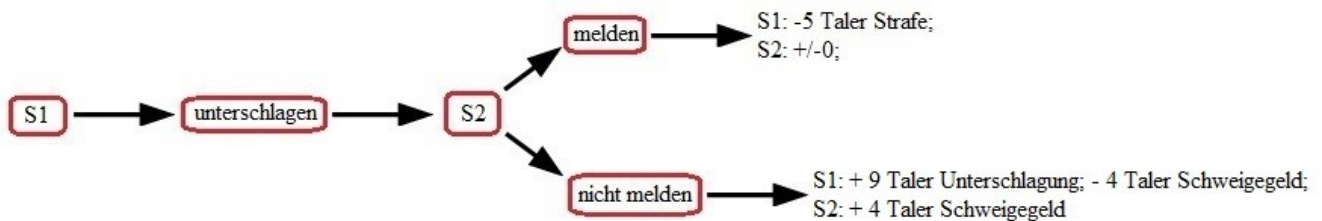


Figure 2: Game Tree as presented during the experiment (changes in payoff dependent on choices)

After the experiments, participants had to answer questions related to the framework of the experiment in order to test our treatment manipulation. Other demographic characteristics were inquired in the other experiment of the sessions.

IV. Research Hypotheses

Public goods games usually investigate a situation in which individual payoff maximization decreases the group's welfare. In our experiment this is depicted by the choice to *embezzle a given amount of money from a group account*, if we take into account standard economic theory for our predictions, whether income is earned jointly or individually has no meaning due to the assumption of complete information transparency. This would imply that all players will choose rational in the sense that they are risk averse and seek to maximize profits. By applying backward induction we therefore expect that

player 2 will always report player 1's embezzlement, because it potentially decreases his own profits. Player 1 anticipates this and therefore always chooses "do not embezzle". Obviously, this assumption depends heavily on player 2's ability to solve his profit maximization problem. The 4\$ hush money may, for example, erroneously indicate profit maximization. Also, SET does not take into account the importance of social relationships, altruism and reciprocity.

Furthermore, in our setup, completing the task jointly might shift the focus of other behavioral parameters (such as feelings of loyalty, responsibility, or altruism) away from the group towards one's partner. If player 1 chose to embezzle, nonetheless, the feeling of being cheated on might be stronger emphasized in the ST, therefore player 2 may feel the urge to punish his assigned player 1. Conversely, due to the joint task players 2 in the PT might feel more obliged to behave loyal towards player 1 rather than to the whole group. Our first hypothesis therefore is

Hypothesis 1: If player 1 chose to embezzle, more player 2 will choose "do not report" their assigned player 1 in PT than in the ST.

Vice versa, if our treatment manipulation works participants in the ST should not develop a strong social connection to their assigned partner. *Homo oeconomicus* implies risk aversion and player 1, hence, would only choose to embezzle if he is certain that player 2 will not report him. As already mentioned in the related literature, individual risk can be reduced by building up trust. Again, it is argued that joint real effort tasks could serve as a trigger. When income is earned jointly the different parties might build up trust for each other. Respectively, trust reduces the risk of uncertainty about the other party's behavior. Since we do not have any trigger for building up trust in the ST we therefore hypothesize further:

Hypothesis 2: More player 1 will choose "embezzle" in the PT compared to the ST

Results from the experiment, in addition to hypotheses tests are presented in the next chapter.

V. Experimental Results

In this section we first present our main findings hypotheses tests of our experiment. In addition, we make use of the questionnaire in order to estimate regressions on our experimental variables. Figure 1 below provides the main experimental results. Overall 61 out of 101 player 1 in both PT and ST preferred not to embezzle. Since this is quite a large share, this could already indicate that our participants are generally honest and fair. 44.2 % player 1 (absolute: 23 players) choose to embezzle in the PT, compared to 34.4 % (17) in the ST. By applying the Fisher's exact one-sided T-Test, we can not reject the null hypothesis to the power of $\alpha= 5\%$ and 10% that player's 1 decisions is the same in PT and ST. This means that player1 do not behave differently in PT compared to ST. Although the slightly higher embezzlement rate in the PT compared to the ST shows a trend in favour of our first hypothesis, we can't hold it. Analogously, we also can't confirm our second hypothesis: Results of the Fisher's exact one sided T- Test ($\alpha= 5\%$ and 10%) imply that the decision of player 2 to blow the whistle or not are not dependent on being in the PT group or in the ST group. In the PT nearly 62% (or absolute 14) player 2 decided to report their partner's embezzlement. In the ST the share was almost the same: 59% (10 players).

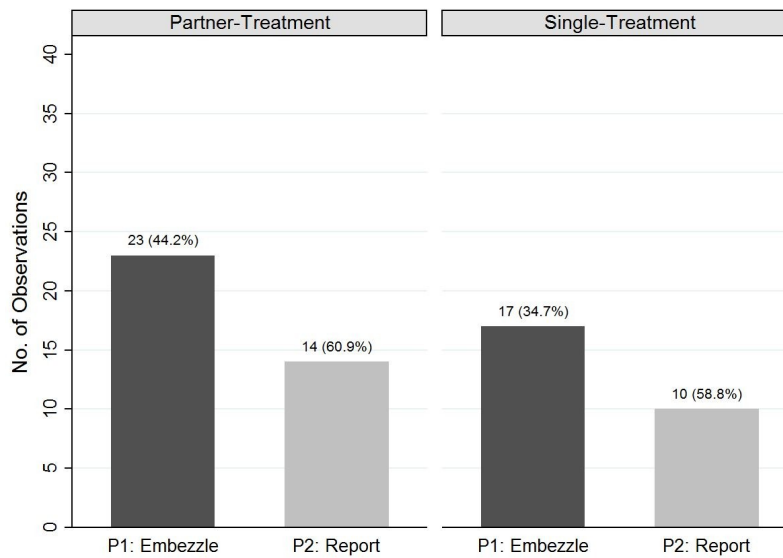


Figure 3: Choices of P1 & P2 by treatment

Next, we checked if the decision of player 1 and 2 follow the same distribution in PT and ST. The null-hypothesis of the Mann-Whitney Test can't be rejected, so we conclude that our sample of player 1 and 2 do not differ from the population. Table 1 below presents general outcomes per session and for the total experiment.

Descriptive Characteristics in Means			
	(1) Partner Treatment	(2) Individual Treatment	(3) p-Values
Effort	20.3	20.6	(0.737)
Group Account	349.0	354.8	(0.667)
Remaining Group Account	336.6	341.9	(0.674)
Payoff	40.3	40.6	(0.693)
Age	25.0	23.2	** (0.005)
Gender (1 = male)	0.39	0.39	(0.966)
Responsibility	5.61	5.58	(0.876)
General Loyalty	6.49	6.35	(0.308)
Loyalty towards partner	3.55	2.93	** (0.008)
Loyalty towards group	2.95	2.98	(0.904)
<i>N</i>	103	96	199

mean coefficients; p-values in parentheses
 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1: Descriptive Statistics, by Session

Over all sessions the mean age was 24 years and players solved 20.4 sliders correctly. The mean payoff is at 40.4 Taler. Session 2 and 6 deviate slightly from the mean. The fact that we do not find large differences in and between group compositions across sessions enables us to exclude that these drive our experimental outcomes. In other words, the missing treatment effect is not caused by differences between groups and sessions.

In the next step we try to explain participants' behavior by social preferences. A control question and a questionnaire which all participants had to fill out enable us to indicate those factors. We asked each player about how he thinks how the other player will decide. Perceived perception player 1 stands for whether P1 thinks that P2 will blow the whistle or not after he himself chose to embezzle. Just the same is perceived perception player 2. He was asked about his belief of P1 to embezzle. Further our subjects had to state their sentiments/attitude towards "partner", "group", and "general" loyalty on a Likert scale. The Mann-Whitney test reveals a significant ($\alpha = 10\%$) difference between PT and ST for "partner loyalty". This means, that regarding partner loyalty PT and ST do not follow the same distribution, they are different from each other. We explain this by our treatment manipulation. A joint task influences positively partner loyalty. This is a weak indication for our hypothesis 1. However loyalty towards the group and general loyalty are not affected. Interestingly logit estimation predicts that loyalty towards the group increases in the PT. This in turn leads to a higher probability of player 1 choosing not to embezzle, which is consistent with our results. On the one hand, an explanation could be that that our corruption wording influenced the decisions. Perhaps some player 1 were deterred by this and hence more risk averse to embezzle in first place. On the other hand, we can not exclude that the missing joint task in the ST causes a higher risk aversion among players. But we do believe that our experiment's results can be explained by social norms. As our participants were mostly students they all feel social proximity towards each other and also want to meet others expectations. As the University of Passau is quite small this effect might be even stronger. It is common for students to help each other and to be friendly. Behaving selfish or cheating however is regarded as bad behavior. Therefore, the faith of all players that each other player will not embezzle and the sense of responsibility to all participating students might lead to low embezzlement in our experiment. Players fear to be punished by their peer students when they violate the social norm not to embezzle and choose to be fair right away. Equivalently reporting rates mean that player 2 executes negative reciprocity because they value embezzlement as reprehensible altruism of player 1. Last, preservation of the self-image of being a good peer student can also be a possible explanation for choosing fairness over loyalty.

VI. Conclusion

In our attempt to show the relationship of loyalty and fairness in whistleblowing decisions, we set up an experimental game. Our results suggest that there were no significant treatment effects. Players' behavior in the PT and ST is only slightly different. Although more player 1 choose to embezzle in the PT, the difference to the control group is not significant. In contrast to our hypothesis player 1 does not choose to embezzle more in the PT than in the ST. We also do not observe an increase in player 2 choices to favor loyalty towards his partner (i.e. to choose do not report) over being fair to the rest of

the players in the room. We can be sure that the unobserved treatment effect is not caused by differences in the composition of the PT and ST. Whereas individual's decisions over embezzlement and reporting aren't affected by the treatment manipulation, the control variables "partner loyalty" and "group loyalty" are affected. According to the Mann-Whitney-Tests "partner loyalty" increases in the PT. After the joint task both players feel a higher sentiment of loyalty for their partners in the PT group. In contrast, loyalty towards the rest of the group is not affected by the treatment manipulation. As all participants were students of the University of Passau we are not very surprised that we could not estimate a significant treatment effect. We think that this is because of the pleasant atmosphere in University of Passau. Generally students are closely interlinked and maybe therefore unwilling to violate the social norm and betray other peers. They behave fair, even if experiments are conducted anonymously. Keeping up a proper self-image of a student as he shall be can also be a possible explanation for choosing fairness over loyalty.

However it would be interesting to know if the slight increase of player 1 choosing to embezzle in the treatment group would be stronger and significant when more observations are drawn. For further investigation application of the strategy method could also give further insights.

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Appendix

A. Tables

Correlation	Decision Player1	Treatment	Age	Gender	Siblings	Responsibility	General Loyalty	Partner Loyalty	Group Loyalty
Decision Player1	1.000								
Treatment	-0.096	1.000							
Age	0.051	-0.204	1.000						
Gender	0.219	0.001	0.091	1.000					
Siblings	-0.123	0.041	-0.127	0.030	1.000				
Responsibility	-0.228	0.073	0.180	-0.307	0.165	1.000			
General Loyalty	-0.116	0.018	0.125	-0.082	-0.015	0.415	1.000		
Partner Loyalty	-0.096	-0.271	0.029	-0.160	0.126	0.073	0.152	1.000	
Group Loyalty	-0.284	-0.126	0.045	-0.225	0.202	0.275	0.145	0.634	1.000

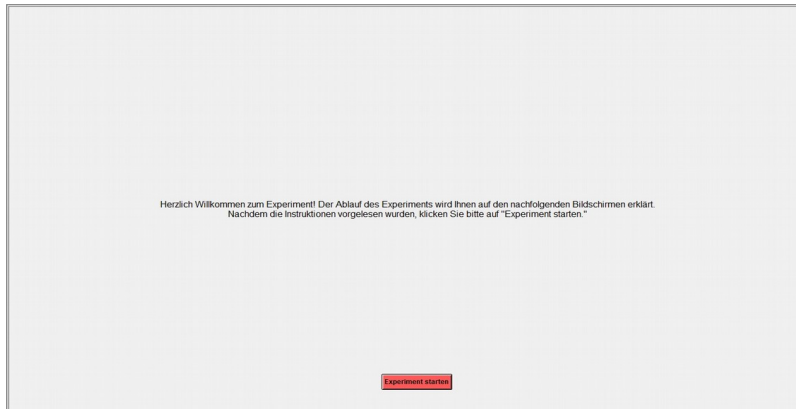
Table 2: Correlations For Player 1

	(1) Logit
Treatment	-0.3 (0.478)
Age	0.03 (0.055)
Gender	0.5 (0.517)
Studies	0.1 (0.100)
Raised in...	-0.2 (0.302)
Siblings	-0.5 (0.752)
Responsibility	-0.2 (0.219)
General Loyalty	-0.1 (0.342)
Loyalty towards partner	0.2 (0.174)
Loyalty towards group	-0.4** (0.196)
_cons	2.0 (2.591)
N	101
R ²	

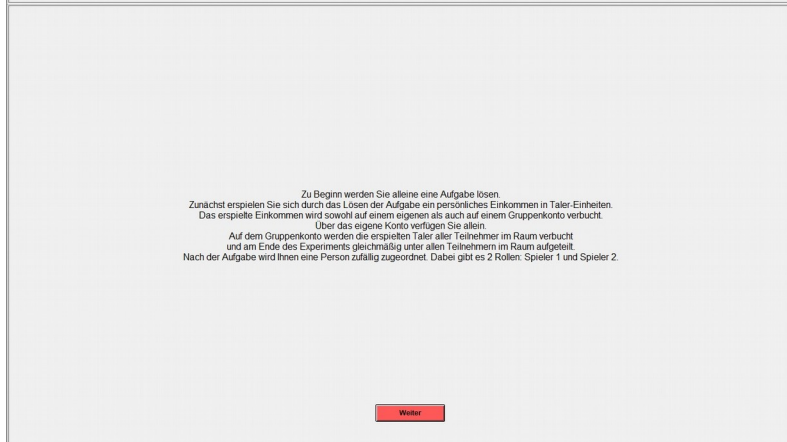
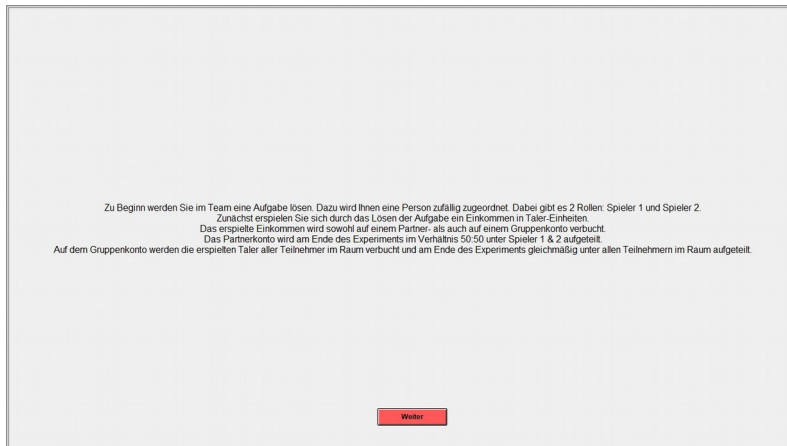
Standard errors in parentheses
 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Regressions on Player 2's decisions

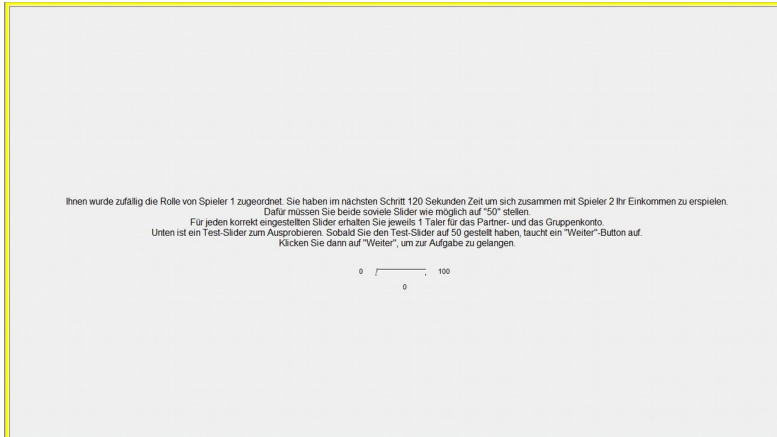
B. Z-Tree Stages



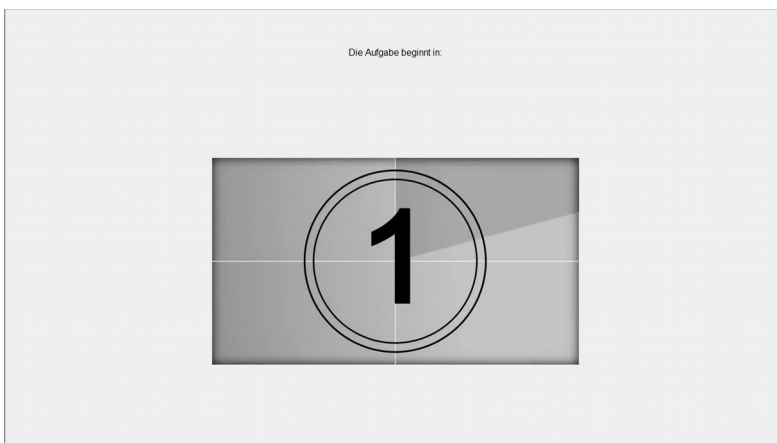
Stage 1: Welcome Stage, identical for all players



Stage 2: Introduction I); Partner Treatment (upper part) & Single Treatment (lower part) separately; all stages follow this order



Stage 3: Introduction II); PT & ST



Stage 4: Timer before the Slider Task

Ihr gemeinsam mit Spieler 1 erspieltes Einkommen auf dem **Partnerkonto** beträgt:
0 Taler.

Auf dem **Gruppenkonto** befinden sich
0 Taler.

Weiter

Ihr erspieltes Einkommen auf Ihrem **eigenem Konto** beträgt:
0 Taler.

Auf dem **Gruppenkonto** befinden sich
0 Taler.

Weiter

Stage 5: Income Stage; PT & ST

Erspieltes Guthaben
Partnerkonto: 0.00 Taler.
Gruppenkonto: 0.00 Taler.

Sie haben nun die Möglichkeit, **9 Taler vom Gruppenkonto** zu unterschlagen oder **nicht**.
 Sie werden bei Ihrer Entscheidung von Spieler 2 beobachtet.

Spieler 2 hat im Anschluss die Möglichkeit, die Unterschlagung zu **melden** oder **nicht**.
 Wählt er die Option "melden", so behalten Sie Ihre Anteile an den Konten, aber es werden Ihnen **5 Taler Strafe** abgezogen und der unterschlagene Betrag wandert zurück auf das Gruppenkonto.
 Entscheidet sich Spieler 2, Ihre Unterschlagung nicht zu melden, wird ein Schweigegeld in Höhe von 4 Talern an ihn fällig.
 Sie behalten dann Ihre Anteile an den Konten nach der Unterschlagung sowie den unterschlagenen Betrag von 9 Talern, aber es werden Ihnen 4 Taler Schweigegeld für Spieler 2 abgezogen.
 Spieler 2 erhält dann seine Anteile zusätzlich des Schweigegeldes.

Falls Sie **nicht** unterschlagen, setzt sich Ihre Auszahlung aus den jeweiligen Anteilen der Konten zusammen.
 Alle Teilnehmer im Raum, denen ebenfalls die Rolle Spieler 1 zugewiesen wurde, haben ebenfalls die Möglichkeit zu unterschlagen.
 Zur Verdeutlichung sehen Sie unten einen Spielbaum. Dieser wird Ihnen weiterhin angezeigt werden.

Die Auszahlung für alle Spieler ist der jeweilige Anteil am Partnerkonto und dem Gruppenkonto, sowie den in der untenstehenden Grafik abgebildeten Änderungen.

```

    graph LR
      S1((S1)) -->|unterschlagen| S2((S2))
      S1 -->|nicht unterschlagen| P1[ ]
      S2 -->|melden| P2["S1: -5 Taler Strafe;  
S2: +0;"]
      S2 -->|nicht melden| P3["S1: + 9 Taler Unterschlagung; - 4 Taler Schweigegeld;  
S2: + 4 Taler Schweigegeld"]
  
```

Option 1: Ich entscheide mich dafür, nicht zu unterschlagen.
 Option 2: Ich entscheide mich dafür, 9 Taler vom Gruppenkonto zu unterschlagen.

Weiter

Erspieltes Guthaben
Eigenes Konto: 0,00 Taler
Gruppenkonto: 0,00 Taler

Ihnen wurde zufällig die Rolle von Spieler 1 zugeordnet. Sie haben nun die Möglichkeit, **9 Taler vom Gruppenkonto** zu unterschlagen oder **nicht**. Sie werden bei Ihrer Entscheidung von Spieler 2 beobachtet.

Spieler 2 hat im Anschluss die Möglichkeit, die Unterschlagung zu melden oder nicht.

Wählt er die Option "melden", so behalten Sie Ihre Anteile an den Konten, aber es werden Ihnen **5 Taler Strafe** abgezogen und der unterschlagene Betrag wandert zurück auf das Gruppenkonto.

Entscheidet sich Spieler 2, Ihre Unterschlagung nicht zu melden, wird ein Schweigegehd in Höhe von 4 Talern an ihn fällig. Sie behalten dann Ihre Anteile an den Konten nach der Unterschlagung, sowie den unterschlagenen Betrag von 9 Talern, aber es werden Ihnen 4 Taler Schweigegehd für Spieler 2 abgezogen.

Spieler 2 erhält dann seine Anteile zuzüglich des Schweigegeldes.

Falls Sie **nicht unterschlagen** setzt sich Ihre Auszahlung aus den jeweiligen Anteil der Konten zusammen.

Alle Teilnehmer im Raum, denen ebenfalls die Rolle Spieler 1 zugewiesen wurde, haben ebenfalls die Möglichkeit zu unterschlagen.

Zur Verdeutlichung sehen Sie unten einen Spielbaum. Dieser wird Ihnen weiterhin angezeigt werden.

Die Auszahlung für alle Spieler ist das eigene Konto und der jeweilige Anteil am Gruppenkonto, sowie den in der untenstehenden Grafik abgebildeten Änderungen.

```

graph LR
    S1((S1)) -->|unterschlagen| S2((S2))
    S1 -->|nicht unterschlagen| P1["S1: +9 Taler  
S2: +4 Taler Schweigegehd"]
    S2 -->|melden| P2["S1: -5 Taler Strafe  
S2: +9 Taler"]
    S2 -->|nicht melden| P3["S1: +9 Taler Unterschlagung - 4 Taler Schweigegehd  
S2: +4 Taler Schweigegehd"]
  
```

Option 1: Ich entscheide mich dafür, nicht zu unterschlagen
 Option 2: Ich entscheide mich dafür 9 Taler vom Gruppenkonto zu unterschlagen

Weiter

Stage 6: Decision Player 1; Player 1 in PT & ST

Erspieltes Guthaben
Partnerkonto: 0,00 Taler
Gruppenkonto: 0,00 Taler

Ihr Partner hat nun die Möglichkeit, **9 Taler vom Gruppenkonto** zu unterschlagen oder **nicht**. In diesem Fall setzt sich Ihre Auszahlung aus den Anteilen der Konten nach der Unterschlagung minus des **Schweigegeldes (4 Talern)** an Sie plus dem unterschlagenen Betrag (9 Taler) zusammen. Falls er nicht unterschlägt, erhält er seine Anteile an den Konten.

Entscheiden Sie sich für diese Option, so wandern die 9 unterschlagenen Taler zurück auf das **Gruppenkonto**.

Melden Sie Ihren Partner **nicht**, so setzt sich Ihre Auszahlung durch die Anteile an den Konten nach der Unterschlagung und der 4 Taler Schweigegehd von Spieler 1 zusammen.

Alle Teilnehmer im Raum, denen die Rolle Spieler 1 zugewiesen wurde, haben ebenfalls die Möglichkeit zu unterschlagen.

Zur Verdeutlichung sehen Sie unten einen Spielbaum. Dieser wird Ihnen weiterhin angezeigt werden.

Was denken Sie, welche Entscheidung Spieler 1 treffen wird? Kreuzen Sie bitte unten an.

Klicken Sie auf "Weiter" um zur nächsten Ebene zu gelangen.

Die Auszahlung für alle Spieler ist der jeweilige Anteil am Partnerkonto und dem Gruppenkonto, sowie den in der untenstehenden Grafik abgebildeten Änderungen.

```

graph LR
    S1((S1)) -->|unterschlagen| S2((S2))
    S1 -->|nicht unterschlagen| P1["S1: +9 Taler  
S2: +4 Taler Schweigegehd"]
    S2 -->|melden| P2["S1: -5 Taler Strafe  
S2: +9 Taler"]
    S2 -->|nicht melden| P3["S1: +9 Taler Unterschlagung - 4 Taler Schweigegehd  
S2: +4 Taler Schweigegehd"]
  
```

Option 1: Ich denke, Spieler 1 wird nicht unterschlagen
 Option 2: Ich denke, Spieler 1 entscheidet sich dafür zu unterschlagen

Weiter

Erspieltes Guthaben
Eigenes Konto: 0,00 Taler
Gruppenkonto: 0,00 Taler

Ihnen wurde zufällig die Rolle von Spieler 2 zugeordnet. Spieler 1 hat nun die Möglichkeit, **9 Taler vom Gruppenkonto** zu unterschlagen oder **nicht**. In diesem Fall setzt sich Ihre Auszahlung aus den Anteilen der Konten nach der Unterschlagung minus des **Schweigegeldes (4 Talern)** an Sie plus dem unterschlagenen Betrag (9 Taler) zusammen. Falls er nicht unterschlägt, erhält er seine Anteile an den Konten.

Entscheiden Sie sich für diese Option, so wandern die 9 unterschlagenen Taler zurück auf das **Gruppenkonto**.

Melden Sie Spieler 1 **nicht**, so setzt sich Ihre Auszahlung durch die Anteile an den Konten nach der Unterschlagung und der 4 Taler Schweigegehd von Spieler 1 zusammen.

Alle Teilnehmer im Raum, denen die Rolle Spieler 1 zugewiesen wurde, haben ebenfalls die Möglichkeit zu unterschlagen.

Zur Verdeutlichung sehen Sie unten einen Spielbaum. Dieser wird Ihnen weiterhin angezeigt werden.

Was denken Sie, welche Entscheidung Spieler 1 treffen wird? Kreuzen Sie bitte unten an.

Klicken Sie auf "Weiter" um zur nächsten Ebene zu gelangen.

Die Auszahlung für alle Spieler ist das eigene Konto und der jeweilige Anteil am Gruppenkonto, sowie den in der untenstehenden Grafik abgebildeten Änderungen.

```

graph LR
    S1((S1)) -->|unterschlagen| S2((S2))
    S1 -->|nicht unterschlagen| P1["S1: +9 Taler  
S2: +4 Taler Schweigegehd"]
    S2 -->|melden| P2["S1: -5 Taler Strafe  
S2: +9 Taler"]
    S2 -->|nicht melden| P3["S1: +9 Taler Unterschlagung - 4 Taler Schweigegehd  
S2: +4 Taler Schweigegehd"]
  
```

Option 1: Ich denke, Spieler 1 wird nicht unterschlagen
 Option 2: Ich denke, Spieler 1 entscheidet sich dafür zu unterschlagen

Weiter

Stage 7: Decision Player 1; Player 2 in PT & ST

Erspieltes Guthaben
 Partnerkonto: 0,00 Taler.
 Gruppenkonto: 0,00 Taler.

Sie haben "unterschlagen" gewählt. Spieler 2 hat nun die Möglichkeit, ihre Entscheidung zu melden.
 Was denken Sie, wie die Entscheidung von Spieler 2 ausfallen wird? Kreuzen Sie bitte unten an.
 Klicken Sie auf "Weiter" um zur nächsten Ebene zu gelangen.

Die Auszahlung für alle Spieler ist der jeweilige Anteil am Partnerkonto und dem Gruppenkonto, sowie den in der untenstehenden Grafik abgebildeten Änderungen.

Option 1: Ich denke, Spieler 2 wird meine Entscheidung melden
 Option 2: Ich denke, Spieler 2 wird meine Entscheidung nicht melden

Weiter

Erspieltes Guthaben
 Eigenes Konto: 0,00 Taler.
 Gruppenkonto: 0,00 Taler.

Sie haben "nicht unterschlagen" gewählt. Sie können keine weitere Entscheidung treffen. Klicken Sie auf "Weiter" um zur nächsten Ebene zu gelangen.
 Ihre Auszahlung wird berechnet, sobald die anderen Spieler zu Ende gespielt haben.

Die Auszahlung für alle Spieler ist das eigene Konto und der jeweilige Anteil am Gruppenkonto, sowie den in der untenstehenden Grafik abgebildeten Änderungen.

Weiter

Stage 8: Decision Player 2; Player 1 in PT & ST

Erspieltes Guthaben
 Partnerkonto: 0,00 Taler.
 Gruppenkonto: 0,00 Taler.

Ihr Partner hat "unterschlagen" gewählt.
 Sie haben nun die Möglichkeit, die Unterschlagung Ihres Partners zu melden oder zu verschweigen.

Die Auszahlung für alle Spieler ist der jeweilige Anteil am Partnerkonto und dem Gruppenkonto, sowie den in der untenstehenden Grafik abgebildeten Änderungen.

Ich möchte die Unterschlagung melden
 Ich möchte die Unterschlagung nicht melden

Weiter

Erspieltes Guthaben
Eigenes Konto: 0.00 Taler.
Gruppenkonto: 0.00 Taler.

Spieler 1 hat "nicht unterschlagen" gewählt. Sie können keine weitere Entscheidung treffen. Klicken Sie auf "Weiter" um zur nächsten Ebene zu gelangen.
 Ihre Auszahlung wird berechnet, sobald die anderen Spieler zu Ende gespielt haben.

Die Auszahlung für alle Spieler ist das eigene Konto und der jeweilige Anteil am Gruppenkonto, sowie den in der untenstehenden Grafik abgebildeten Änderungen.

```

  graph LR
    S1[S1] --> U[unterschlagen]
    U --> S2[S2]
    S2 -- melden --> P1["S1: -5 Taler Strafe;  
S2: -0;"]
    S2 -- nicht melden --> P2["S1: +9 Taler Unterschlagung; -4 Taler Schweigegeld;  
S2: +4 Taler Schweigegeld"]
  
```

Weiter

Stage 9: Decision Player 2; Player 2 in PT & ST

Erspieltes Guthaben
Partnerkonto: 0.00 Taler.
Gruppenkonto: 0.00 Taler.

Sie haben sich für "Melden" entschieden. Der unterschlagene Betrag geht damit zurück auf das Gruppenkonto.
 Insgesamt wurden **0.00 Taler** unterschlagen (nicht gemeldete Unterschlagung aller Spieler 1).
 Der Restbetrag auf dem **Gruppenkonto** beträgt damit **0.00 Taler**.
 Somit beträgt Ihre Auszahlung **0.00 Taler (= 0.00 Partnerkonto + 0.00 Gruppenkonto)**.

Das Spiel ist hiermit beendet. Beantworten Sie abschließend noch einige Fragen zu Ihrer Person. Klicken Sie auf "Weiter" um zur nächsten Ebene zu gelangen.

```

  graph LR
    S1[S1] --> U[unterschlagen]
    U --> S2[S2]
    S2 -- melden --> P1["S1: -5 Taler Strafe;  
S2: -0;"]
    S2 -- nicht melden --> P2["S1: +9 Taler Unterschlagung; -4 Taler Schweigegeld;  
S2: +4 Taler Schweigegeld"]
  
```

Weiter

Erspieltes Guthaben
Eigenes Konto: 0.00 Taler.
Gruppenkonto: 0.00 Taler.

Die anderen Spieler haben zu Ende gespielt.
 Insgesamt wurden **0.00 Taler** unterschlagen (nicht gemeldete Unterschlagung aller Spieler 1).
 Der Restbetrag auf dem **Gruppenkonto** beträgt damit **0.00 Taler**.
 Somit beläuft sich Ihre Auszahlung auf **0.00 Taler (= 0.00 Eigenes Konto + 0.00 Gruppenkonto)**.

Das Spiel ist hiermit beendet. Beantworten Sie abschließend noch einige Fragen zu Ihrer Person. Klicken Sie auf "Weiter" um zur nächsten Ebene zu gelangen.

```

  graph LR
    S1[S1] --> U[unterschlagen]
    U --> S2[S2]
    S2 -- melden --> P1["S1: -5 Taler Strafe;  
S2: -0;"]
    S2 -- nicht melden --> P2["S1: +9 Taler Unterschlagung; -4 Taler Schweigegeld;  
S2: +4 Taler Schweigegeld"]
  
```

Weiter

Stage 10: Payoffs; PT (P2 reported) & ST (P1 did not embezzle)

Fragebogen

Bitte beantworten Sie zum Abschluss die nachfolgenden Fragen. Ihre Angaben werden anonym ausgewertet und haben keinen Einfluss auf das Ergebnis.

Loyalität ist mir im Allgemeinen... gar nicht wichtig ○○○○○○ sehr wichtig

Meine gesellschaftliche Verantwortung ist mir... gar nicht wichtig ○○○○○○ sehr wichtig

Ich habe mich meinem Spielpartner gegenüber... gar nicht... ○○○○○○ sehr... verbunden gefühlt

Ich habe mich den anderen Teilnehmern im Raum gegenüber... gar nicht... ○○○○○○ sehr... verbunden gefühlt

Wenn Sie alle Fragen beantwortet haben, können Sie fortfahren, indem Sie auf 'Experiment beenden' klicken.

Experiment beenden

Stage 11: Questionnaire

Erklärung der wissenschaftlichen Redlichkeit

Hiermit versichere ich, Tobias Bader, dass ich die vorliegende Arbeit selbstständig und ohne Benutzung anderer als der angegebenen Hilfsmittel angefertigt habe. Die aus fremden Quellen wörtlich oder sinngemäß übernommenen Gedanken sind als solche gekennzeichnet. Diese Hausarbeit wurde in gleicher oder ähnlicher Form noch keiner anderen Prüfungsbehörde vorgelegt.

Passau, den 24.09.2017

Julia Hafenrichter & Tobias Bader