SUPPLEMENTARY APPENDIX

Preferences for Truthfulness:

Heterogeneity Among and Within Individuals

By RAJNA GIBSON, CARMEN TANNER, AND ALEXANDER F. WAGNER

I. Full description of the experiment

A. Participants

A total of 261 subjects (median age: 23 years) participated in this online experiment. We recruited participants from undergraduate classes at the University of Zurich (Switzerland). 50 percent of the participants were economics and finance students, 40 percent psychology students, and 10 percent students from other fields. 42 percent were women and 58 percent were men (distributed across the fields). Participants received a fixed amount as payment for their participation and an additional variable amount as compensation determined by their choices. Anonymity was ensured.[1]

B. Procedure

All participants were first assured of anonymity throughout the experiment, then asked to respond to a few demographic questions and to read some basic instructions. They were informed that they would individually receive a payment, CHF 8, for their completed participation in the study, and an additional payment

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[1] Most participants received payment one week after the experiment. For this purpose, each participant had received, before the experiment, a code, based on which the experimenter prepared an envelope containing the earnings. Participants received the sealed envelopes by indicating their personal codes.

that depended on their choices.[2] The participants then completed the main parts of the experiment: 1) the truthtelling task, 2) the effort task, and 3) the measurement of protected values. (These tasks were not labelled for the participants.) The experiment ended with some final questions serving mainly as control variables; then all the participants were paid. For simplicity, we describe the procedure for only one of the randomized orders of tasks. For both the truthtelling and the effort tasks, participants first were required to demonstrate their understanding of the tasks and of the rules of the experiment.

1) TRUTHTELLING TASK. In the truthtelling task, each participant was placed in the situation of a CEO who had to announce earnings per share for the previous quarter. The participants were told that the variable component of their salaries depended on the earnings they announced. They were also told that the market currently anticipated the announcement of 35 cents per share as earnings,[3] but that the true earnings were 31 cents per share. The participants were told that they could announce earnings of 35 cents per share while remaining within legal accounting limits,[4] and that the decision would be solely theirs. They were also informed that they would be paid an amount based on the CEO compensation (according to their choices). This additional experimental payoff was converted into real money at the rate of CHF 100,000 = CHF 0.5. Importantly, participants earned less when choosing to tell the truth.

The participants were then told to submit their financial statements that day. Specifically, they were provided, in a randomized manner, with one of two orders of the following choice tasks:

[2] At the time of the experiment, the exchange rate was about US $1 = CHF 1.15.

[3] The actual term for the equivalent of cents in the Swiss currency is "Rappen," and the experiment used the precise Swiss terminology, that is, a choice between 31 Rappen and 35 Rappen, where 100 Rappen = CHF 1. For simplicity, we refer to "cents" within the text.

[4] Therefore, risk preferences of individuals did not matter as their choices were not based on the trade-off between the expected benefits and costs of committing a crime.

Which earnings will you announce?

__ 31 cents per share -- In this case, your compensation will be CHF 60,000 (CHF 0.30).
__ 35 cents per share -- In this case, your compensation will be CHF 300,000 (CHF 1.50).

__ 31 cents per share -- In this case, your compensation will be CHF 120,000 (CHF 0.60).
__ 35 cents per share -- In this case, your compensation will be CHF 300,000 (CHF 1.50).

__ 31 cents per share -- In this case, your compensation will be CHF 180,000 (CHF 0.90).
__ 35 cents per share -- In this case, your compensation will be CHF 300,000 (CHF 1.50).

__ 31 cents per share -- In this case, your compensation will be CHF 240,000 (CHF 1.20).
__ 35 cents per share -- In this case, your compensation will be CHF 300,000 (CHF 1.50).

__ 31 cents per share -- In this case, your compensation will be CHF 300,000 (CHF 1.50).
__ 35 cents per share -- In this case, your compensation will be CHF 300,000 (CHF 1.50).

Manipulation check: As our manipulation check, the participants were provided with four items and asked, using a 5-point scale ranging from –2 to +2, the extent to which they judged announcing 31 cents as *dishonest* vs. *honest*, *manipulative* vs. *not manipulative*, and *short-term-oriented* vs. *long-term-oriented*. The same was also done for the 35-cent option. To verify that participants correctly perceived their options, we also asked participants the extent to which they associated announcing 31 cents (or 35 cents) with personal costs or personal benefits (-2 = *associated with personal costs* to +2 = *associated with personal benefits*).

2) EFFORT TASK. Participants engaged in a simple calculation task, testing the prediction that protected values of truthfulness would play no role in tasks without an honesty/dishonesty dimension. This also allowed us to examine somewhat the possibility that participants' choices were affected by concerns regarding the experimenter's wealth or by aspects of the experiment's design (for example, the

order of choices). In this task, all participants were given the role of a manager who could affect the firm's value and their own remuneration by the amount and the accuracy of the work that they did. Participants were then provided with the following slide:

> In this task, you can increase earnings per share and, therefore, your compensation, by working. You will work on five sets of calculations. In each set, you can decide whether to do 1 or 5 simple calculations. Doing 5 calculations takes approximately five times as long as doing 1 calculation, and you will be paid more for this. The compensation you receive for 1 and for 5 calculations will vary over the five sets of calculations. Moreover, you will receive CHF 0.2 for each correct calculation.

Participants were shown an example of a calculation, such as $3 + 4 - 5 + 8 + 3 - 9 = ?$ The participants then read the following screen, one set of choices at a time:

> How many calculations do you wish to do?
> __ 1 calculation -- In this case, your compensation will be CHF 60,000 (CHF 0.30).
> __ 5 calculations -- In this case, your compensation will be CHF 300,000 (CHF 1.50).
>
> …. [Three analogous choice situations offering, for 1 calculation, CHF 120,000 (CHF 0.60), CHF 180,000 (CHF 0.90), and CHF 240,000 (CHF 1.20), respectively, are omitted for space reasons.]
>
> __ 1 calculation -- In this case, your compensation will be CHF 300,000 (CHF 1.50).
> __ 5 calculations -- In this case, your compensation will be CHF 300,000 (CHF 1.50).

On this task, participants could earn between CHF 4.50 (for always choosing one calculation, done incorrectly) and CHF 12.50 (for always choosing five calculations, done correctly).

3) MEASUREMENT OF PROTECTED VALUES. According to the correspondence (or compatibility) principle established by Ajzen and Fishbein (1980), values and behavior need to be assessed at a similar level of specificity in order to be able to uncover a link between the two. This principle underlies the measure developed by Tanner, Ryf, and Hanselmann (2009), which we used to

assess the extent to which participants held truthfulness as a protected value and, therefore, felt committed to truthtelling. Since we are studying earnings management behaviors, we adapted the introduction of their questionnaire to the present context. The questionnaire (see Section II of the Appendix) contains two highly correlated subscales designed to approach protected values from different angles. Five items assessed the participants' reactions to violations of honesty by a hypothetical CEO reporting company information. This represents an indirect approach because the decisions of others were being evaluated. Four additional items assessed the participants' own protected values more directly by examining how much importance they attributed to specific features of protected values (such as trade-off reluctance, unwillingness to sacrifice a value, or incommensurability), again referring to the specific context of a hypothetical CEO's decisions regarding the reporting of information.

The participants also had to answer another set of questions, which served as control variables. After the experiment, the participants anonymously received their payments of CHF 8 plus their earnings. The average total payment was slightly less than CHF 30.5.[5]

C. Dependent variables

TRUTHFUL CHOICE. This represented the dependent variable in the truthtelling task, coded as a binary variable that took on the value of 1 if a participant chose to announce earnings of 31 cents (the honest option), and the value of 0 if a participant announced 35 cents (the dishonest option).

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[5] As explained earlier, by using codes to distribute earnings, we took as much care as possible to ensure anonymity. That is, we tried to remove any possible grounds for expecting reciprocity. It is, therefore, unlikely that a desire to appear honest affected the participants' behavior systematically. See Ariely, Bracha, and Meier (2009) for a study of how publicly displayed monetary incentives can be less effective in promoting pro-social behavior than privately displayed incentives.

EFFORT CHOICE. This represented the dependent variable in the effort task. It took on the value of 1 if a participant chose to do five calculations (high effort), and the value of 0 if a participant chose to do one calculation (low effort).

D. Explanatory variables

ECOST. This was a within-participants variation. Costs of truthfulness derived from the amount of money a participant forfeited by announcing 31 cents (that is, by truthfulness). The *ECOST* variable took on values from CHF 0 to CHF 1.20 (= 1.50 – 0.30), in increments of 30 cents.

PROTECTED VALUES (PV). After appropriate recoding of some items, an index of the degree of protected values (*PV*) was constructed, based on the means across the four direct and the five indirect items. This index took on a value between 0 (for an individual with no protected values) and 6 (for an individual with maximum protected values). The internal consistency of this scale, as assessed by Cronbach's α, was very satisfactory ($\alpha = 0.86$).[6]

E. Control variables

ALTRUISTIC CONCERNS. We asked participants the extent to which they believed that announcing 31 cents (or 35 cents) had consequences for other stakeholders (-2 = *hurting other stakeholders* to +2 = *not hurting other stakeholders*). Of course, within the strict confines of the experiment, there were no such consequences. Nonetheless, this variable was a potentially relevant control for altruistic preferences or fairness concerns that participants might have

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[6] Cronbach's Alpha is a measure of the reliability and the internal consistency of an instrument. The measure ranges from 0 to 1 and will generally increase when the correlations between the items increase. We also did the analysis using the direct and indirect subscales separately, with similar results.

and that might confound our inferences regarding protected values of truthfulness. Answers to this question were coded as the variable *35HURTS*.

SOCIALLY ACCEPTABLE RESPONDING. We used the standard Deception Scales (PDS) of Delroy Paulhus (1984); see Musch, Brockhaus, and Bröder (2002) for the German version. This questionnaire measured individuals' tendencies to give socially desirable responses (SDR), in two distinct forms: self-deception and impression management. Accordingly, we coded two variables *SELFDECEIT* and *EXTDECEIT*. Participants who exhibited more socially acceptable responses scored higher on both scales.

DEMOGRAPHIC CONTROL VARIABLES. SEX, AGE, and *STUDIES* served as control variables. *SEX* was equal to 1 for female participants and to 0 for male participants. *AGE* was equal to each participant's age in completed years. *PSYCHOLOGY* was equal to 1 for psychology students ("psychologists") and to 0 otherwise. *OTHER* was equal to 1 for participants from fields other than psychology and economics and to 0 otherwise. *ECONOMICS* was the omitted category.

II. Protected Values survey

According to the correspondence (or compatibility) principle established by Ajzen and Fishbein (1980), values and behavior need to be assessed at a similar level of specificity in order to be able to uncover a link between the two. This principle underlies the measure developed by Tanner, Ryf, and Hanselmann (2009). Since we are studying earnings management behaviors, we adapted the introduction of their questionnaire to the present context. The questionnaire, contains two highly correlated subscales designed to approach protected values from different angles. Five items assessed the participants' reactions to violations

of honesty by a hypothetical CEO reporting company information. This represents an indirect approach because the decisions of others were being evaluated. Four additional items assessed the participants' own protected values more directly by examining how much importance they attributed to specific features of protected values (such as trade-off reluctance, unwillingness to sacrifice a value, or incommensurability), again referring to the specific context of a hypothetical CEO's decisions regarding the reporting of information. After appropriate recoding of some items, an index of the degree of protected values (*PV)* was constructed, based on the means across the four direct and the five indirect items.

Note: The original Protected Values survey was conducted in German. In the paper, for ease of interpretation of the empirical results, we changed the scale to range from 0 to 6.

Because CEOs' compensation levels depend on the earnings they report to their shareholders, CEOs have an incentive to modify reports to shareholders. What is your opinion on CEOs modifying company information in reports?

Please choose the appropriate category. This is:

Very immoral	1 2 3 4 5 6 7	very moral
Not at all praiseworthy	1 2 3 4 5 6 7	very praiseworthy
Not at all blameworthy	1 2 3 4 5 6 7	very blameworthy
Not at all outrageous	1 2 3 4 5 6 7	very outrageous
Not at all acceptable	1 2 3 4 5 6 7	very acceptable

CEOs have an opportunity to modify information in the reports they provide to their shareholders. Some view such modification as a violation of truthfulness, others regard it as acceptable protection of personal interests. What do you think about the value of truthfulness in such a situation?

Truthfulness is something

… that one should not sacrifice, no matter what the (material or other) benefits.

strongly disagree   1   2   3   4   5   6   7   strongly agree

… for which I think it is right to make a cost-benefit analysis.

strongly disagree   1   2   3   4   5   6   7   strongly agree

… that cannot be measured in monetary terms.

strongly disagree   1   2   3   4   5   6   7   strongly agree

… about which I can be flexible if the situation demands it.

strongly disagree   1   2   3   4   5   6   7   strongly agree

III. Additional results
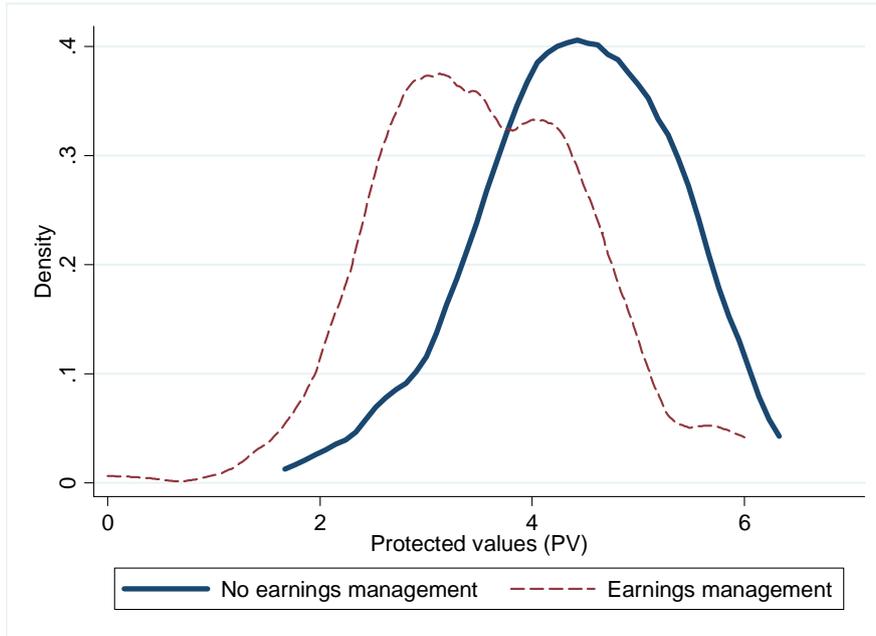
A. Distribution of PV

FIGURE S-1. DISTRIBUTION OF PV

Notes: This figure plots the kernel density (using an Epanechnikov kernel) of the strength of protected values of the participants who chose to manage earnings (broken line) and for those participants who willingly bore economic costs for not managing earnings (solid line). The figure is plotted for the median cost level in Phase 1. Protected Values (*PV*) is the average of all nine items of the survey described in the text. Higher numbers correspond to stronger protected values.

B. Quantitative implications for preference parameters

In the main text, we found that *PV* serves as a useful measure to organize the data. Here, we provide a quantitative interpretation of the findings for *PV*. (The other candidate measures for intrinsic costs of lying were insignificant.) For *PV*, a useful way to interpret the results quantitatively is offered by slightly rewriting the preference specification in equation (1). Let

$V_i\left(T \mid PV_i\right)=\left[b(m-ECOST)+bECOST\left(1-k_i\right)\left(1-T\right)\right]-\ell_i\left(1-T\right).$ The difference between the utilities of truthtelling and of lying is here given by

(A1) $$Y_i^* = \ell_i - bECOST\left(1-k_i\right).$$

In this formulation, the role of intrinsic costs of lying is split up even more explicitly than in the formulation in the main paper, although they are mathematically isomorphic. Here, first, protected values generate moral costs of lying $\ell(PV_i)=\ell_i$. A second role of protected values is that the actual marginal utility an agent ascribes to monies depends on the process by which the funds were obtained and on the agent's moral evaluation of that process. In the present context, a dollar obtained by an act of lying may be regarded as less valuable than a dollar obtained by telling the truth. This is reflected in a preference parameter $k(PV_i)=k_i$. An agent discounts funds obtained by lying if k_i is positive.

We posit for parsimony the simple linear parametric specifications $\ell_i = \zeta_0 + \zeta_1 PV_i$ and $k_i = \eta_0 + \eta_1 PV_i$. Adding a stochastic error and rearranging terms, each participant i's ($i=1,\ldots 261$) latent utility difference between truthtelling and lying at direct economic $ECOST_j$ is then given by

(A2)
$$Y_{ij}^* = \ell_i - bECOST_j\left(1-k_i\right)+\varepsilon_{ij} =$$
$$= \zeta_0 + \zeta_1 PV_i - \left(1-\eta_0\right)bECOST_j + \eta_1 bPV_i ECOST_j + \varepsilon_{ij}.$$

Thus, under the maintained distributional assumptions, after relabeling and combining coefficients,

(A3)
$$\Pr(T_{ij}=1\mid \mathbf{X}) =$$
$$= \Lambda\left[\phi_0 + \phi_{PV}PV_i + \phi_{ECOST}ECOST_j + \phi_{PVECOST}PV_i ECOST_j\right].$$

where $\Lambda(\bullet)$ is the logistic cumulative distribution function. For a model without other demographic controls (which would show up in the constant), we therefore have, we therefore have $\hat{\ell}_i = \hat{\phi}_0 + \hat{\phi}_{PV} PV_i$ and $\hat{k}_i = 1 + \left(\hat{\phi}_{ECOST} + \hat{\phi}_{PVECOST} PV_i\right)(1/b)$. For k_i, the parameters η_0 and η_1 are not identified, because b is unknown. One way to make progress is to determine (speculatively) k_i at some PV level. As a perhaps reasonable benchmark, assume that k is zero for an individual with an average PV level (3.82). From this, we can infer the implied $b = 2.91$. (Recall that we are assuming that b is independent of protected values.) This in turn then allows us to plug in a range of PV levels to obtain the implied lying discounts (or premia). (Another approach is to simply posit values for b and calculate k_i accordingly.)

Table S-1 shows the results of these calculations. 95 percent confidence intervals are shown in brackets below the point estimates. For the moral cost of lying, ℓ_i, the estimates suggest an average value of around unity. If the average participant is indifferent to the process by which funds are obtained, our estimate of b is 2.91. For the discount parameter, k_i, our experiment then implies that an individual with a protected value in the 75th percentile will discount funds acquired dishonestly by about 21 percent, with even the lower bound of the 95 percent confidence interval being about 8 percent. Thus, the trade-off resistance implied by protected values is not only a statistically, but also an economically, significant factor in decision making.[7] Of course, assuming that the average k_i is zero implies that an economic model using the proposed preference specification

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[7] Note that factors reflected neither in the model nor in the experiment may shift the attractiveness of truthfulness. For example, an anticipated loss of reputation in case of cheating may make lying less attractive at a given cost of truthfulness, thus adding to the personal moral cost of lying. These external factors would, therefore, complement and enhance the power of the discount factor k_i.

becomes interesting mostly when there is variation in protected values across agents.

TABLE S-1—QUANTITATIVE IMPLICATIONS FOR PREFERENCE PARAMETERS

	Average PV	PV at 25th percentile	PV at 75th percentile	PV=6
ℓ_i	1.15	0.79	1.46	2.09
	[0.93; 1.37]	[0.52; 1.07]	[1.18; 1.75]	[1.54; 2.64]
k_i	0	-0.23	0.21	0.63
	n.a.	3.78	1.03	0.00

APPENDIX REFERENCES

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Experimental instructions for

«Preferences for Truthfulness: Heterogeneity among and within Individuals»

Rajna Gibson, Carmen Tanner, Alexander F. Wagner
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Welcome! This is a study on managerial decision-making.

The study will take around 20 minutes. You will be in the position of a "Chief Executive Officer" (CEO). You will have to take a number of decisions.

Your choices will be treated absolutely confidentially and anonymously. If you participate in the full study, you will receive CHF 8 plus a compensation depending on your choices. More information on what your compensation will depend on will follow later.

Participation code

To guarantee 100% anonymity, we kindly ask that you choose a participation code of the following form:

- The last three digits of your student ID +
- Three letters of your choice

Example: Student ID = 01-705-234 →   234
3 letters of your choice: bsp

→ Your code: 234bsp

You will receive your compensation anonymously by stating your code. Remember your code as we have no way of identifying you otherwise.

Please enter your participation code into the field below and click "Continue."

Participation code:

General information

Please note:

- Please read the instructions for each task carefully.

- Please answer all questions.

- Please answer openly. Only your personal view counts, and there are no right or wrong answers (except for the clearly labeled questions checking understanding).

Personal information

- Gender:
  __ male
  __ female
- Age (e.g., 24):

  __
- Major
  __ Psychology
  __ Economics
  __ Other
- Specialization in psychology
  If you are majoring in psychology, please provide your field of specialization:
  (List)
- Specialization in economics
  If you are majoring in economics, please provide your field of specialization
  (List)
- Do you work part-time?
  __ yes
  __ no
- If yes, how much (in percent)?

  __
- Do you own individual stocks, mutual funds, or bonds?
  __ yes
  __ no

Information on compensation

In the following, you will have to put yourself in the position of a Chief Executive Officer (CEO). The financial payment that you receive after the experiment depends on the compensation of the CEO.

A higher compensation for the CEO means higher payment to you personally.

In addition, you will be asked some questions checking your understanding. For each incorrect answer, CHF 1 will be deducted from your final payment. By reading the instructions carefully, these questions are easy to answer.

In any case, you will receive CHF 8 at a minimum if you participate in the full study.

Introduction

Please read carefully the following description.

Imagine...

You are the Chief Executive Officer (CEO) of the company Castor AG. Castor AG is a publicly listed company. All shareholders are long-term investors. One of your tasks is to inform, each quarter, shareholders about the course of business and the earnings per share.

The end of the quarter, when you will have to report to shareholders, is around the corner.

Your compensation consists of a fixed and a variable salary component. The variable component is a bonus which depends on the announced earnings of the company. The higher the announced earnings, the higher will be your bonus.

The market currently anticipates the announcement of 35 cents as earnings per share. This is known to shareholders.

As the CEO, you know the true earnings of Castor AG, but the market does not. You know that earnings of 31 cents per share would more accurately reflect the actual value of the company.

It is your decision whether you make a legally permitted accounting modification to announce 35 cents instead of 31 cents for the earnings per share.

You know that the shareholders are closely following the earnings announcement of your company.

Before the actual decision, the following page asks some questions of understanding.

Please note that each incorrect answer will result in a deduction of CHF 1 from your total payment.

All questions need to be answered correctly before you can continue with the experiment.

Questions checking understanding

- How high does the market estimate the earnings per share for Castor AG?
  _ 30 cents
  _ 31 cents
  _ 35 cents

- How high are the actual earnings per share of Castor AG according to internal accounting?
  _ 30 cents
  _ 31 cents
  _ 35 cents

- With which announced earnings per share would you as the CEO receive a lower bonus?
  _ with 31 cents of earnings per share
  _ with 35 cents of earnings per share

- Can you as CEO announce earnings that deviate from the actual earnings?
  _ yes
  _ no

- Your compensation as CEO…
  _ depends on the announced earnings per share
  _ does not depend on the announced earnings per share

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A quarter has passed and today you have to publish an earnings report. The market estimates earnings to be 35 cents per share. You know that earnings of 31 cents per share would more accurately reflect the actual value of the company.

In the following, there will be five possible situations for each of which you have to make a choice.

Which earnings will you announce?

(Please choose one alternative in each of the five situations.)

◯ **31 cents** per share - In this case, your compensation will be **CHF 60,000** (CHF 0.30)*
◯ **35 cents** per share - In this case, your compensation will be **CHF 300,000** (CHF 1.50) *

◯ **31 cents** per share - In this case, your compensation will be **CHF 120,000** (CHF 0.60)*
◯ **35 cents** per share - In this case, your compensation will be **CHF 300,000** (CHF 1.50) *

◯ **31 cents** per share - In this case, your compensation will be **CHF 180,000** (CHF 0.90)*
◯ **35 cents** per share - In this case, your compensation will be **CHF 300,000** (CHF 1.50) *

◯ **31 cents** per share - In this case, your compensation will be **CHF 240,000** (CHF 1.20)*
◯ **35 cents** per share - In this case, your compensation will be **CHF 300,000** (CHF 1.50) *

◯ **31 cents** per share - In this case, your compensation will be **CHF 300,000** (CHF 1.50)*
◯ **35 cents** per share - In this case, your compensation will be **CHF 300,000** (CHF 1.50) *

* This corresponds to the bonus payment that you receive after the experiment.

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From your own point of view, how do the two choices 31 cents vs. 35 cents earnings per share differ from each other?

To which extent do you judge the decision to announce **31 cents** earnings per share as

dishonest	-2	-1	0	+1	+2	honest
manipulative	-2	-1	0	+1	+2	not manipulative
associated with personal costs	-2	-1	0	+1	+2	associated with personal gains
short-term oriented	-2	-1	0	+1	+2	long-term oriented
long-term hurting other stakeholders (e.g., shareholders, employees, suppliers)	-2	-1	0	+1	+2	long-term not hurting other stakeholders (e.g., shareholders, employees, suppliers)

To which extent do you judge the decision to announce **35 cents** earnings per share as

dishonest	-2	-1	0	+1	+2	honest
manipulative	-2	-1	0	+1	+2	not manipulative
associated with personal costs	-2	-1	0	+1	+2	associated with personal gains
short-term oriented	-2	-1	0	+1	+2	long-term oriented
long-term hurting other stakeholders (e.g., shareholders, employees, suppliers)	-2	-1	0	+1	+2	long-term not hurting other stakeholders (e.g., shareholders, employees, suppliers)

Introduction

Please read carefully the following description.

Imagine...

You are the **Chief Executive Officer (CEO)** of a company. Your compensation consists of a fixed and a variable salary component. The variable component is a bonus which depends on the realized earnings of the company.

You have an opportunity to affect the firm's earnings by your effort. The more you work, the more time you need to invest, and the more money you will receive at the end of the experiment.

Calculations

In this task, you can increase earnings per share and, therefore, your compensation, by working. You will work on five sets of calculations. In each set, you can decide whether to do 1 or 5 simple calculations. Doing 5 calculations takes approximately five times as long as doing 1 calculation, and you will be paid more for this. The compensation you receive for 1 and for 5 calculations will vary over the five sets of calculations.

Moreover, you will receive CHF 0.2 for each correct calculation.

Before the actual decision, the following page asks some questions of understanding.

Please note that each incorrect answer will result in a deduction of CHF 1 from your total payment.

All questions need to be answered correctly before you can continue with the experiment.

Questions of understanding

- Can you as the CEO influence the earnings?

  _ yes

  _ no

- Your compensation as CEO...

  _ depends on the realized earnings per share

  _ does not depend on the realized earnings per share

- Your compensation as CEO is higher, if you solve…

  _ 1 calculation

  _ 5 calculations

Overview of the sets

Here you see an overview of the five sets of calculations and your compensation. You will make choices on these after two example calculations. In each set, you decide whether to do 1 or 5 calculations. You do not have to remember the payment levels now, as they will be shown in each choice situation later.

First set:
- **1 calculation**   - In this case, your compensation will be **CHF 60,000** (CHF 0.30)*
- **5 calculations** - In this case, your compensation will be **CHF 300,000** (CHF 1.50)*

Second set:
- **1 calculation**   - In this case, your compensation will be **CHF 120,000** (CHF 0.60)*
- **5 calculations** - In this case, your compensation will be **CHF 300,000** (CHF 1.50)*

Third set:
- **1 calculation**   - In this case, your compensation will be **CHF 180,000** (CHF 0.90)*
- **5 calculations** - In this case, your compensation will be **CHF 300,000** (CHF 1.50)*

Fourth set:
- **1 calculation**   - In this case, your compensation will be **CHF 240,000** (CHF 1.20)*
- **5 calculations** - In this case, your compensation will be **CHF 300,000** (CHF 1.50)*

Fifth set:
- **1 calculation**   - In this case, your compensation will be **CHF 300,000** (CHF 1.50)*
- **5 calculations** - In this case, your compensation will be **CHF 300,000** (CHF 1.50)*

* This corresponds to the bonus payment that you receive after the experiment

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Here are two examples of calculations. You do not have to solve them. The following calculations will have the same level of difficulty.

3 + 4 − 5 + 8 + 3 − 9 =   Result: 4

15 + 3 − 4 + 18 + 6 − 12 =   Result: 26

You can now decide whether to do 1 or 5 calculations. The payment for each option is given in parentheses below.

1.   I decide to do…

1 calculation (CHF 0.30)	5 calculations (CHF 1.50)

[If participant clicks "1 calculation"] :

$2 + 27 - 7 + 3 - 9 - 3 =$ Result: **[13]**

[If participant clicks "5 calculations"] :

$2 + 27 - 7 + 3 - 9 - 3 =$ Result: **[13]**

$34 - 5 + 16 - 7 - 12 - 2 =$ Result: **[24]**

$1 + 35 + 2 - 5 + 9 - 6 =$ Result: **[36]**

$11 - 7 + 26 - 2 + 4 - 5 =$ Result: **[27]**

$93 - 31 + 5 + 7 - 9 + 2 =$ Result: **[67]**

You again can decide whether to do 1 or 5 calculations. The payment for each option is given in parentheses below.

2.   I decide to do…

| 1 calculation (CHF 0.60) | 5 calculations (CHF 1.50) |

[If participant clicks "1 calculation"] :
19 − 4 − 3 + 33 − 11 − 6 =   Result: [28]

[If participant clicks "5 calculations"] :
19 − 4 − 3 + 33 − 11 − 6 =   Result: [28]

15 + 4 − 11 + 18 + 3 + 9 =   Result: [38]

24 − 7 + 28 − 2 − 16 − 4 =   Result: [23]

40 + 8 − 2 + 6 − 5 − 4 =   Result: [43]

12 + 11 − 16 + 9 + 7 − 2 =   Result: [21]

You again can decide whether to do 1 or 5 calculations. The payment for each option is given in parentheses below.

3.   I decide to do…

| 1 calculation (CHF 0.90) | 5 calculations (CHF 1.50) |

[If participant clicks "1 calculation"] :

16 − 4 + 2 + 9 − 15 − 3 =   Result: [5]

[If participant clicks "5 calculations"] :

16 − 4 + 2 + 9 − 15 − 3 =   Result: [5]

17 − 13 + 42 − 7 − 2 + 4 =   Result: [41]

19 + 3 − 17 + 12 − 16 + 8 =   Result: [9]

57 − 19 − 2 + 11 − 3 − 5 =   Result: [39]

8 + 14 − 16 + 9 + 5 − 12 =   Result: [8]

You again can decide whether to do 1 or 5 calculations. The payment for each option is given in parentheses below.

4.　　　I decide to do…

1 calculation (CHF 1.20)	5 calculations (CHF 1.50)

[If participant clicks "1 calculation"] :
67 − 11 − 5 − 11 + 3 − 3 =　　　Result:　[40]

[If participant clicks "5 calculations"] :
67 − 11 − 5 − 11 + 3 − 3 =　　　Result:　[40]

65 − 5 − 7 + 20 − 3 − 8 =　　　Result:　[62]

3 + 14 − 7 + 2 − 4 + 15 =　　　Result:　[23]

34 − 19 + 2 + 6 − 21 + 1 =　　　Result:　[3]

43 + 22 − 53 − 9 + 18 − 3 =　　　Result:　[18]

You again can decide whether to do 1 or 5 calculations. The payment for each option is given in parentheses below.

5.　　　I decide to do…

1 calculation (CHF 1.50)	5 calculations (CHF 1.50)

[If participant clicks "1 calculation"] :

$74 - 24 - 4 + 12 - 3 + 2 =$　　　　Result:　　[57]

[If participant clicks "5 calculations"] :

$74 - 24 - 4 + 12 - 3 + 2 =$　　　　Result:　　[57]

$2 + 9 + 4 + 5 + 63 + 11 =$　　　　Result:　　[94]

$45 - 28 + 8 - 1 - 14 + 9 =$　　　　Result:　　[19]

$7 - 2 + 3 + 5 + 6 - 18 =$　　　　Result:　　[1]

$23 + 8 - 17 + 3 + 8 - 14 =$　　　　Result:　　[11]

In what follows, please answer a few questions on your personal attitudes.

Please imagine that you find a CHF 50 bill on the street. It is impossible to identify the owner, and it is, therefore, completely acceptable and morally unobjectionable that you keep the CHF 50. Think about your average peer who earns about the same amount of money as you do, and is approximately equally wealthy. Would you say that, relative to this average peer, you benefit

__ a lot more

__ more

__ equally

__ less

__ a lot less

from this additional amount of money?

Because CEOs' compensation levels depend on the earnings they report to their shareholders, CEOs have an incentive to modify reports to shareholders. What is your opinion on CEOs modifying company information in reports?

This is …

Very immoral	1 2 3 4 5 6 7	very moral
Not at all praiseworthy	1 2 3 4 5 6 7	very praiseworthy
Not at all blameworthy	1 2 3 4 5 6 7	very blameworthy
Not at all outrageous	1 2 3 4 5 6 7	very outrageous
Not at all acceptable	1 2 3 4 5 6 7	very acceptable

CEOs have an opportunity to modify information in the reports they provide to their shareholders. Some view such modification as a violation of truthfulness, others regard it as acceptable protection of personal interests. What do you think about the value of truthfulness in such a situation?

Truthfulness is about something…

- … that one should not sacrifice, no matter what the (material or other) benefits.
strongly disagree   1   2   3   4   5   6   7   strongly agree
- … for which I think it is right to make a cost-benefit analysis.
strongly disagree   1   2   3   4   5   6   7   strongly agree
- … that cannot be measured in monetary terms.
strongly disagree   1   2   3   4   5   6   7   strongly agree
- … about which I can be flexible if the situation demands it.
strongly disagree   1   2   3   4   5   6   7   strongly agree

Please answer the following questions to the best of your ability. The items below represent concepts people identify with. As such, there are no right or wrong answers, only personal responses.
1 (not true) to 7 (very true)

1. My first impression of people usually turns out to be right.
2. I have not always been completely honest with myself.
3. I always know why I like things.
4. It's hard for me to shut off a disturbing thought.
5. I sometimes lose out on things because I can't make up my mind soon enough.
6. I am a completely rational person.
7. I rarely appreciate criticism.
8. I am very confident of my judgements.
9. I have occasionally doubted my abilities as a lover.
10. I don't always know the reasons why I do the things I do.

(continued)

11. I sometimes tell lies when I have to.

12. There have been occasions when I have taken advantage of someone.

13. I never sweat.

14. I sometimes try to get even rather than forgive and forget.

15. I have received too much change from a salesperson without telling him or her.

16. I always declare everything at customs.

17. I sometimes drive faster than the speed limit.

18. I have done things that I don't tell other people about.

19. I never take things that don't belong to me.

20. I have taken sick-leave from work or school even though I wasn't really sick.

Have you recently read academic papers or newspaper articles about CEOs?

__ yes   __ no   __ I cannot remember

If yes, how were CEOs portrayed? [*Question was only displayed when the answer was "yes"*]

1	2	3	4	5	6	7
Very Negatively						Very positively

A final important question:

Have you answered the questions in this study carefully?

Yes	No

Thank you for your participation!

You can pick up the money either in the Lichthof of the University of Zurich (**main building**) or at Binzmühlestrasse 14 in Oerlikon (**Uni Zürich Nord**). You can select your preferred date in the following doodle link. [Separate window opens when participant selects one of the two pickup locations above.] In the doodle, please enter your participation code. Your participation code is:

…

We are also happy to receive your comments or questions:

Contact:
XXX   XXX

End