**E-Appendix for**

**"Contract Choice: Efficiency and Fairness in Revenue Sharing Contracts"**

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## A. Experimental Parameters and Predictions

Three different contracts types are used in this experiment, the trust contract (TC), the bonus contract (BC) and the revenue sharing contract (RSC).

The agent's profit in the case of a *revenue sharing contract* is defined as:

$$\mathbf{P_{RSC}^{A} = F + S * R(e)} \quad (1)$$

The agent's profit in the case of a *trust contract* is defined as:

$$\mathbf{P_{TC}^{A} = F} \quad (2)$$

The agent's profit in the case of a *bonus contract* is defined as:

$$\mathrm{P_{TC}^{A} = F + B} \quad (3)$$

The *Total Revenue* is given by:

$$R(e) = 150 * e \quad (4)$$

The cost of effort is a strictly increasing and convex function in effort:

$$C(e) = e + e^2 \quad (5)$$

With:

$P_{TC,BC,RSC}^{A}$ ... Agent's profit in the case of TC, BC and RSC, respectively

$F$ ... Unconditional fixed wage

$F \in \{0,1,\dots,2999,3000\}$

$R(e)$ ... Revenue

$S$ ... Relative share of the Revenue that is transferred to the agent in the revenue sharing contract

$S \in \{0.00, 0.01, \dots, 0.99, 1.00\}$

$B$ ... Optional bonus paid to the agent in a bonus contract

$B \in \{0,1,\dots,2999,3000\}$

$e$ ... Effort level revealed by the agent

$e \in \{0,1,\dots,19,20\}$

## *a. The game theoretic solution*

Given the above parameters, the *participation constraint*, i.e. the constraint that has to be met in order to make any contract offer monetarily beneficial, is:

$$T(e) - C(e) \geq 0 \qquad (6)$$

where $T(e)$ is the *transfer* the principal needs to provide to the agent as compensation for exerting effort. The nature of that transfer depends on the type of contract that will be chosen from the principal. Thus agents should only accept a contract if (6) is met.

The Principal's profit is defined as

$$P^P = R(e) - T(e) \qquad (7)$$

where $R(e)$ is the total revenue generated and $T(e)$ is the transfer to the agent. Maximizing by $e$ results in $e = 74.5$. The experimental parameters only allow $e \in \{0,1,\dots,19,20\}$, and so the maximization problem in (7) has a corner solution of $e^* = 20$.[1]

Having identified the participation constraint and the profit maximizing effort level, the following step is to show why, given the assumption that both the principal and the agent are rational and narrowly self-interested, the only contract that can satisfy the *incentive compatibility constraint* is the RSC.

Any contract is deemed to only be *incentive compatible* if:

$$\forall e: T(e^*) - C(e^*) \geq T(e) - C(e) \qquad (8)$$

[1] The decision to have a corner solution has been made deliberately under the suspicion that will be easier for subjects in the role of principals to identify e* if that is a corner than an interior point. In other words, the choice for a corner solution was made to reduce complexity to an already highly complex design from the perspective of the principal.

Inequality (8) implies that the agent's profit from exerting effort level $e^*$ (which is maximizing the principal's profit) should be greater or equal to the profit that results from exerting all possible effort levels $e$.

The following three sections examine incentive compatibility for the revenue sharing, trust and bonus contracts respectively, by substituting $T(e)$ by the specific transfer definitions of each of the three contracts.

The revenue sharing contract:

Replacing $T(e)$ with the revenue sharing contract specific transfer of $T_{RSC} = F + S * 150e$ results in:

$$\forall e: \mathrm{F} + \mathrm{S} * 150\mathrm{e}^* - \mathrm{e}^* - \mathrm{e}^{*2} \geq \mathrm{F} + \mathrm{S} * 150\mathrm{e} - \mathrm{e} - \mathrm{e}^2 \qquad (9)$$

Given that the agent would exert an effort greater than zero if $P(e^*) \geq P(e)$ is satisfied, the agent would, as a worst case accept, $P(e^*) = P(e)$. Consequently, in order to calculate the minimum share of the total revenue that has to be provided to the agent in order to make the revenue sharing contract incentive compatible, the profit maximization problem for the agent could be written as

$$\mathrm{P}_{\mathrm{RSC}}^{\mathrm{A}} = \mathrm{F} + \mathrm{S} * 150\mathrm{e}^* - \mathrm{e}^* - \mathrm{e}^{*2} \qquad (10)$$

Maximizing (10) with respect to $e^*$ leads to

$\mathrm{S} * 150\mathrm{e}^* - 1 - 2\mathrm{e}^* = 0$ and

$$\mathrm{S} = \frac{2\mathrm{e}^* + 1}{150}$$

Inserting the above calculated effort level $e^* = 20$ and solving for $S$, finally provides the minimum share $S$. Thus,

$$S = 0.27\dot{3} \qquad (11)$$

Thus, the revenue sharing contract is incentive compatible for any value of $S \geq 0.27\dot{3}$.

With $S = S^*$ the consequent profits for the principal and the agent are respectively: $P^P =$ 5,181 ECU[2] and $P^A =$ 3,399 ECU. Considering that principals could only specify $S$ using two decimal places, i.e. set $S = 0.27$ rather than $S = 0.27\dot{3}$, the predicted profits become $P^P =$ 5,190 ECU and $P^A =$ 3,390 ECU.

The trust contract:

Replacing $T(e)$ with the trust contract specific transfer of $T_{TC} = F$ results in the incentive compatibility constraint for all trust contracts:

$$\forall e: F - C(e^*) \geq F - C(e) \qquad (12)$$

which can be restated as:

$$C(e^*) \leq C(e) \qquad (13)$$

Because of (5) the only value of $e^*$ that satisfies equation (13) is $e^* = 0$. Therefore, there exists no feasible incentive compatible trust contract for $e^* > 0$.

The bonus contract:

[2] ECU stands for Experimental Currency Units.

Replacing $T(e)$ with the bonus contract specific transfer of $T_{TC} = F + B$ results in the incentive compatibility constraint for all bonus contracts:

$$\forall e: \mathrm{F} + \mathrm{B} - \mathrm{C}(e^*) \geq \mathrm{F} + \mathrm{B} - \mathrm{C}(e) \qquad (14)$$

Rewriting leads to:

$$\mathrm{C}(e^*) \leq \mathrm{C}(e) \qquad (15)$$

This is identical to the result obtained for the trust contract. Therefore, it has been shown that economic theory predicts that under the assumption of selfish rational profit maximizing individuals no agreement can be reached between a principal and an agent in neither the trust nor the bonus contracts. From the results obtained above, it is clear that the only contract that can satisfy both the incentive compatibility and the participation constraints is the revenue sharing contract RSC. Consequently, the game theoretic solution that is expected in the TBR and TBR-r game(s) is that RSC should dominate both BC and TC.

## *b. Extension for social preferences (i)*

In the following we assume the agent to have Fehr and Schmidt (1999) preferences of inequality aversion (see equation (16)). We begin by analysing how the contracts' parameters must be set by the principal in order to be acceptable by an inequity averse agent and continue discussing the effect of an inequality averse principal for each contract individually.[3] Furthermore, we derive predictions for the contracts' parameters in order to make an inequality averse agent exert the efficient effort level of 20.

[3] Although mentioned in the context of each contract separately, due to the sequential nature of the game (1. principal offers contract, 2. agent exerts effort), the following predictions are all driven by the agent's preferences about inequality aversion. In general, the principal's preferences do not matter.

$$U^A = \pi^A - \alpha \cdot max(\pi^P - \pi^A, 0) - \beta \cdot max(\pi^A - \pi^P, 0) \quad (16)$$

Equation (16) represents the Fehr and Schmidt (1999) model for inequality averse individuals with $U^A$ being the agent's utility and $\pi^A$ and $\pi^P$ denoting the monetary payoffs for agents and principals, respectively. The parameters $\alpha$ and $\beta$ describe the degree to which the agent dislikes being worse off and better off than the principal, respectively. Note that due to the specific form of the agent's cost function ($C = e + e^2$), for all three contract types the agent's marginal utility is strictly monotonically decreasing in effort, i.e. $\forall \alpha > 0$: $\frac{d^2U^A}{de^2} < 0$. Therefore, a set of contract parameters that lets an agent prefer exerting effort $e$ over exerting effort $e - 1$ will also let the agent prefer effort $e$ over all positive effort levels less than $e$, i.e. $U^A(e) > U^A(e') \; \forall 0 \leq e' < e$. In our case we provide predictions for contract specifications for $e = 1$ and $e = 20$ to establish the minimal parameters necessary to make an agent accept the contract and exert an effort of 20, respectively.

*Contract acceptance and the efficient effort level*

An agent will accept a contract and invest an effort level of at least one if

$$U^A(\pi^A(e = 1), \pi^P(e = 1)) > U^A(\pi^A(e = 0), \pi^P(e = 0)).^4 \quad (17)$$

Considering that both principals and agents would receive their endowments of 3000 ECU if no contract was formed, an agent would accept a contract and exert an effort greater than zero

[4] Note that it makes no difference in payoffs whether an agent rejects a contract or accepts it but exerts an effort level of zero, i.e. $\pi^A(e = 0) = \pi^P(e = 0) = 3000$.

only if $U^A(\pi^A, \pi^P) > 3000$. Similarly, to find the contract parameters that would result in exerting the efficient effort level of $e = 20$, the following condition must be satisfied:

$$U^A(\pi^A(e = 20), \pi^P(e = 20)) > U^A(\pi^A(e = 19), \pi^P(e = 19)). \quad (18)$$

Note that the Fehr and Schmidt (1999) utility function is not differentiable at $\pi^A = \pi^P$. In the following analysis we therefore use numerical simulations to derive predictions.

Trust contract

Anticipating that the agent will set his effort level in order to maximize his (inequality averse) utility function, the principal decides on the size of the fixed wage $F$. Whether or not the principal should set $F = 0$ (as in the payoff maximizing prediction) or to a different non-negative value depends on the agent's aversion to advantageous inequality $\beta$. In the case of $F = 0$, the agent will either shirk ($e = 0$) or not accept the contract at all and both the principal and the agent will earn their endowments of 3000 ECU. If $F > 0$, it depends on the agent's value of $\beta$ how much effort he will be willing to exert. Assuming reasonable values for the agent's inequality aversion parameters (e.g. $\alpha = 1$, $\beta = 0.35$[5]) the principal would offer $F = 1701$ to make the agent respond with $e = 20$. However, if the agent's aversion to advantageous inequality $\beta$ is expected to be rather small (e.g. De Bruyn & Bolton, 2008, empirically estimated $\beta = 0.003$ from Ultimatum game data), the agent will shirk ($e = 0$) irrespective the amount of the offered fixed wage $F$. Under these assumptions, it would be rational to set $F = 0$.[6] As the agent determines both the principal's and his own payoff by

[5] For example Blanco et al. (2011) estimate the parameter to be $\alpha = 0.93$, $\beta = 0.38$ which is very close to Fehr & Schmidt (1999) whose parameter distributions used means of $\alpha = 0.85$, $\beta = 0.32$.

[6] Note that, provided agents have a low advantageous inequality parameter $\beta$, they would accept any contract with $F > 0$ but exert $e = 0$. This is also true for Bonus and Revenue sharing contracts.

exerting an effort $e$, and no further action is required by the principal, it does not affect the predicted results whether the principal had selfish or inequality averse preferences. It is only the principal's expectations about the agent's preferences and the agent's preferences itself that matter.

Bonus contract

As the inequality averse agent cannot be certain about the preferences of the principal, he or she would disregard any announced bonus payment as cheap talk and react to any offered fixed wage as he would to a trust contract offer. Assuming reasonable values for the agent's inequality aversion parameters (i.e. $\alpha = 1,\ \beta = 0.35$), the principal (independent of her preferences) should offer a fixed wage of 1701 and announce a bonus payment of zero which would result in an exerted effort level of 20. If however, the principal expects the agent's $\beta$ to be rather low (see De Bruyn & Bolton, 2008), she should set $F = B = 0$, as in this case the agent is expected to shirk, no matter how generous the fixed wage offer was.

Revenue sharing contract

In the revenue sharing contract the principal offers to pay a fixed wage $F$ and a revenue share $S$. In line with the Fehr and Schmidt (1999) model we assume that only the distribution of final payments but not the channels through which any payments were distributed matter. In that sense any payments arising from either $F$ or $S$ are substitutes. As this is common knowledge, but the principal does not know the preferences of the agent, she sets $F = 0$ and only uses $S$ to adjust the payment to the agent. Again, considering reasonable parameter values for the agent's inequality aversion ($\alpha = 1$ and $\beta = 0.35$), a principal must at least

offer a share $S \geq 0.35$ in order to ensure that the contract is accepted by the agent.[7] As a payoff maximizing principal would not offer any higher share than necessary, she would best respond with her actually offered share to her expectation about the agent's level of inequality aversion. Expecting $\alpha = 1$ and $\beta = 0.35$, a principal should set $S = 0.52$ in order to make the agent exert an effort of $e = 20$ which will lead him to maximise his profits. As, similarly to the trust contract, the agent determines the payoffs by exerting an effort $e$, and no further action is required by the principal, it does not affect the predicted result whether the principal had selfish or inequality averse preferences. It is only the principal's expectations about the agent's preferences and the agent's preferences itself that matter.

### *c. Extension for social preferences (ii)*

In the following we consider the Charness & Rabin (2002) model for social preferences that specifies a notion of reciprocity in addition to an aspect of 'difference aversion'. The agent's utility is defined as

$$U^A = (\rho \cdot \mathrm{r} + \sigma \cdot \mathrm{s} + \theta \cdot \mathrm{q}) \cdot \pi^P + (1 - \rho \cdot \mathrm{r} - \sigma \cdot \mathrm{s} - \theta \cdot \mathrm{q}) \cdot \pi^A \qquad (19)$$

where $U^A$ denotes the utility of the agent and $\pi^A$and $\pi^P$ describe the monetary payoff for the agent and the principal, respectively. The parameters ρ and σ could be interpreted as the importance of the principal's payoff relative to the agent's payoff if agent's payoff is higher or lower than the principal's payoff, respectively. The parameter θ allows for reciprocating fair or unfair behavior by the principal. Further, if $\pi^A > \pi^P$, then $r = 1$ and $s = 0$. Otherwise, if $\pi^A < \pi^P$, then $r = 0$ and $s = 1$. In any case, $q = 1$ if A has "misbehaved"

[7] Remember that $F = 0$ and $S = 0.27$ was sufficient to incentivize the efficient effort level of 20 in the case of payoff maximizing agents.

(Charness and Rabin, 2002, p.822) and $q = 0$ made a fair offer.[8] Using many different experimental settings, Charness and Rabin (2002) estimated the parameters to take the following values: $\rho = 0.424$, $\sigma = 0.023$ and $\theta = -0.111$.[9]

Restating equation (19) for the two cases described above results in

Case 1a: the principal 'behaved', i.e. made a fair offer and $\pi^A > \pi^P$

$$U^A = 0.424 \cdot \pi^P + (1 - 0.424) \cdot \pi^A$$

$$U^A = 0.424 \cdot \pi^P + 0.576 \cdot \pi^A$$

Case 1b: the principal 'behaved' and $\pi^A < \pi^P$

$$U^A = 0.023 \cdot \pi^P + (1 - 0.023) \cdot \pi^A$$

$$U^A = 0.023 \cdot \pi^P + 0.977 \cdot \pi^A$$

Case 2a: the principal 'misbehaved', i.e. made an unfair offer and $\pi^A > \pi^P$

$$U^A = (0.424 - 0.111) \cdot \pi^P + (1 - 0.424 + 0.111) \cdot \pi^A$$

$$U^A = 0.313 \cdot \pi^P + 0.687 \cdot \pi^A$$

Case 2b: the principal 'misbehaved' and $\pi^A < \pi^P$

$$U^A = (0.023 - 0.111) \cdot \pi^P + (1 - 0.023 + 0.111) \cdot \pi^A$$

$$U^A = -0.088 \cdot \pi^P + 1.088 \cdot \pi^A$$

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[8] Although Charness and Rabin (2002, p.822) define "$q = -1$" if the principal misbehaved, their results and, more importantly, their discussion of their results clearly indicates that they actually meant "$q = 1$". Thus, we will use the "$q = 1$" definition to state the utility functions for cases 2a and 2b.

[9] We are not aware of any other paper that estimated coefficients for the Charness and Rabin model than Charness and Rabin (2002).

Considering that equations (17) and (18) must also be satisfied for the Charness and Rabin model for agents to accept an offered contract and to reveal an effort level of 20, the following will analyse the three different contract types in detail. Note that the Charness and Rabin (2002) utility function is not differentiable at $\pi^A = \pi^P$. In the following analysis we therefore use numerical simulations to derive predictions.

Trust contract

Anticipating that the agent will set his effort level in order to maximize his (inequality averse) utility function, the principal decides on the size of the fixed wage $F$. For sufficiently high values of $\rho$, $\sigma$ and $\theta$, it would no longer be advantageous to shirk and exert $e = 0$, as in the selfish payoff maximizing prediction. Using the empirically estimated parameters of Charness and Rabin's (2002) paper (see above), the agent should always exert an effort level $e > 0$, even in the case of $F = 0$.[10] If the agent followed a Charness and Rabin utility function and the principal offered fixed wages in excess of 1660, the agent would respond with an effort level of 20. This assumes that any $F > 0$ was interpreted as 'well behaved' by the agent. In contrast, assuming that 'no fixed wage was good enough', i.e. the principals 'misbehaved' in Charness and Rabin's language, only minimally changes the results. In this case the necessary minimum fixed wage that would be high enough to make the agent exert $e = 20$ would rise to 1686. Regarding the prediction stability a robustness check of the parameters reveals that even rather severe deviations from the original estimations cause little change. Assuming that $\rho = 0.212$, increases the minimum fixed wage that made the agent

[10] In the case of $F = 0$, the agent would exert $e = 1$. This is contract independent and therefore also valid for the bonus and the revenue sharing contract. Consequently, all offered contracts should be accepted by agents under the assumption of the parameter estimates of Charness and Rabin (2002).

exert $e = 20$ to 1710, resulting in an entirely equal split.[11] Only if the agent's payoff was lower than the principal's and the agent cared very little about the principal's payoff at all, i.e. $\sigma \leq 0.013$, he would not exert a positive effort level and shirk ($e = 0$) or reject the offer altogether. Consequently, the principal would set $F = 0$ if she expects the agent's $\sigma \leq 0.013$.

Bonus contract

Similarly to the case of pure payoff maximizers, the actually paid bonus is expected to be zero, as any announced bonus will be regarded as cheap talk, independent of the agent's utility function. Hence, the principals will always set $B = 0$. The prediction only depends on the preferences of the agent. If the agent had Charness and Rabin preferences, he would – similarly to the trust contract – respond to any levels of fixed wages by adapting his effort level. Consequently, if a principal expects an agent to have Charness and Rabin preferences (such that $\rho = 0.424$, $\sigma = 0.023$ and $\theta = -0.111$), she would offer a fixed wage of 1660 and the agent would respond with $e = 20$. If the principal expected the agent to be selfish, she would offer $F = 0$ and the agent would respond with $e = 0$.

Revenue sharing contract

In the revenue sharing contract the principal offers to pay a fixed wage $F$ and a revenue share $S$. Remember that entirely selfish payoff maximizing agents would exert $e = 20$ if $S \geq 0.27$. Using Charness and Rabin's estimated coefficients a fixed wage of $F = 0$ and a share of $S =$

[11] Note that $\rho = 0.212$ equals Charness and Rabin's (2002) parameter estimate if the model was restricted to $\rho = \sigma$ and $\theta = 0$.

0.25 would be sufficient to trigger an effort of $e = 20$. If the principal assumes that the agent follows a Charness and Rabin utility function she should never offer a share larger than 0.25. Should the agent be more inequality averse, an even lower share could be offered. Even if the principal could not be sure about the agent's concerns for inequality, setting $S = 0.27$ would be entirely sufficient to result in $e = 20$, even if the agent was completely selfish. Importantly, any offers in excess of 0.27 do not increase efficiency but solely transfer revenue from the principal to the agent. Therefore, if the principal assumes that the agent – in line with the Charness and Rabin model – does not attribute much importance to earning less than the principal in terms of monetary payoff, we would not expect to see offers in excess of 0.27. This is true for principals with entirely selfish and reasonable parameter assumptions for Charness and Rabin preferences.

## *d. References*


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## B. Experimental Instructions

# General Instructions

Welcome to our experiment! Please read the following instructions carefully. Reading these instructions carefully could earn you a significant amount of money. If you face any difficulties understanding any part of the instructions please raise your hand and an experimenter will come to assist you. All the money that you will earn during this experiment will be paid to you in cash at the end of this experiment.

No talking is allowed through the experiment. Please switch off your mobile phones.

**Experiment Overview**

Each participant is assigned randomly the role of either the employer or the employee. There is a note on your desk clarifying your role. Communication between the two will be via the computer**.** The experiment is **anonymous**; this means that you will not know with of the other participants you are interacting. Interaction will be through contracts. A contract is an offer by the employer to the employee for offering a value of effort. The details are discussed below.

The experiment consists of **3 practice stages**, and **5 real stages**. In the 3 practice stages every employer is matched with the **same** employee. In the real stages, the employer will be matched with a **different** employee in every stage who will also be different from the one he/she encountered in the practice stages. The practice stages are to help you familiarise with the procedure of the experiment and your choices will not affect your earnings. The following five 'real' stages form the main body of the experiment and your choices will affect your final earnings. The 5 real stages consist in total of 14 rounds. At the end of the experiment the earnings you made from one of these rounds are randomly chosen by the computer and are added to your show up fee.

For attending this experiment you will be given a show up fee of £3. In the experiment you will be using an experimental currency called ECU. In the end of the experiment the ECU you have earned during the experiment will be exchanged at the exchange rate of: **250ECU = £1.**

For example, 500ECU=£2, 1000ECU=£4, 25ECU= £0.10, 3000= £12.

At the start of each stage a new set of instructions is given to you which, will explain the process of the stages that is starting and accompany the instructions for the following stages.

## Stage 1: Contract 1 (practice)

In this round the employer has to decide the size of a **fixed wage** that he/she wants to pay the employee, and set a **suggested effort** level. The fixed wage can range between 0 and 3000

and the suggested effort from 0 to 20. Both the fixed wage and suggested effort are received by the employee **before** he/she decides an effort level.

The employee has to choose an effort level which, **for every unit of effort the employee spends, you earn 150ECU**; we call this *total revenue.* The **total revenue=150 x effort** (see Table 8 below).

At the start of every round both employer and employee are given a capital of 3000ECU this money is for you to use within the experiment and are added to your earnings for the round.

<u>There are three key elements you need to note:</u>

Firstly, for every unit of effort the employee spends, it has a subsequent ECU cost to him. The exact cost of ECU for every unit of effort along with other important information is shown in Table 8 which is handed in a separate sheet.

Secondly, the suggested effort of the employer is only a suggestion. The employee is not bound to that suggestion but he/she is free to choose any effort level within the given range of 0 to 20.

Thirdly, the fixed wage is paid upfront (i.e. before the employee decides an effort level).

<u>How earnings are calculated</u>

For the employer his/her earnings are the capital plus the total revenue generated by the employee's effort minus the fixed wage he/she paid. In other words:

Employer's Profit= Employer capital + Total revenue – fixed wage

In the case of the employee, his/her profits are his/her capital plus the fixed wage minus the cost of effort. In other words:

Employee's Profit= Employee capital + fixed wage – cost of effort

<u>The process of the stage is the following:</u>

0. Before the stage starts, there are four multiple choice quizzes to check that you understood what your earnings will be according to your choices.
1. The employer chooses the fixed wage and suggest an effort level to the employee.
2. Afterwards, the employee has been informed of the offered contract, he/she has to decide either to accept or reject the contract.
3. If the employee rejects the contract the stage finishes. If he accepts the contract, he receives the offered fixed wage and decides an effort level.

4. Once the employee has decided an effort level, the computer calculates and informs both participants of their profits.

Some Examples

**Example 1:** Assume the employer decides to offer a fixed wage of 500ECU, sets suggested effort to 20 and the employee decides to accept the offer and offer an effort level of 20. What would the profits of the employer and employee be?

**Answer:** By looking on Table 8 we can see that the total revenue for 20 units of effort is 3000 ECU. So the profits for the employer are 3000ECU (the total revenue) plus the employer capital of 3000ECU minus 500ECU (the fixed wage), therefore 5500 ECU. For the employee the profits are his/her capital of 450ECU plus 500ECU (the fixed wage) minus the cost for his effort which is 420ECU (see Table 8), therefore 3530 ECU.

**Example 2:** Assume like before that the employer offers a fixed wage of 500ECU and sets a suggested effort of 20 and the employee decides to accept the offer and offer an effort level of 0. What would the profits of the employer and employee be?

**Answer:** In this case the total revenue is 0ECU. The employer receives only his capital of 3000 which from 500ECU are subtracted (the fixed wage he/she paid) hence he/she earns 2500 ECU. The employee earns 500ECU (the fixed wage) plus his/her capital of 3000ECU therefore he/she earns 3500 ECU.

## Stage 2: Contract Type 2 (practice)

Round 2 is identical to round 1 with the only exception that now the employer can also announce a **bonus** to the employee. When the employer offers the contract, except of the fixed wage, he/she can also announce a bonus. However, the bonus announcement is non-binding. That is, after the earnings for both of you are realised, the employer is free to decide if he/she wants to pay a bonus or not and if so of what size.

Summing up, the employer has to pay a **fixed wage upfront**, announce a non-binding **bonus** and suggest **an effort level**. After the employee decides an effort level, the employer has to decide the size of the bonus he/she wants to pay. Both fixed wage and bonus can range from 0ECU to 3000ECU but also the sum of the two (fixed wage and bonus) cannot exceed 3000ECU.

The process of the stage is the following:

0. Before the stage starts, there are four multiple choice quizzes to check that you understood what your earnings will be according to your choices.

1. The employer chooses the size of the **fixed wage**, the size of the **announced bonus** and **suggests an effort level** to the employee.

2. After being informed of the offered contract the employee has to decide either to accept or reject the contract.

3. If the employee rejects the contract the stage finishes. If he/she accepts the contract, receives the offered fixed wage and decides an effort level.

4. After the employee had decided an effort level, the computer calculates and informs both employer and employee their profits. At this point the employer will be asked if he/she wants to pay a **bonus** and if so, of what size. Depending on the employer's choice the computer recalculates and informs both of you for your final profits for this stage.

How earnings are calculated

For the employer, his/her earnings are the capital plus the total revenue generated by the employee's effort minus the fixed wage and minus any bonus he/she paid. In other words:

Employer's Profit = Employer capital + total revenue – fixed wage – bonus

In the case of the employee, his/her earnings are the employee capital plus the fixed wage plus any bonus minus the cost of effort. In other words:

Employee's Profit= Employee capital + fixed wage + bonus – cost of effort

Some Examples

**Example 1:** Assume the employer decides to offer a fixed wage of 500 ECU, announces a bonus of 500ECU and sets suggested effort to 20. The employee decides to accept the offer and offer an effort level of 20. Then the employer gets informed about the total revenue and decides to pay a bonus of 400 ECU. What would the profits of the employer and employee be?

**Answer:** By looking at Table 8 we can see that the total revenue for 20 units of effort is 3000 ECU. So the profits for the employer are his/her capital of 3000 plus 3000ECU (the total revenue) minus 500ECU (the fixed wage), minus the bonus of 400ECU, therefore 2900 ECU. For the employee the profits are his/her capital of 3000ECU plus 500ECU (the fixed wage) plus the bonus of 400ECU minus the cost for his effort which is 420ECU (see Table 8), therefore 3480 ECU.

**Example 2:** Assume the employer decides to offer a fixed wage of 700 ECU, announce a bonus of 500ECU and sets suggested effort to 20. He observes a total revenue of 1500 ECU. i) What was the effort level that the agent chose? ii)If the employer decides to pay a bonus of 0, what would the profits of the employer and employee be?

**Answer:** i) The employer by looking on Table 8 can see that a total revenue of 1500 ECU corresponds to an effort level of 10. ii) For a total revenue of 1500 ECU, the employer earns his/her capital of 3000 ECU plus 1500 (the total revenue) minus the fixed wage of 700 hence his/her profits are 3800 ECU. The employee earns his her capital of 3000 ECU plus 700 ECU

(the fixed wage) minus the cost of effort for 10 units of effort which is 110 ECU. Thus, the employee earns 3590 ECU.

## Stage 3: Contract Type 3 (practice)

In this stage the employer instead of a bonus he/she can offer a **share of the total revenue** to the employee. This offer is binding. That is, that as long as the employer has offered a share of the total revenue to the employee he/she cannot change the offer.

For example, a value of 0.09, 0.54 or 0.92 will correspond to 9%, 54% or 92% of the total revenue being given to the employee.

Like before you can also offer a fixed wage, between 0 and 3000, and again you have to suggest an effort level.

The process of the stage is the following:

0. Before the stage starts, there are four multiple choice quizzes to check that you understood what your earnings will be according to your choices.
1. The employer chooses the size of the fixed wage, the size of the share of total revenue he/she wants to offer, and suggests an effort level to the employee.
2. After being informed of the offered contract, the employee decides either to accept or reject the contract.
3. If the employee rejects the contract the stage finishes and you move to the next stage. If he/she accepts the contract he/she receives the offered fixed wage and decides an effort level.
4. After the employee had decided an effort level, the computer calculates the total revenue, allocates it between the employer and the employee according to the size of the share that each of them holds, and informs both about their final profits.

How earnings are calculated

For the employer, his/her profits are the employer capital, the total revenue generated by the employee's effort minus the fixed wage, minus the share of the total revenue he/she offered to the employee. In other words:

Employer's Profit= Employer capital + total revenue – fixed wage – share * total revenue

In the case of the employee, his/her profits are the employee capital, plus the fixed wage plus the share on the total revenue that has been offered to him/her, minus the cost of effort. In other words:

Employee's Profit= Employee capital + fixed wage + share * total revenue – cost of effort

Some Examples

**Example 1:** Assume the employer decides to offer a fixed wage of 200ECU, offer a share of 0.2, and set suggested effort to 15. The employee decides to accept the offer and offer an effort level of 20. What would the profits of the employer and employee be?

**Answer:** By looking on Table 8 we can see that the total revenue for 20 units of effort is 3000 ECU. So the profits for the employer are 3000ECU (the total revenue) minus 100 ECU (the fixed wage), minus the share (0.2 x 3000 =600), therefore 2300 ECU plus the employer capital of 3000 ECU hence 5300 ECU. For the employee the profits are the employee capital of 3000 ECU, plus 100 ECU (the fixed wage) plus the share of 600 ECU minus the cost for his effort which is 420 ECU (see Table 8), therefore, 3280 ECU.

**Example 2:** Assume the employer decides to offer a fixed wage of 0ECU, offer a share of 0.6, and set suggested effort to 20. The employee decides to accept the offer and offer an effort level of 18. What would the profits of the employer and employee be?

**Answer:** By looking on Table 8 we can see that the total revenue for 18 units of effort is 2700 ECU. So the profits for the employer are 2700 ECU (the total revenue), minus the share (0.6 x 2700 =1620) plus his capital of 3000 ECU, therefore 4080 ECU (2700-1620=1080 +3000). For the employee the profits are the share of 1620ECU minus the cost for his effort which is 342 ECU (see Table 8) plus his/her capital of 450, hence, 4278 ECU.

**Note:** to make your calculations easier recall that a percentage of say 2%, 20%, 100%, its equal to 0.02, 0.2 and 1 respectively.

## Stage 4: Contract Type 1

From now on your choices affect your earnings. You should keep in mind the clock on the top right side of the screen and comply with the time constraints

This stage is the same as stage 1 but this time your choices affect your earnings. For how earnings are calculated or for the procedures of the stage you should recall on the instruction sheet that was given to you at the start of stage 1.

Reminder

Type 1: Fixed Wage

## Stage 5: Contract Type 2

This stage is the same as stage 2 but this time your choices affect your earnings. For how earnings are calculated or for the procedures of the stage you should recall on the instruction sheet that was given to you at the start of stage 2.

Reminder

Type 2: Fixed Wage + Bonus

## Stage 6: Contract Type 3

This stage is the same as stage 3 but this time your choices affect your earnings. For how earnings are calculated or for the procedures of the stage you should recall on the instruction sheet that was given to you at the start of stage 3.

Reminder

Type 3: Fixed Wage + Share

## Stage 7: Choice among the 3 Contracts

In this stage the employer is given the option to choose between the three possible contracts that you experienced before. Therefore, he/she firstly has to choose which of the three contracts he/she want to use and the rest of the stage follows exactly as in the corresponding stage you participated earlier.

Reminder

Type 1: Fixed Wage

Type 2: Fixed Wage + Bonus

Type 3: Fixed wage + Share

The process of the stage is the following:

1. The employer chooses one of the three contracts.
2. The remaining procedure is identical to the corresponding contract you practiced with before.

For any queries on how earnings are calculated see the instructions that were provided to you.

## Stage 8: Choice between the 3 Contracts - repeated interaction

This stage is identical to stage 4 with only difference that is consisted of 6 rounds in which you are paired with the same participant. In each round the employer has to choose one of the three contracts and according to his/her choice the stage continues.

**Note:** At the start of every round both the employer's and employee's capitals are refreshed. In addition, if a contract is rejected the stage is not finished but you move to the next round of the stage.

Reminder

Type 1: Fixed Wage

Type 2: Fixed Wage + Bonus

Type 3: Fixed wage + Share

| Effort Level | Cost of Effort | Total Revenue |
|---|---|---|
| **0** | 0 | 0 |
| **1** | 2 | 150 |
| **2** | 6 | 300 |
| **3** | 12 | 450 |
| **4** | 20 | 600 |
| **5** | 30 | 750 |
| **6** | 42 | 900 |
| **7** | 56 | 1050 |
| **8** | 72 | 1200 |
| **9** | 90 | 1350 |
| **10** | 110 | 1500 |
| **11** | 132 | 1650 |
| **12** | 156 | 1800 |
| **13** | 182 | 1950 |
| **14** | 210 | 2100 |
| **15** | 240 | 2250 |
| **16** | 272 | 2400 |
| **17** | 306 | 2550 |
| **18** | 342 | 2700 |
| **19** | 380 | 2850 |
| **20** | 420 | 3000 |

**Table 8: Effort levels, Cost of Effort, and Total Revenue**

**Employer Capital:** 3000 ECU

**Employee Capital:** 3000 ECU

## C. General Descriptive Statistics, Bonus Payments and Revealed Effort

**Table C1: Descriptive Statistics of the Experiment**

| | Exogenous contract | | | TBR | | | TBR-r: all rounds | | |
|---|---|---|---|---|---|---|---|---|---|
| | TC | BC | RSC | TC | BC | RSC | TC | BC | RSC |
| n | 72 | 72 | 72 | 3 | 15 | 54 | 19 | 90 | 323 |
| Mean F | 695 | 504 | 188 | 500 | 791 | 115 | 952 | 573 | 125 |
| Mean B | - | 151 | - | - | 127 | - | - | 420 | - |
| Mean S | - | - | 0.354 | - | - | 0.395 | - | - | 0.378 |
| Mean $e^s$ | 14.78 | 18.19 | 18.78 | 9.33 | 18.80 | 19.61 | 18.00 | 18.39 | 19.49 |
| Mean e | 4.92 | 8.68 | 14.92 | 1.33 | 9.47 | 15.93 | 5.42 | 11.27 | 16.50 |
| | TBR-r: round 1 | | | TBR-r: round 2 | | | TBR-r: round 3 | | |
| | TC | BC | RSC | TC | BC | RSC | TC | BC | RSC |
| n | 5 | 16 | 51 | 4 | 17 | 51 | 3 | 18 | 51 |
| Mean F | 1520 | 698 | 105 | 900 | 584 | 160 | 475 | 673 | 171 |
| Mean B | - | 576 | - | - | 595 | - | - | 416 | - |
| Mean S | - | - | 0.375 | - | - | 0.361 | - | - | 0.358 |
| Mean $e^s$ | 19.60 | 18.00 | 19.06 | 14.00 | 18.29 | 19.55 | 19.33 | 16.67 | 19.39 |
| Mean e | 6.60 | 12.12 | 17.57 | 2.75 | 12.24 | 16.49 | 7.00 | 10.67 | 13.80 |
| | TBR-r: round 4 | | | TBR-r: round 5 | | | TBR-r: round 6 | | |
| | TC | BC | RSC | TC | BC | RSC | TC | BC | RSC |
| n | 5 | 13 | 54 | 1 | 17 | 54 | 1 | 9 | 62 |
| Mean F | 1014 | 544 | 152 | 200 | 465 | 98 | 200 | 374 | 76 |
| Mean B | - | 423 | - | - | 312 | - | - | 23 | - |
| Mean S | - | - | 0.366 | - | - | 0.394 | - | - | 0.405 |
| Mean $e^s$ | 19.20 | 19.54 | 19.56 | 19.00 | 19.41 | 19.74 | 15.00 | 19.11 | 19.61 |
| Mean e | 7.40 | 11.62 | 16.13 | 0.00 | 9.71 | 17.35 | 1.00 | 11.56 | 17.45 |
| | All games | | | | | | | | |
| | TC | BC | RSC | | | | | | |
| n | 94 | 177 | 449 | | | | | | |
| Mean F | 741 | 563 | 134 | | | | | | |
| Mean B | - | 286 | - | | | | | | |
| Mean S | - | - | 0.376 | | | | | | |
| Mean $e^s$ | 15.26 | 18.34 | 19.39 | | | | | | |
| Mean e | 4.9 | 10.06 | 16.18 | | | | | | |

Notes: n: number of choices (1 for each subject in TC-ex, BC-ex, RSC-ex; or dependent on contract choice by the principal in the TBR and TBR-r); F: fixed wage; B: bonus in the BC only; S: share of revenue to go to agent in RSC; $e^s$: suggested effort; e: effort.

**Table C2: Theoretical Predictions and Experimental Results for Distribution of Generated Surplus in the Revenue sharing Contract**

| | | Expected profit | Relative share | | | Average profit | Relative share |
|---|---|---|---|---|---|---|---|
| Self Interest | Principal | 2190 | 85% | Results RSC-ex | Principal | 1206 | 62% |
| | Agent | 390 | 15% | | Agent | 741 | 38% |
| | Difference | | 70% | | Difference | | 24% |
| Inequity averse agent | Principal | 1440 | 56% | Results TBR | Principal | 1269 | 61% |
| | Agent | 1140 | 44% | | Agent | 806 | 39% |
| | Difference | | 12% | | Difference | | 22% |
| | | | | Results TBR-r | Principal | 1359 | 63% |
| | | | | | Agent | 786 | 37% |
| | | | | | Difference | | 26% |

Notes: RSC-ex denotes an exogenously determined one shot revenue sharing contract. TBR and TBR-r represent contract choice situations in a one shot and repeated game, respectively.

**Table C3: Actual bonus payments in bonus contracts**

| Dependent Variable: Bonus Payment | |
|---|---|
| Constant | 154.139<br>(196.942) |
| Revealed effort | 34.254**<br>(13.184) |
| Effort demand exceeded | -185.416<br>(401.613) |
| Fixed wage | -0.220<br>(0.145) |
| Announced bonus | -0.007<br>(0.126) |
| Revealed effort x Effort demand exceeded | 13.531<br>(24.274) |

Notes: This table reports the coefficients and robust standard errors (in parentheses) of a linear regression model for accepted bonus contracts in repeated contract choice settings (TBR-r) only (with random intercepts at subjects nested in sessions). Number of Observations: 80. ***, **, and * indicate statistical significance at 0.1%, 1% and 5% level.

**Table C4: Average total revenue by game and contract type**

| | Trust Contract | Bonus Contract | Revenue sharing |
|---|---|---|---|
| TC-ex | 738 (72) | - | - |
| BC-ex | - | 1302 (94) | - |
| RSC-ex | - | - | 2238 (91) |
| TBR | 200 (63) | 1420 (243) | 2389 (96) |
| TBR-r | 813 (181) | 1690 (89) | 2476 (38) |

Notes: Means, standard errors in parentheses.

## Table C5: Determinants of Agents' Effort for Accepted Contracts: Multi-level panel regressions

| | (1) all | (2) all | (3) RSC only | (4) BC only |
|---|---|---|---|---|
| BC | 3.468*** | 7.462*** | | |
| | (0.789) | (1.375) | | |
| RSC | 8.639*** | 12.24*** | | |
| | (0.880) | (1.314) | | |
| Suggested effort | 0.484*** | 0.0410 | 0.332* | 0.370* |
| | (0.0740) | (0.126) | (0.148) | (0.156) |
| Fixed wage | 0.0000219 | 0.00462*** | -0.000211 | 0.00410*** |
| | (0.000595) | (0.00127) | (0.000915) | (0.00123) |
| Exogenous contract | -1.616* | -0.507 | -1.517 | -2.536 |
| | (0.790) | (1.571) | (0.857) | (1.784) |
| Game TBI | -0.889 | -1.831 | -1.164 | -2.325 |
| | (0.878) | (3.446) | (0.815) | (2.234) |
| Overall round | 0.00416 | -0.00965 | -0.00855 | -0.161 |
| | (0.0899) | (0.0878) | (0.108) | (0.188) |
| Round within game TBI-r | -0.0953 | -0.0877 | -0.158 | -0.296 |
| | (0.177) | (0.173) | (0.173) | (0.452) |
| BC x fixed wage | | -0.00294 | | |
| | | (0.00160) | | |
| BC x suggested effort | | 0.484** | | |
| | | (0.174) | | |
| RSC x fixed wage | | -0.00746*** | | |
| | | (0.00164) | | |
| RSC x suggested effort | | 0.770*** | | |
| | | (0.211) | | |
| Exogenous contract x BC | | -1.665 | | |
| | | (1.744) | | |
| Exogenous contract x RSC | | -0.558 | | |
| | | (1.664) | | |
| Game TBI x BC | | 0.0958 | | |
| | | (3.785) | | |
| Game TBI x RSC | | 0.986 | | |
| | | (3.522) | | |
| Share | | | 8.321** | |
| | | | (2.663) | |
| Incentive compatible share | | | 3.493*** | |
| | | | (0.871) | |
| Announced bonus | | | | 0.00424*** |
| | | | | (0.000989) |
| Constant | 8.401*** | 4.189** | 15.21*** | 9.049*** |
| | (0.908) | (1.395) | (0.650) | (1.521) |
| Observations | 656 | 656 | 418 | 155 |
| Log. Likelihood | -2047.4 | -2028.7 | -1206.9 | -503.7 |
| AIC | 4116.9 | 4095.4 | 2435.8 | 1029.5 |
| BIC | 4166.2 | 4180.7 | 2480.2 | 1063.0 |

Notes: The baseline condition for the estimations in columns 1 and 2 was TC in the game TBR-r. Columns 3 and 4 were estimated using only RSC and BC observations, respectively. The table contains coefficients of linear regressions with random intercepts on subjects nested in sessions to control for the non-independence of observations. All variables that were interacted with BC or RSC (i.e. fixed wage, announced bonus, suggested effort, share, incentive compatible share, exogenous contract and exogenous games first) were subtracted off their means before estimating the models. BC and RSC are dummies for the bonus and the revenue sharing contract, respectively. TBR and TBR-r indicate one shot and repeated games with endogenous contract choice by the principal. The dummy incentive compatible share is one if the principal offered a share $\geq 0.27$, the lowest share that satisfied the incentive compatibility constraint, and zero otherwise. ***, ** and * indicate statistical significance at 0.1%, 1% and 5% level.

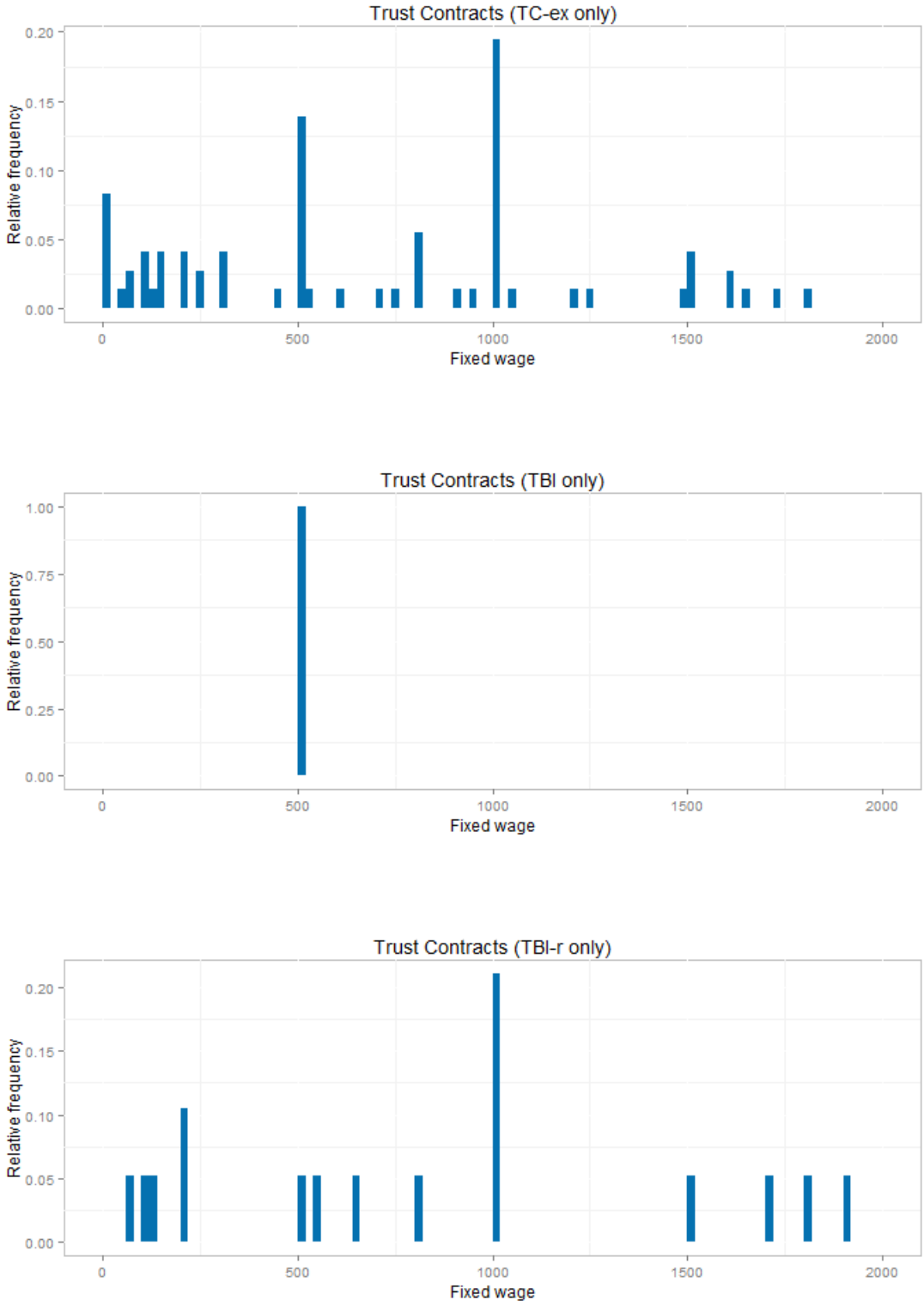
## Table C6: Determinants of Agents' Effort for Accepted Contracts: Tobit panel regressions

| | (1) all | (2) all | (3) RSC only | (4) BC only |
|---|---|---|---|---|
| BC | 2.345** | 5.553*** | | |
| | (0.781) | (1.420) | | |
| RSC | 7.034*** | 10.07*** | | |
| | (0.925) | (1.414) | | |
| Suggested effort | 0.460*** | 0.0995 | 0.229 | 0.324* |
| | (0.0783) | (0.130) | (0.119) | (0.163) |
| Fixed wage | -0.000762 | 0.00296* | -0.000443 | 0.00382** |
| | (0.000600) | (0.00128) | (0.000714) | (0.00129) |
| Exogenous contract | -1.213 | 0.601 | -0.984 | -2.972 |
| | (0.853) | (1.626) | (0.752) | (1.899) |
| Game TBI | -1.020 | 0.769 | -1.276 | -2.035 |
| | (0.966) | (3.437) | (0.737) | (2.392) |
| Overall round | -0.0367 | -0.0480 | 0.0225 | -0.0747 |
| | (0.0944) | (0.0925) | (0.0966) | (0.194) |
| Round within game TBI-r | 0.0762 | 0.0576 | -0.0684 | -0.310 |
| | (0.200) | (0.197) | (0.161) | (0.495) |
| BC x fixed wage | | -0.00181 | | |
| | | (0.00159) | | |
| BC x suggested effort | | 0.278 | | |
| | | (0.173) | | |
| RSC x fixed wage | | -0.00654*** | | |
| | | (0.00167) | | |
| RSC x suggested effort | | 0.801*** | | |
| | | (0.214) | | |
| Exogenous contract x BC | | -2.072 | | |
| | | (1.767) | | |
| Exogenous contract x RSC | | -1.377 | | |
| | | (1.732) | | |
| Game TBI x BC | | -1.703 | | |
| | | (3.770) | | |
| Game TBI x RSC | | -2.249 | | |
| | | (3.525) | | |
| Share | | | 8.853*** | |
| | | | (2.577) | |
| Incentive compatible share | | | 1.651* | |
| | | | (0.773) | |
| Announced bonus | | | | 0.00438*** |
| | | | | (0.00109) |
| Observations | 656 | 656 | 418 | 155 |
| Left-censored (at 0) | 53 | 53 | 12 | 15 |
| Uncensored | 286 | 286 | 128 | 103 |
| Right-censored (at 20) | 317 | 317 | 278 | 37 |
| Log. Likelihood | -1296.6 | -1277.4 | -606.2 | -417.3 |
| AIC | 2609.1 | 2586.8 | 1228.4 | 848.7 |
| BIC | 2645.0 | 2658.6 | 1260.7 | 870.0 |

Notes: The baseline condition for the estimations in columns 1 and 2 was TC in the game TBR-r. Columns 3 and 4 were estimated using only RSC and BC observations, respectively. The table contains marginal effects of Tobit regressions with random intercepts on subject level. All variables that were interacted with BC or RSC (i.e. fixed wage, announced bonus, suggested effort, share, incentive compatible share, exogenous contract and exogenous games first) were subtracted off their means before estimating the models. BC and RSC are dummies for the bonus and the revenue sharing contract, respectively. TBR and TBR-r indicate one shot and repeated games with endogenous contract choice by the principal. The dummy incentive compatible share is one if the principal offered a share $\geq 0.27$, the lowest share that satisfied the incentive compatibility constraint, and zero otherwise. ***, ** and * indicate statistical significance at 0.1%, 1% and 5% level.

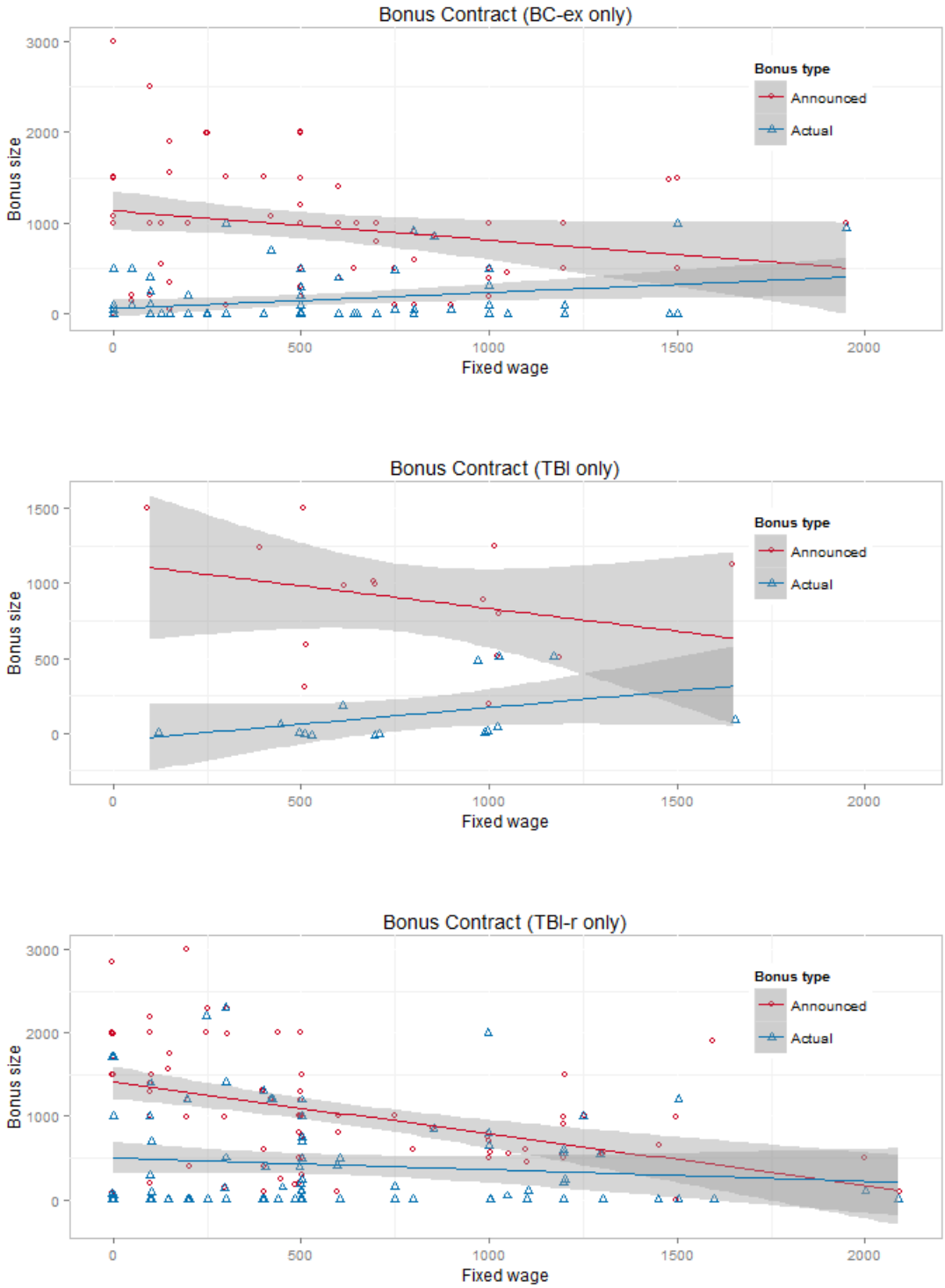
## D. Contract parameters chosen by principals

**Figure D1: Trust contract parameters (for TC-ex, TBR and TBR-r separately)**



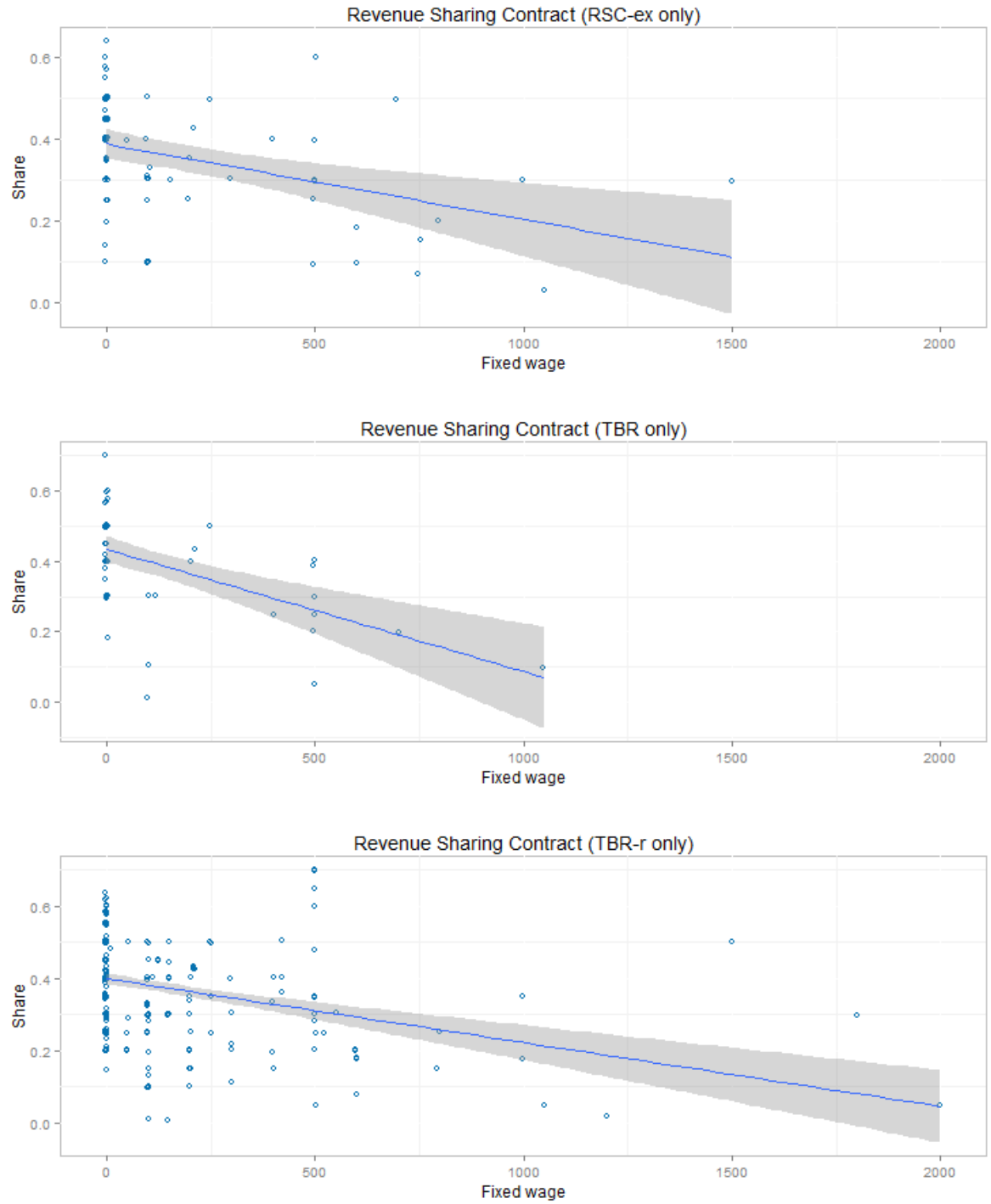

Notes: The panels are histograms of fixed wage offers for trust contracts in each of TC-ex, TBR and TBR-r.

**Figure D2: Bonus contract parameters (for BC-ex, TBR and TBR-r separately)**



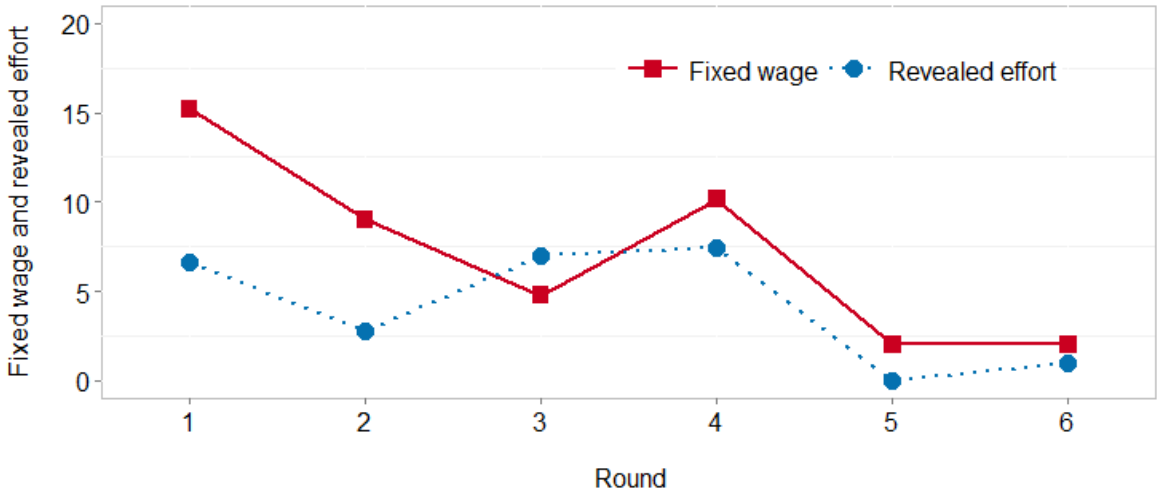

Notes: The panels are scatterplots of the announced bonuses (circles) and actual bonuses (triangles) against the corresponding fixed wages for bonus contracts in each of BC-ex, TBR and TBR-r.

**Figure D3: Revenue sharing contract parameters (for BC-ex, TBR and TBR-r separately)**



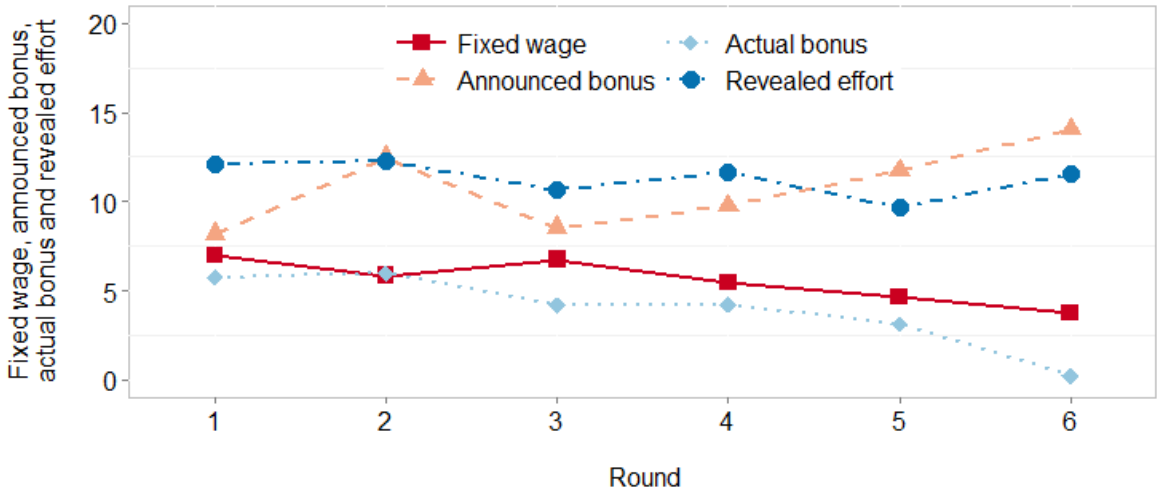

Notes: The panels are scatterplots of scatterplot of the offered shares against the fixed wage for revenue sharing contracts in each of RSC-ex, TBR and TBR-r.

**Figure D4: Trust contract parameters over time**



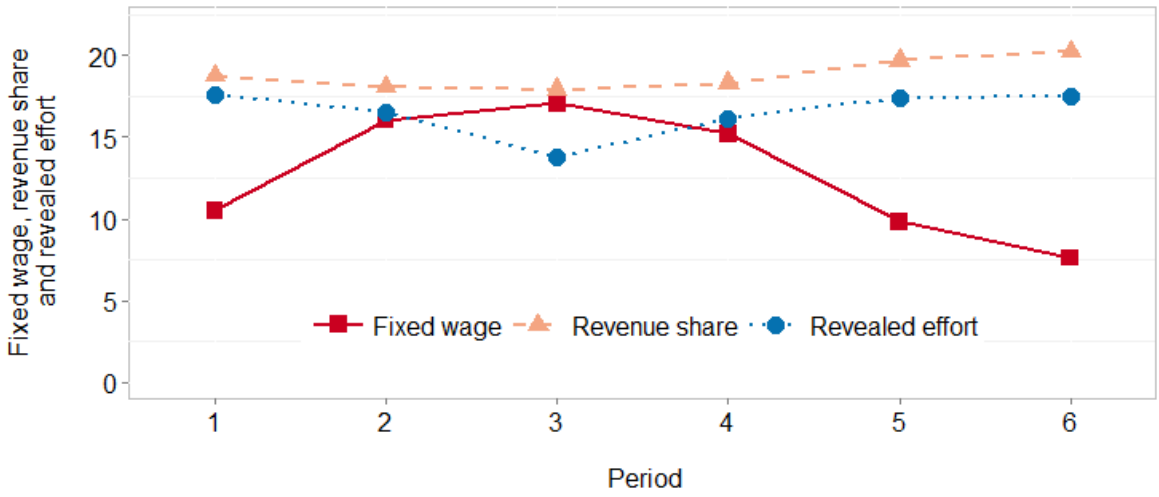

Notes: Fixed wage was scaled down to 1/100 to fit in the plot with revealed effort (unscaled). The revealed effort by the agents is significantly positively correlated with the fixed wage offered by the principals (Spearman: $\rho$=0.319, p=0.051).

**Figure D5: Bonus contract parameters over time**




Notes: Fixed wage, announced bonus and actual bonus were scaled down to 1/100 to fit in the plot with revealed effort (unscaled). Note that the difference between the initially announced and the actually paid out bonus by principals grows bigger over time from 242 to 1381 ECU (Spearman correlation with TBR-r round: $\rho$=0.829, p=0.058).

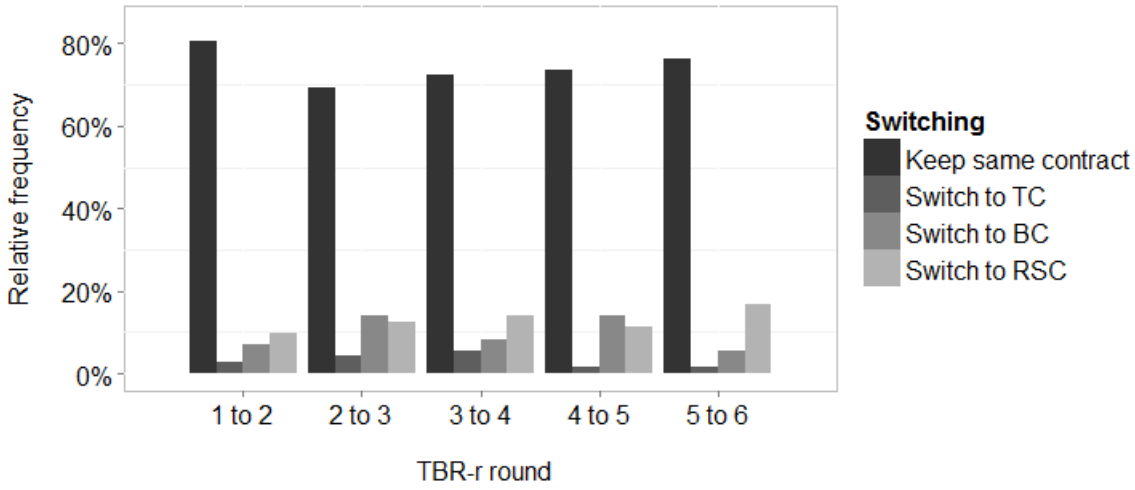
**Figure D6: Revenue sharing contract parameters over time**




Notes: Fixed wage was scaled down to 1/10 and revenue share was scaled up to x50 to fit in the plot with revealed effort (unscaled). The shares offered by principals and the effort revealed by agents are strongly correlated (Spearman: $\rho=0.444$, $p<0.001$).

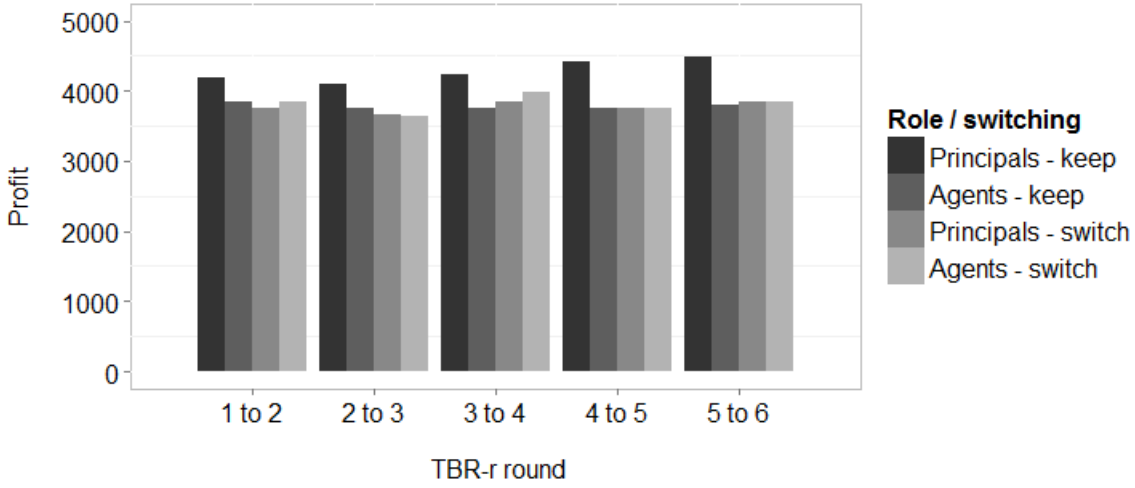
## E. Evolution and profitability of contract choices over time

### Figure E1: Relative frequencies of changing the contract in TBR-r games



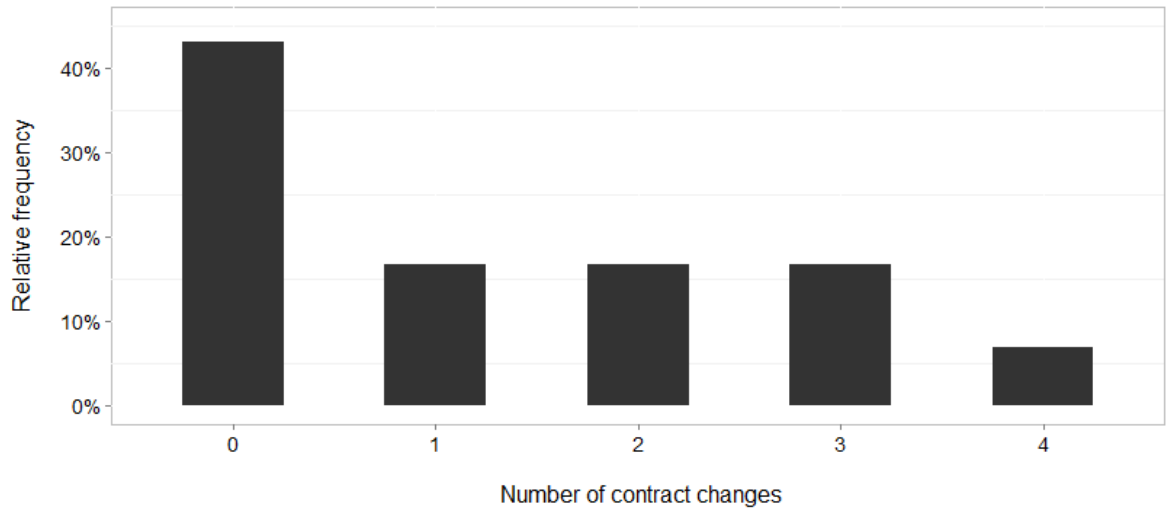

Notes: In each period on average over 74.4% of principals keep the contract they chose in the previous round. Only 3.1%, 9.7% and 12.8% of principals switched to TC, BC and RSC respectively.

### Figure E2: Profits for principals and agents, by keeping/switching the contract type and TBR-r round



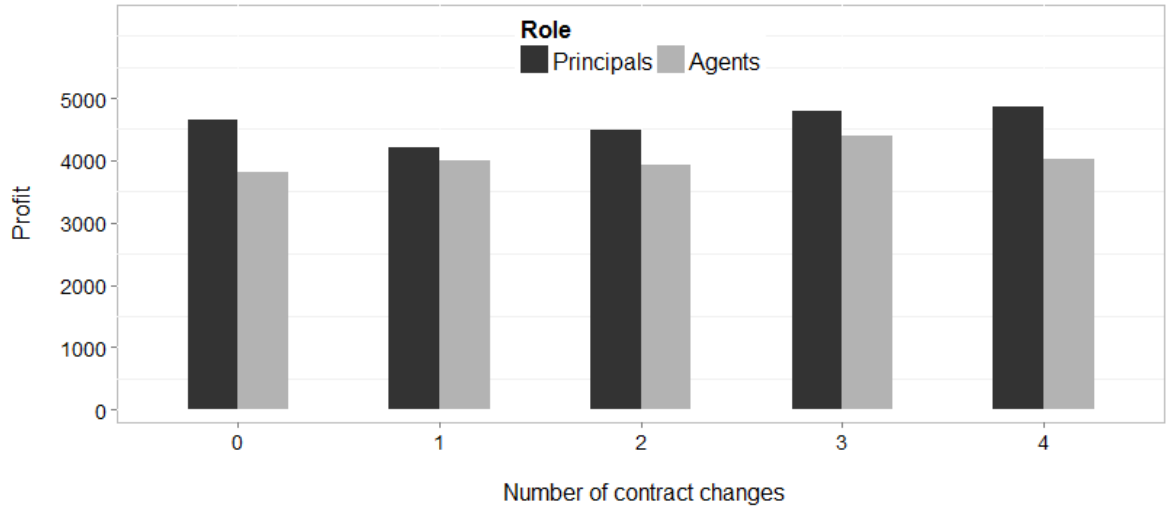

Notes: By design only principals could choose between contracts. Agents-keep and Agents-switch refer to the profits of agents whose principals chose to keep or switch their contract from one TBR-r round to the next, respectively. Principals who kept the contract of their previous round earned significantly more than those who switched contracts between rounds (Wilcoxon test: $p<0.001$). This is not the case for agents ($p=0.544$).

**Figure E3: Relative frequencies of changing the contract in TBR-r games for each principal**



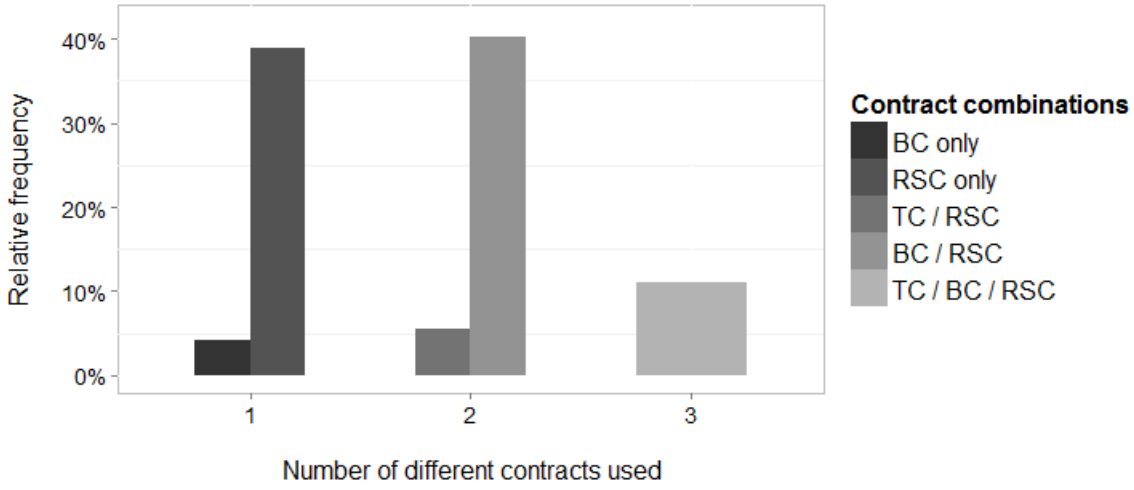

Notes: This figure depicts the number of times each principal on average proposed a different contract than in the previous TBR-r period. 43.1% chose one and the same contract throughout all 6 TBR-r periods. 16.7% chose to switch contracts 1, 2 or 3 times each and 6.9% of principals chose to switch contracts 4 times in total. Not a single principal switched the maximum of 5 times.

**Figure E4: Profits for principals and agents, by the frequency of changing contracts**



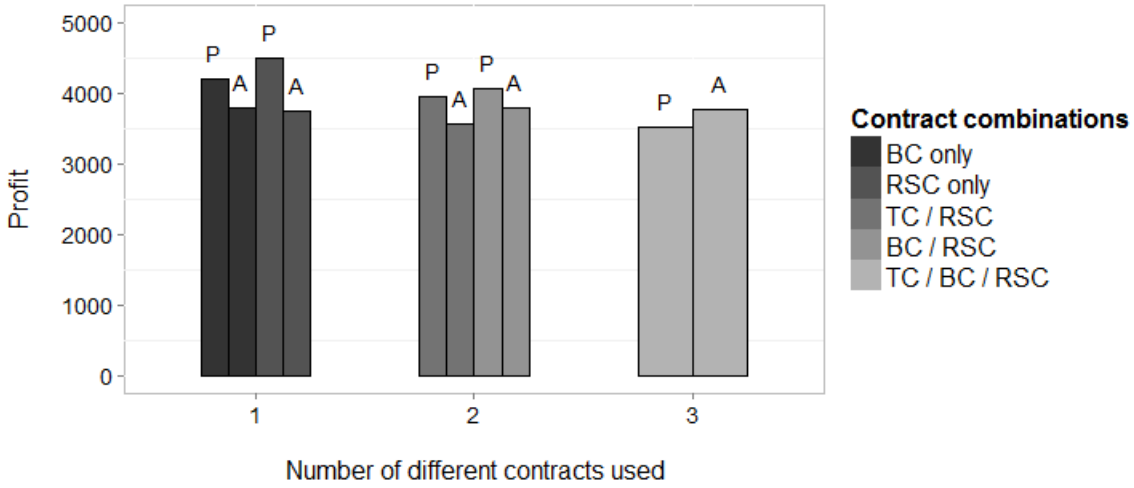

Notes: Principals are on average better off than agents, irrespective the number of times they switch between contract types. There is no clear pattern indicating that changing contract types more frequently would either positively or negatively affect profits of principals or agents.

**Figure E5: Relative frequencies of using 1, 2 or all 3 contracts in TBR-r games for each principal**




Notes: The two leftmost bars represent the relative frequency of choosing BC or RSC throughout all TBR-r periods, i.e. 4.2% and 38.9% proposed only BCs and RSCs, respectively. Not a single principal used only TCs throughout. Some principals changed between two contracts, but never used the third option (see two middle bars). 5.6% proposed at least one TC and at least one RSC whereas and 40.3% proposed at least one BC and one RSC. Not a single principal used at least one TC and one BC. A minority of principals (11.1%) chose to try all three different contracts.

**Figure E6: Profits for principals and agents in TBR-r games by chosen contract types and number of contracts used**




Notes: On aggregate, it is advantageous for principals to use one or two, but not three different contracts. This is driven by the fact that agents typically get a bigger share of the joint profits in trust contract settings and thus principals are better off avoiding this contract. As expected, principals earned the most when choosing the RSC throughout (Wilcoxon tests: RSC only vs BC only, $p=0.013$ and RSC only $\Leftrightarrow$ BC/RSC, $p<0.001$). However, there is no clear cut second best situation with respect to principals' profits. The principals' profits in the case of a mixture of RSC with BC (in the sense of mixing the most efficient with the second best contract) are not significantly different from the case of sticking to BC throughout ($p=0.801$).