

Investing in managerial honesty

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Abstract

How does investor perception of managerial honesty affect investment choices? Do some investors avoid “sinful” CEOs, like they avoid “sin stocks”? Two laboratory experiments shed light on these questions. We find that investors perceive a CEO to be more committed to honesty when he or she previously resisted engaging in earnings management at a personal cost. In their investment decisions, investors discount the announcements of a CEO whom they perceive as dishonest. Specifically, a one standard deviation increase in a CEO’s perceived commitment to honesty compared to another CEO reduces the relevance, for investment decisions, of announced return differences between the CEOs by about 40%. This effect is prominent among investors with a pro-self orientation. Pro-social investors are generally insensitive to returns, but seek to invest with a CEO with matching honesty values. Overall, these results suggest that (a) (perceived) honesty of the CEO matters, (b) investors’ personal values affect their investment choices, and (c) investors segment into stocks based on the joint effects of these two driving forces.

Keywords: Honesty, earnings management, market segmentation, investor preferences, social value orientation, protected values.

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1 Introduction

Corporate fraud and managerial deception have over the recent decades been pervasive and value-destroying to shareholders and to society at large (contributing, among other factors, to the subprime crisis). One response to such behaviors is the call for more stringent regulation, for instance, regarding the composition of boards, the structure of managerial compensation, and the independence of auditors. In this paper, we instead focus on the potential role of market discipline in fostering managerial honesty. A necessary condition for this to work is that stock market participants respond to differing (perceived) levels of honesty of managers and to differing (perceived) appropriateness of conduct and business models of companies.

Prior work by Hong and Kacperczyk (2009) has established that some “norms-oriented” investors avoid “sin stocks” (which, therefore, have higher excess returns and lower valuations than comparable stocks). In this paper, we focus on the role played by perceived managerial honesty. We test whether investors shun firms (perceived to be) run by dishonest managers (that is, “sinful CEOs”) and instead invest – abstracting from legal risk considerations or institutional and regulatory requirements regarding management behavior – in firms run by managers perceived to be more honest. Moreover, we examine whether there is segmentation across CEOs based on the moral and social values of investors.

To study these questions, we conduct two laboratory experiments. The general design of our experiments is that participants – cast in the role of investors – are given the choice between investing in one of two companies, which are run by CEO A and CEO B, respectively. Participants have to infer the two managers’ preferences for honesty by observing his or her prior actions. Specifically, in our experiments investors observe the yearly earnings that two managers announce, prior market expectations for the earnings, and the bonuses earned by the two managers due to their earnings announcements. They are informed that, like in the real world, a

manager who engages in (legal) earnings management to announce earnings that match market expectations gets paid a higher bonus than a manager of an otherwise identical firm who does not manage earnings and thus announces lower earnings. This business situation exemplifies moral conflicts, for managers, between personal gains and honest reporting: Earnings management occurs when managers change reported earnings to mislead stakeholders about the accurate economic performance of the company (Healy and Wahlen 1999). Even if such behavior remains within the boundaries of accepted practices established by International Accounting Standards, some investors may view such behavior as a signal that the manager is indeed not committed to honesty. (For example, Jensen (2005) explicitly refers to earnings management as an act of “lying”.) Variable CEOs compensation is often (directly or indirectly) tied to the announced earnings.

Drawing on A’s and B’s earnings announcements in the past fiscal year, each participant forms an opinion on the CEOs’ commitment to honesty. Investors also learn what the two CEOs announce as future stock returns of their companies. Being faced with varying announcements of future returns by both CEOs, each participant then decides in which of the two companies to invest.

This design is motivated by a large literature that has established that some individuals incur intrinsic costs of lying (Gneezy 2005; Gibson, Tanner and Wagner 2013). We build on this literature to construct a measure of the *perceived* CEO preferences for honesty. To measure investors’ perceptions of each of the two CEOs’ commitment to honesty, we use an established scale of “protected values for truthfulness” (Tanner, Ryf and Hanselmann 2009; Gibson, Tanner and Wagner 2013). This scale captures how strongly individuals resist trading off honesty for economic benefits and their emotional reactions to potential violations of honesty. Existing work

has used this scale to predict truthful choices. The novelty of this experiment is that participants use the scale to assess others' (the CEOs') perceived protected values.

In Experiment 1, we test two hypotheses: Hypothesis 1) is that investors infer, from past earnings announcements, differences between the two CEOs in terms of their commitment to honesty. Hypothesis 2) is that in investment choices, investors assess differences in future returns announced by the two CEOs depending on their perception of the CEOs' commitment to honesty.

We find strong evidence for Hypothesis 1): Investors perceive a CEO to be more committed to honesty when he or she resists the temptation to manage the earnings of the firm. We also find support for Hypothesis 2): Investors become less sensitive to differences in returns claimed by the two CEOs the more they perceive a CEO to treat honesty as a protected value relative to the other. A one standard deviation increase in a CEO's perceived commitment to honesty compared to another CEO reduces the relevance, for investment decisions, of announced return differences between the CEOs by about 40%. This is consistent with the conjecture that announcements by a CEO being perceived to be committed to honesty are seen as more reliable and trustworthy, reflecting more accurately his or her future realized return.

However, there may be an alternative explanation for these findings. Rather than investors acting opportunistically by investing with the CEO whose future returns they regard as most predictable, it may be that investors – or at least some of them – care about perceived honesty of the CEO because they themselves value honesty. In Experiment 2, we additionally collect investors' own characteristics (beyond mere demographics). We use two questionnaires to assess such investor traits. First, we measure the Social Value Orientation of investors using an established scale (Van Lange, Otten, De Bruin and Joireman 1997). This concept has been widely used (most recently also in economics, e.g., Grossman and van der Weele (2016)) and captures individuals' stable preferences for putting more weight either on joint outcomes (pro-social) or on

own outcomes (pro-self). Second, we measure investors' own protected values for honesty, because this is the direct counterpart to what investors infer about the CEOs. As expected, the two investor characteristics are far from perfectly correlated ($r = .18$), suggesting that they pick up two distinct individual characteristics.

Experiment 2 documents a pronounced segmentation or clientele effect among investors in terms of these two characteristics: We find that pro-social investors care primarily for perceived managerial honesty as such. They invest with the CEO with whom they share a similar (high or low) commitment to honesty, while being insensitive to the announced returns by the CEOs. In contrast, pro-self investors, who seek to maximize their own monetary outcomes, respond to the announced future returns, but take into account managerial honesty to assess how reliable the future returns announced by the two different CEOs are. These investors become less sensitive to announced returns, the more they perceive a CEO to treat honesty as a protected value compared to the other. Pro-self investors' own protected values do not predict their investment behavior.

The combined results of these two experiments suggest that investors' personal values and perceived CEO honesty are important factors in investor choices. Higher perceived managerial honesty is attractive to both investors with pro-self preferences and to high-protected values for honesty investors with pro-social preferences, but for different reasons: In the first case, it signals higher credibility of the announced returns to which the pro-selfish individuals are sensitive and, in the second case, this personal trait of the manager maps into the social value orientation of investors who share the same honesty values.

Laboratory experiments have advantages and limitations: On the one hand, experiments allow us to cleanly identify and isolate the distinct factors influencing behavior, and we can collect detailed individual-level data about participant characteristics that are simply not available

for real-world investors. On the other hand, the experimental situation cannot capture the full richness of corporate and investment reality. Nonetheless, we believe that this experimental work is an important complement to the empirical archival literature (discussed below) on investor segmentation and the role of trust in finance.

The structure of the paper is the following: Section 2 discusses our contribution to the related literature. Section 3 describes the experimental design and the results of the first experiment. Section 4 presents the second experiment and its main results. Finally, Section 5 discusses the implications of our findings and concludes.

2 Contributions to the literature

This study makes four contributions to the existing literature.

First, while there is a large literature on the determinants of investors' clientele and segmentation effects,¹ few papers examine how investors' moral, religious and social characteristics shape their investment decisions. Hong and Kacperczyk (2009) highlight that certain groups of institutional investors may shun sin stocks. Also, mutual fund managers who make campaign donations to Democrats invest less in companies that are deemed socially irresponsible (Hong and Kostovetsky 2012). In regions with higher Catholic-Protestant ratios, investors exhibit a stronger propensity to hold very risky stocks (Kumar, Page and Spalt 2011), though Reneeboog and Spaenjers (2012) find that Catholic households invest less frequently in the stock market.² With our experimental data, we have fine-grained information about individual

¹ Clienteles may be characterized, for example, by preferences for different investment horizons and their impact on investors stock trading behaviors as in Cella, Ellul and Giannetti (2013), distinct dividend appetites as in Graham and Kumar (2006), by heterogeneous beliefs as in Detemple and Murthy (1994) and Basak (2000) or by heterogeneous risk aversion as in Blackburn et al. (2010).

² See Campbell (2006) and Badarinza, Campbell and Ramodarai (2016) for a review of the domestic and international household finance literatures.

investor characteristics that allows us to examine the interaction of investor characteristics and (perceived) managerial characteristics.

Second, this paper extends the literature on the role of trust and credibility in financial markets. Existing work suggests generalized trust, that is, the trust that market participants as a whole place in the integrity that the institutional, legal and political environment of a given country, matters greatly for capital markets: For example, Guiso, Sapienza and Zingales (2008) show that stock market participation is lower in countries where there is higher distrust in the legal and institutional environments. Pevzner, Xie, and Xin (2015) document that higher social trust in a country as well as higher earnings quality on the country level is associated with larger reactions to earnings announcements.

We examine managerial honesty (and the consequent trust in a particular manager), rather than generalized trust. There is some evidence that unethical behavior (for instance, option backdating, as in Fotak, Yiang and Lee (2016)) can increase firms' perceived information risk and that ethical behavior (for instance, not managing earnings despite incentives to do so as in Eugster and Wagner (2016)) can increase the credibility of a firm's future announcements. More broadly, the work on disclosure quality (e.g., Botosan (1997), Francis, Nanda and Olsson (2008), and Barth, Konchitchki, and Landsman (2013)) by and large finds that corporate transparency decreases the cost of capital. Our results suggest that the ability of firms to attract capital also depends on the shareholder perceptions of managerial honesty, and we also shed light on the interaction of investor characteristics with these perceptions

Third, the findings on the importance of perceived managerial honesty enrich the literature on managerial characteristics. This literature has shown that in general manager fixed effects explain significant variation in corporate policies (Bertrand and Schoar 2003; Graham, Harvey and Puri 2012). For example, McGuire, Omer and Sharp (2012) show that managers in

more religious areas engage in less accounting earnings management. What we add is the insight that investors in fact infer moral characteristics of managers, namely their commitment to honesty from managers' prior actions, and that investors make investment decisions accordingly.³ Overall, the paper also relates to a recent literature on corporate culture and corporate behavior (see Guiso, Sapienza and Zingales (2015) and Benmelech and Frydman (2015) among others).

Finally, our study is also related to the broader literature on corporate (social) responsibility and its value added to shareholders. Most of that literature considers company characteristics as signaling or conveying information regarding the values held by the company and its managers. For example, Kim, Park and Weir (2012) show that firms which have higher CSR ratings are also those who are less inclined to aggressively manage their earnings. This literature has, however, reached somewhat ambiguous conclusions on the relationship between firms' CSR activities and their values.⁴ Our analysis suggests that investor preferences and perceived managerial honesty interact in shaping the attractiveness of firms as investment vehicles.

³ Although reduced access to capital is clearly a negative consequence of perceived low integrity of management, other work shows that there may be trade-offs between employee creativity, risk-taking, and integrity. For example, Grieser, Kapadia, Li and Simonov (2016) document that firms where more employees have extramarital affairs (a risky activity) are more innovative and engage in riskier corporate policies (which is beneficial in certain situations).

⁴ Many older studies find zero effect generated by CSR activities (Hamilton, Jo and Statman 1993; Bauer, Koedijk and Otten 2005; Statman and Glushkov 2009). A number of more recent studies find, by contrast, that social responsibility adds value to investors. For example, Edmans (2011) documents that investing in the "best companies to work for in America" does yield significantly positive alphas. Ferrell, Liang and Renneboog (2016) document that CSR firms have higher values and display a lower level of managerial entrenchment. Lins, Servaes and Tamayo (2017) show that firms with higher corporate social responsibility -which they use as a proxy of a firm's social capital - did better during the financial crisis. By contrast, some studies find a negative effect of socially responsible policies on firms' values (Geczy, Stambaugh and Levin 2005).

3 Experiment 1

3.1 Method

A total of 141 students from the University of Zurich participated in this fully anonymous (see below) experiment. Of this sample, 63% were economics and 37% were psychology students; 42% were women; the median age was 23. Although we had more male participants and more economics students than females and psychology students, respectively, we have a sufficient degree of demographic variation that we can meaningfully control for individual differences in our analysis. 96 individuals completed an online, and 45 a paper-pencil version of this study. Since we found no differences in the main results between the online vs. paper-pencil versions, we combine these two data sets.

The full instructions are in the supplementary Appendix. The instructions informed participants that they would be in the situation of an investor who has to make several decisions to invest with one of two companies. They were also informed that they would get paid at the end of the experiment. Participants received a fixed amount of CHF 10 (\approx US\$ 10) for their participation and a flexible amount up to CHF 5, depending on their responses in the decision tasks.

Participants were then provided with some information about the two companies, which were described to be identical, except that CEO A and CEO B announced different earnings per share (EPS) and thus received different salaries: Company A and company B only differed with respect to their announced earnings per share and the variable component of the salaries of their respective CEOs (see Table 1). The salary of each CEO consists of a fixed and a variable component. The variable component is a bonus, which depends on the announced earnings per share and each CEO can influence the announced earnings per share within the limits prescribed

by legal accounting standards. More specifically, participants were given Table 1 and additional instructions, saying:

“Firm A and Firm B differ only in terms of their publicly announced earnings per share and the performance-based compensation of each CEO. The CEO compensation consists of a fixed and a flexible component. The flexible component is a bonus, which depends on the announced earnings per share. As you know, a CEO can influence the publicly announced earnings per share using legal accounting procedures.

Table 1: Company and CEO description [not labeled as a Table for participants]

Firm	Market’s expected earnings per share	True earnings per share	Earnings per share announced by the CEOs	CEO’s compensation
A	35	Only known by CEO	31	CHF 1,300,000
B	35	Only known by CEO	35	CHF 2,200,000

The table shows:

CEO B announced higher earnings per share and therefore the CEO of Firm B received a higher salary. If the CEO of Firm A had announced the same earnings as CEO B, he would have also earned CHF 2'200'000.”

We limited the difference between the CEOs to one salient dimension in order to most cleanly identify the influence of perceived CEO commitment to honesty on investor actions. Based on this information, we expected that participants would infer that CEO A is more committed to honesty (since he or she had not engaged in earnings management despite incentives to do so), while CEO B is less committed to honesty (since he or she had engaged in earnings management).

Participants then had to respond to several test questions to ensure that they understood the task of the experiment. They could not proceed until all questions were answered correctly. In order to verify whether both CEOs were perceived to be different, participants were also asked to indicate on five-point Likert scales to which extent they judged CEO A (CEO B) as *short-term vs. long-term oriented* and *willing to make financial sacrifices vs. not willing to make financial sacrifices*. We also included an item on perceived trustworthiness (*trustworthy vs. not trustworthy*).

Participants were then presented with four investment choices (in randomized order), which varied in terms of announced future returns by the CEOs. In two choices CEO B announced a higher future return than CEO A, and in the other two choices CEO A announced a higher future return than CEO B (see Table 2). The amount presented to participants in parentheses was the amount that they could receive from each investment choice if the predicted increase in shareholder value materialized. The participants also learned that if the investment turned out to be unsuccessful, they would only receive the investment back, but no additional return. The variable $\Delta Return$ captures differences in announced return on investment per share between CEO A and CEO B (return announcement CEO A minus return announcement CEO B), thus ranging from -30% to +30%.

The four investment choices were presented sequentially on separate pages. An example of such a choice situation follows:

“Now you have the opportunity, to invest 50'000 CHF either in Firm A or in Firm B.

*CEO A claims to increase the firm value by **20%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 10,000** (or 1.00 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).*

*CEO B claims to increase the firm value by **30%**. Should this prove to be the case, you*

receive - in the case of investment - in the upcoming year **CHF 15,000** (or 1.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

In which company do you invest your money?"

Table 2: Overview of the four different investment choices
[not shown as a Table to participants]

Choice	Company	Claimed returns in %	Return difference (CEO A–CEO B) in %: $\Delta Return$	Claimed returns in CHF	Return difference (CEO A–CEO B) in CHF
1	CEO A	10	- 30	5'000	- 15'000
	CEO B	40		20'000	
2	CEO A	20	- 10	10'000	- 5'000
	CEO B	30		15'000	
3	CEO A	30	+10	15'000	+ 5'000
	CEO B	20		10'000	
4	CEO A	40	+30	20'000	+ 15'000
	CEO B	10		5'000	

We then assessed, before the impression of the CEOs would fade, the extent to which investors believed each CEO to be committed to honesty.⁵ For this, we draw on the concept of protected values for truthfulness, using the measure developed and validated by Tanner, Ryf and Hanselmann (2009) and applied in Gibson, Tanner, and Wagner (2013). The protected values for truthfulness scale we use in the main analysis aggregates two distinct but related subscales. One subscale (five items) captures more affective reactions to (real or anticipated) violations of honesty (see also Tetlock, Kristel, Elson, Green, and Lerner (2000)). The other subscale (four items) captures more the cognitive notion of an individual's unwillingness to consider trade-offs of honesty based on cost-benefit analyses (see also Baron and Spranca (1997)). Prior studies have tested the scales for their psychometric qualities and revealed that this protected values measure reflects strong moral stances and core beliefs (Tanner, Ryf and Hanselmann 2009). It correlates

⁵ One caveat of our experimental setup could be that participants perception of the two CEOs' commitment to honesty might not only depend upon whether one the CEOs' earnings announcements, but also on their investment choices. Evidence from an additional survey, reported in Section 4.2.3, suggests that this was not the case.

positively with moral identity (Aquino and Reed 2002), ethical idealism (Forsyth 1980), and deontology and intuitionism (Witte and Doll 1995). Critically for this study, individuals scoring high on the protected values scale respond less to economic incentives to lie (Gibson, Tanner and Wagner 2013). In addition, Seid-Fatemi et al. (2016) provide evidence that when compared to other candidate measures (e.g. HEXACO, moral identity), the protected values measure is the strongest predictor of resistance to economic incentives.

In this first experiment, we were only interested in participants *perceived* CEO A's and B's respective commitment to honesty as measured by the protected value scale. Specifically, participants were asked what they thought the CEO A's (CEO B's) opinions were regarding managing the earnings (five items): *very immoral* to *very moral*, *not at all praiseworthy* to *very praiseworthy*, *not at all blameworthy* to *very blameworthy*, *not at all outrageous* to *very outrageous*, *not at all acceptable* to *very acceptable*). In addition, participants were asked what they thought CEO A's (CEO B's) attitudes about the value of honesty (four items) were: Specifically, participants were asked to which degree the CEO agrees with four statements ranging from *CEO strongly disagrees* to *CEO strongly agrees*: *Truthfulness is something that one should not sacrifice, no matter what the (material or other) benefits*; *truthfulness is something for which it is right to make a cost-benefit analysis*; *truthfulness is something that cannot be measured in monetary terms*; *truthfulness is something about which one can be flexible if the situation demands it*). All items were rated on 7-point scales (details regarding the two sets of questions are in the instructions in the Supplementary Appendix). The average of all responses was used as an index of Perceived PV_{honesty} (for each CEO), that is, Perceived PV_{honesty} CEO A and Perceived PV_{honesty} CEO B. The scales have high internal consistency, as assessed by

Cronbach's Alphas ($\alpha_{\text{CeoA}} = .93$, $\alpha_{\text{CeoB}} = .90$).⁶ $\Delta\text{CEO_PVHon}$ then is the difference in perceived commitment to honesty between CEO A and CEO B (Perceived $\text{PV}_{\text{honesty}}$ CEO A - Perceived $\text{PV}_{\text{honesty}}$ CEO B).

At the end, participants were debriefed and paid. They were informed whether their investment was successful or not. The relationship between investment and payments was that the announced future return was realized by the honest CEO (i.e., CEO A), and the payout was made accordingly. The future returns announced by the dishonest CEO did not come through, and participants received zero variable payment when they invested in his company.⁷ To guarantee anonymity and minimize the activation of impression management tendencies, participants chose an own code at the beginning of the experiment (consisting of 2 letters and 4 digits). Based on this code, another person of the research team (not the experimenter), staying in another room, prepared an envelope containing the money. Participants received the sealed envelope from the experimenter when indicating their personal code.

3.2 Results

3.2.1 Analyses of perceived differences between the CEOs

First, we examine whether participants perceive the CEO who does not engage in earnings management and thus forgoes the individual bonus differently than the CEO who manages earnings. Table 3 shows differences in the two CEOs' perceived commitment to honesty,

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.

⁷ For example, if CEO A announced 10% and CEO B announced 30% as a future return, individuals investing in A received 10% of 50,000 / 10,000 = CHF 0.5, while individuals investing in B received nothing. Thus, the maximum of CHF 5 was reached when they invested with the honest CEO across all choice situations. It is possible that some participants would have made their choices systematically in favor of the less honest CEO thinking that they would earn more since they were told that this CEO managed the earnings within legal limits. But if that would have been the case, we would have observed this skewed pattern in favor of the dishonest CEO in the results. This turned out not to be the case.

trustworthiness, long-term profit orientation, and perceived willingness to make financial sacrifices.

Table 3: Differences in perceived CEO characteristics

This table presents means and standard deviations of perceived CEO A and CEO B characteristics (all measured on 7-point scales) as well as t-tests for differences in these variables in Experiment 1 (N= 141). *** 1% significance.

Perceived CEO characteristics	Mean CEO A	SD CEO A	Mean CEO B	SD CEO B	t-test for differences
<i>PVHonesty</i>	4.46	1.31	3.31	1.03	$t(140) = 6.53^{***}$
<i>Trustworthiness</i>	3.79	0.99	2.78	0.98	$t(140) = 7.09^{***}$
<i>Long-term orientation</i>	3.94	1.07	2.43	1.01	$t(140) = 9.86^{***}$
<i>Willingness to make financial sacrifices</i>	3.58	1.18	2.49	1.11	$t(140) = 6.45^{***}$

Overall, these results speak in favor of the credibility of our experimental manipulation, as participants indeed infer differences in characteristics between the two CEOs from their behavior. The CEO who manages earnings to maximize his personal bonus is perceived as less committed to honesty, less trustworthy, more short-term oriented, and less willing to make financial sacrifices. We caution that only the perceived honesty (which is the key variable in what follows) derives from a multi-dimensional and previously validated scale. We use the other variables for robustness checks. Furthermore, results available upon request show that there were no CEO perception differences across the participants with respect to their other categorizations (participants' gender, academic major, and age).

3.2.2 Descriptive statistics and correlations of main variables of interest

Table 4 presents the descriptive statistics for the variables of interest in our analysis. The mean for the dependent variable shows that investors on average prefer to invest with CEO A.

Table 4: Summary statistics

This table depicts the main variables' definitions and summary statistics for Experiment 1 (N = 141). *Invest in A* is the total number of investors' choices for the company managed by CEO A. ΔCEO_PVHon is the difference in perceived commitment to honesty between CEO A and CEO B (Perceived $PV_{honesty}$ CEO A - Perceived $PV_{honesty}$ CEO B). $\Delta CEO_Trustworthy$ is the difference in trustworthiness between CEO A and CEO B (Perceived Trustworthiness CEO A - Perceived Trustworthiness CEO B). ΔCEO_PVHon and $\Delta CEO_Trustworthy$ are standardized.

Variable	Mean	Median	StD	Min	Max
<i>Invest in A</i>	0.61	1.00	0.49	0.00	1.00
ΔCEO_PVHon	0.00	0.36	1.00	-2.20	2.33
$\Delta CEO_Trustworthy$	0.00	-0.01	1.00	-2.96	1.76

Correlations are depicted in Table 5. Not surprisingly, a positive return announced by CEO A ($\Delta Return$) goes along with higher investments with CEO A (*Invest in A*). Investment with CEO A correlates also with a positive difference in CEO $PV_{honesty}$ (ΔCEO_PVHon), and trust in CEO A ($\Delta CEO_Trustworthy$). Also, as expected, a positive difference in CEO $PV_{honesty}$ (ΔCEO_PVHon) correlates with investment with CEO A. $\Delta CEO_Trustworthy$ highly correlates with Perceived $PV_{honesty}$ CEO, though in principle both capture conceptually different aspects of perceived CEO characteristics. Accordingly, we orthogonalize these two variables in all regressions when we include both of them.

Table 5: Correlation Matrix

This table presents Spearman correlations above the diagonal and Pearson correlations below. Data are from Experiment 1. * indicates significance at the 5% level.

	<i>Invest in A</i>	$\Delta Return$	ΔCEO_PVHon	$\Delta CEO_Trustworthy$	<i>Age</i>	<i>Female</i>	<i>Economics</i>
<i>Invest in A</i>	1.	0.25*	0.30*	0.34*	0.01	0.02	-0.07
$\Delta Return$	0.25*	1	0.00	0.00	0.00	0.00	0.00
ΔCEO_PVHon	0.29*	0.00	1	0.72*	0.12*	-0.03	-0.03
$\Delta CEO_Trustworthy$	0.35*	0.00	0.76*	1	0.11*	-0.08*	-0.10*
<i>Age</i>	0.01	0.00	0.13*	-0.01	1	-0.10*	0.12*
<i>Female</i>	0.02	0.00	-0.06	-0.08*	0.12*	1	-0.34*
<i>Economics</i>	-0.07	0.00	-0.01	-0.10*	-0.03	-0.34*	1

3.2.3 Investment decisions

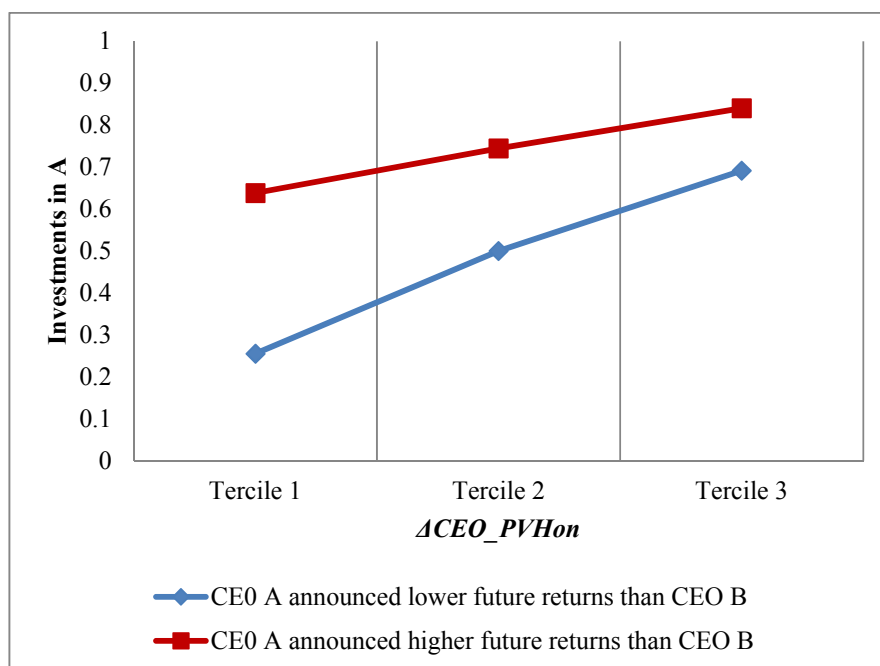
We now turn to our central hypothesis, namely, that investor sensitivity to differences in future returns announced by the two CEOs ($\Delta Return$) depends on investor perception of the CEOs' commitment to honesty (ΔCEO_PVHon).

Figure 1 displays investors' choices in favor of CEO A as a function of ΔCEO_PVHon and announced returns (for when CEO A announced higher returns than CEO B, and for when the opposite holds). For presentation purposes, we pool the two positive and the two negative return differences (but treat them separately in the regression analysis below). Three main results can be gleaned from the figure: First, when CEO A announces higher returns, more investors choose to invest with CEO A. Second, the percentage of investors choosing CEO A increases the more CEO A is seen as committed to honesty, relative to CEO B. These two results were also seen in the correlation analysis above.

Third, the two lines converge with CEO A being increasingly perceived as treating honesty as a protected value. That is, those investors who believe that CEO A is strongly committed to honesty relative to CEO B make their decision less dependent on the claimed returns. They continue to invest with CEO A, independently of which CEO announces higher returns. Conversely, those investors who believe that CEO A is only weakly committed to honesty are more sensitive to the claimed returns.

Figure 1: Choices in favor of CEO A and Perceived CEO Protected Value for Honesty

This graph plots the share of investors' choices for CEO A depending on the differences in perceived PV_{honesty} between CEO A and CEO B (ΔCEO_PVHon). Participants made in total four investment choices between the company managed by CEO A and the company managed by CEO B. Two choices were made with CEO A announcing higher future returns than CEO B (red line, squares) and two decisions with CEO A announcing lower future returns than CEO B (blue line, diamonds). We categorized investors in terms of ΔCEO_PVHon in terciles.



To test whether these results also survive controlling for various other factors, we rely on logit regressions. Table 6 summarizes the results of our regression models, where the investment in CEO A is the dependent variable. We control for participants' *Age*, Gender (*Female*), and academic major (*Economics*) in all regressions. We rarely find significant effects of these demographic variables, though economics students tend to be less likely to invest with CEO A.

The first model in Column 1 shows that investors react to differences in announced future returns between the two CEOs such that they prefer to invest with CEO A when he or she announces higher future returns than CEO B and vice versa. The marginal effects imply that an increase of the returns difference in favor of CEO A increases the probability of investing with that CEO by about 5%. Column 2 shows the positive direct effect for the second main variable of

interest, CEO PV_{honesty} (ΔCEO_PVHon). Thus, investors tend to invest with the CEO, who they perceive to be more committed to honesty than the other CEO. In Column 3, we include both main predictors in a single model and both positive direct effects remain significant. A one standard deviation increase in CEO A's perceived commitment to honesty relative to CEO B's perceived commitment to honesty has about the same quantitative effect on the attractiveness of CEO A as an increase in announced returns of CEO A relative to CEO B of 26 percentage points ($=0.742/0.027$).

One potential concern could be that while CEO PV_{honesty} and CEO trustworthiness are conceptually different CEO characteristics, the effect of the former variable on investment behavior could be suppressed by the latter. Accordingly, we add the trustworthiness measure ($\Delta CEO_Trustworthy$) as a control variable in Column 4. We observe a positive direct effect for $\Delta CEO_Trustworthy$ on investments in CEO A, meaning that when investors perceive CEO A to be more trustworthy than CEO B, they tend to invest with CEO A. However, ΔCEO_PVHon remains significant and of almost identical size in the regression.

In Column 5, we test our key hypothesis concerning the interaction between the two main variables of interest. We hypothesize that as a CEO's perceived commitment to honesty increases relative to his peer, the relative difference in their announced returns plays a diminishing role in motivating investor choices. The significant negative interaction term supports our hypothesis. The more investors perceive CEO A to be more committed to honesty than CEO B, the smaller the effect of announced future returns on investments in CEO A. This is consistent with participants predicting that the announcements by a CEO whom they perceive as having a high protected value for honesty will more likely reflect the future realized return than the announcements made by a CEO who is perceived as displaying lower protected value for

honesty. A one standard deviation increase in ΔCEO_PVHon reduces the relevance of returns of CEO A relative to CEO B by about 40% (0.011/0.027), a sizable effect.

Table 6: Investment choices and Perceived CEO Protected Value for Honesty

This table presents the results of logit regressions for Experiment 1. The dependent variable is *Invest in A*, which is 1 when a participant chooses to invest in the company managed by CEO A, and 0 otherwise. Participants made four such choices each. $\Delta Return$ is the difference in announced returns between CEO A and CEO B. The perceived commitment to honesty of each CEO was measured on a 9 item Likert scale and the difference in perceived commitment (ΔCEO_PVHon) was used as the predictor in the regression. Trustworthiness was measured on a single item Likert scale. As $\Delta CEO_Trustworthy$ and ΔCEO_PVHon correlate, these two variables were orthogonalized. Participants' *Age*, *Gender (Female)*, and academic major (*Economics*) were included as control variables. P-values, based on standard errors clustered at the individual level, are reported in parentheses. *** 1% significance; ** 5% significance, * 10% significance.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\Delta Return$	0.024*** (0.00)		0.027*** (0.00)	0.028*** (0.00)	0.027*** (0.00)	0.028*** (0.00)	0.028*** (0.00)
ΔCEO_PVHon		0.662*** (0.00)	0.714*** (0.00)	0.742*** (0.00)	0.737*** (0.00)	0.736*** (0.00)	0.726*** (0.00)
$\Delta CEO_Trustworthy$				0.481*** (0.00)	0.504*** (0.00)	0.497*** (0.00)	0.512*** (0.00)
$\Delta Return^*$					-0.011* (0.08)		-0.010* (0.10)
ΔCEO_PVHon						0.005 (0.31)	0.004 (0.39)
$\Delta Return^*$							
$\Delta CEO_Trustworthy$							
<i>Age</i>	0.008 (0.72)	-0.019 (0.41)	-0.021 (0.41)	0.004 (0.89)	0.005 (0.84)	0.004 (0.88)	0.005 (0.83)
<i>Female</i>	-0.033 (0.87)	0.097 (0.62)	0.104 (0.62)	0.197 (0.33)	0.191 (0.35)	0.197 (0.33)	0.192 (0.35)
<i>Economics</i>	-0.348 (0.11)	-0.299 (0.13)	-0.322 (0.13)	-0.176 (0.39)	-0.178 (0.39)	-0.175 (0.40)	-0.176 (0.39)
<i>Constant</i>	0.531 (0.36)	1.102* (0.07)	1.189* (0.07)	0.498 (0.44)	0.437 (0.49)	0.502 (0.42)	0.444 (0.48)
<i>Observations</i>	564	564	564	564	564	564	564
<i>Pseudo R-squared</i>	0.053	0.071	0.125	0.156	0.162	0.158	0.164
<i>Pseudo Log Likelihood</i>	-356.8	-349.9	-329.7	-317.9	-315.5	-317.3	-315.1
<i>Base Log Likelihood</i>	-376.7	-376.7	-376.7	-376.7	-376.7	-376.7	-376.7

From Experiment 1, we derive three main conclusions. First, the CEO who does not engage in earnings management is perceived to be more committed to honesty than the CEO who manages earnings. Second, participants' investment choices depend upon differences between the two CEOs not only in announced future returns, but also in perceived commitment to honesty and in perceived trustworthiness. Finally, holding another CEO's announced returns fixed, investors

become less sensitive towards returns of a CEO the more they perceive this CEO to treat honesty as a protected value relative to the other.

3.2.4 Additional results and robustness

We test whether differences concerning other characteristics than differences in perceived CEO commitment to honesty of the CEO could affect investment decisions as well as investors' return sensitivity. We find that our results hold controlling for $\Delta CEO_Trustworthy$. Column 6 shows that announced future return and trustworthiness do not interact. Finally, as Column 7 shows, all effects of the main predictors (ΔCEO_PVHon and $\Delta Return$) and their interaction still hold when we add the interaction between $\Delta CEO_Trustworthy$ and $\Delta Return$ into the regression. We also test if differences in long-term orientation and willingness to make financial sacrifices between the two CEOs affect our findings. ΔCEO_PVHon correlates significantly with relative long-term orientation (long-term orientation CEO A - long-term orientation CEO B) and relative willingness to make financial sacrifices (willingness to make financial sacrifices CEO A - willingness to make financial sacrifices CEO B) ($r = .24$, and $r = .20$, respectively, $ps < .05$). However, we neither find a main effect of these two variables on investment choices, nor an interaction with $\Delta Return$. Including these two variables and their interactions with $\Delta Return$ does not affect any of the relationships of our main variables of interest (see Table A1 in the Appendix).

In our setup participants are first given the information on CEOs' earnings announcements, then participants make the investment choices, and then we poll their perception of the two CEOs' commitment to honesty. Accordingly, one might worry that conceivably participants' investment choices affect their perception of CEO $PV_{honesty}$ in a way that they perceive the CEO with whom they invest as more honest irrespective of the CEO's engagement

in earnings management. To investigate this concern, we did an additional online survey with students in a corporate finance class at the University of Zurich. Participants ($N = 51$, 17 female) were given the exact same description of the CEOs' earnings announcements as in the main experiment (Table 1), followed directly and solely by the *CEO_PVHon* scales for CEO A and CEO B. These participants did not make any investment choices. We find practically identical results in this additional data collection concerning participants' perception of CEO PV_{honesty} . CEO A is perceived to be more committed to honesty ($m = 4.71$) than CEO B ($m = 3.53$), $t(50) = 4.47$, $p < .01$. This suggests that our results concerning differences in the perception of *CEO_PVHon* between CEO A and CEO B are based on the CEOs' earnings announcements rather than on participants' strive for internal consistency.

Finally, we test whether the control variables age, gender, and academic major affect participants' sensitivity towards differences in announced future returns. None of the variables interact significantly with $\Delta Return$, though there is some tendency for economics students to care more about returns. Additionally, results available on request show that including these interactions into the regression does not affect the interaction between ΔCEO_PVHon and $\Delta Return$.

4 Experiment 2

The results from Experiment 1 suggest that investors care about managerial honesty because it signals more credibility of announcements regarding the future. However, there may be an alternative explanation for these findings, namely, an explanation rooted in preferences' mapping. It may be that at least some of the investors care about honesty of the CEO because they themselves value honesty. In Experiment 2, we therefore also collect investors' own characteristics (beyond mere demographics) to explore these conjectures.

4.1 Method

A total of 164 students were recruited from the University of Zurich to participate in this study, which consists of two parts, about one week apart: a survey (online) and an experimental part (laboratory). Fourteen respondents were excluded due to either extremely long process time required to finish the online survey (z-transformed process time > 2 standard deviations above 0; 2 people), very young age responses (< 19 years old; 7 people), or because identification codes did not match between the two tasks (see below, 5 people). This yielded a final sample size of 150 participants (though in the main analysis we use 132 because 18 cannot be classified according to the social value orientation criterion, see below). Of this sample, 60% were psychology students, 37% economics and 3% students of other disciplines; 68% were women. The median age was 22.⁸

Participants were expected to complete two separate tasks (a survey and a decision making task as investors) to get paid. Participants received a fixed amount of CHF 10 for their participation and a flexible amount up to CHF 5, depending on their responses in the decision making task. The participation fee and the outcome-based remuneration mirrored the one in Experiment 1.

Survey: As the first task, participants completed an online questionnaire that was designed to assess demographic characteristics and quite a variety of personal attitudes and values (in order to avoid that people infer that we are in particular interested in honesty). Amongst other items, we assessed each participant's own protected values for truthfulness (*Investor_PVHon*) and social value orientation (*Investor_SVO*). To compute PV_{honesty} , we again used the Gibson, Tanner, and

⁸ We highlight for the reader that the composition of this sample is different than in Experiment 1. Results for Experiment 1 had shown that field of studies is not significantly associated with investment choices. In Experiment 2 as well we find that demographics do not explain investment choices.

Wagner (2013) survey, as in Experiment 1. The average of the responses across all items was used to as an index of own PV_{honesty} , yielding a high Cronbach's Alpha ($\alpha = .85$). Social value orientation (*Investor_SVO*) is a very common concept in psychology and is also used in economics (e.g., in Grossman and van der Weele (2016)). It was measured by means of the commonly applied and rigorously tested Decomposed Game Measure (see for details, Van Lange, Otten, de Bruin, & Joireman, 1997). The task consists of nine trials. In each of them participants are asked to choose one of three combinations of outcomes for themselves and for an (anonymous) other. In line with extant studies (e.g. van Dijk, De Cremer & Handgraaf, 2004), we categorized participants as pro-social when they chose the cooperative alternative in at least six trials (out of the nine). Participants were categorized as pro-self when they chose the self-maximizing option in six or more trials (out of nine). With this approach, 18 participants could not be categorized into one of the two investors' segments.⁹

Again, to guarantee anonymity, participants chose their own identification code, which was also valid for the second task. The first and second tasks were at least one week apart. Both the time lag and the diversity of questionnaires that the participants had to fill out were introduced to reduce suspicion about the purpose of our study and concerns that they would provide answers that were self-consistent when performing the investment task.

Investment Task: This second task and its procedure were identical to the investment task used in Experiment 1. Upon arriving in the laboratory, participants were informed that they would be in the situation of an investor who has to make several decisions to invest with one of two companies. They were then provided with information about the CEO A and CEO B, announcing different earnings per share. Again, participants could only continue with the task, when they had correctly responded to some manipulation check questions as in Experiment 1.

⁹ In an additional analysis, participants are categorized as pro-self or pro-social based on a median split. Our results hold for that approach, too. See Section 4.2.3.

Afterwards, they were provided with several items to examine whether both CEOs were perceived to be different. In addition to the same bipolar items used in the previous experiment, we also asked to which extent CEO A (CEO B) was seen as *credible* vs. *not credible* (from -2 to +2). We pooled the trustworthiness and credibility items into one single scale in Experiment 2.¹⁰ Then, participants were again presented with the four investment choices (in a randomized order), which varied in terms of announced future returns by the CEOs. At the end, participants were debriefed and paid when indicating their personal identification code. Anonymity was ensured using the same procedure as in Experiment 1.

4.2 Results

4.2.1 Descriptive statistics and correlations of main variables of interest

Table 7 presents the descriptive statistics for the variables of interest in Experiment 2, distinguishing between pro-self and pro-social investors.¹¹ As can be seen, both subsamples share a preference to invest with CEO A. Interestingly, they do not differ significantly in how they perceive CEO A relative to CEO B in terms of commitment to honesty. This, however, does leave open the possibility that they care for CEO honesty for other reasons, a conjecture that is corroborated further in our analysis below. The difference in perceived trustworthiness is also not statistically significant, though the analysis suggests that pro-social investors tend to infer somewhat stronger differences among the CEOs in that dimension. Overall, these results suggest that controlling for investor characteristics is potentially important in understanding how a CEO's prior actions influence investment choices.

¹⁰ We also ran the regression in Experiment 2 with the single item measure for trustworthiness to increase comparability to the analysis in Experiment 1 and find that the results also hold for the single item measure (see the robustness check section).

¹¹ In the Appendix (Table A2), we provide correlation statistics for the pro-self and pro-social investors in Experiment 2.

Table 7: Summary Statistics

The table presents the descriptive statistics for Experiment 2. *Invest in A* is the total number of investors' choices for the company managed by CEO A. ΔCEO_PVHon is the difference in perceived commitment to honesty between CEO A and CEO B (Perceived $PV_{honesty}$ CEO A - Perceived $PV_{honesty}$ CEO B). $\Delta CEO_Trustworthy$ is the difference in trustworthiness between CEO A and CEO B (Trustworthiness CEO A – trustworthiness CEO B). ΔCEO_PVHon and $\Delta CEO_Trustworthy$ are standardized. *Investor_PVHon* is the Investor's $PV_{honesty}$. The descriptive statistics are presented for the pro-self and pro-social investors separately. We categorized participants as pro-social ($N = 60$) (pro-self, $N = 72$) when they chose the cooperative (self-maximizing,) alternative in six out of the nine social value orientation (*Investor_SVO*) items. *Investor_SVO* captures investors' preferences regarding how to allocate resources between them and another person. For details, see the text. We include t-statistics for tests of differences in the variables between pro-self and pro-social investors. *** 1% significance; ** 5% significance, * 10% significance.

Variable	Mean pro-selfs	Std pro-selfs	Mean pro-socials	Std pro-socials	t-test for differences
<i>Invest in A</i>	0.60	0.49	0.60	0.49	$t(526) = -0.11$
ΔCEO_PVHon	-0.04	0.92	0.17	0.97	$t(130) = -1.27$
$\Delta CEO_Trustworthy$	-0.07	1.06	0.20	0.92	$t(130) = -1.55$
<i>Investor_PVHon</i>	-0.13	1.07	0.19	0.86	$t(130) = -1.94^*$

Table 7 suggests that the investors' own commitment to honesty varies systematically with SVO. However, the two investor characteristics are far from perfectly correlated ($r = .18$). The cross-tabulation in Table 8 reveals that investors fall in any of the combinations of high or low in *Investor_PVHon* (median split) and *Investor_SVO* (pro-self vs. pro-social). These findings are consistent with *Investor_PVHon* and *Investor_SVO* seeking to measure conceptually different traits of participants.

Table 8: Cross-tabulation of *Investor_PVHon* and *Investor_SVO*

We performed a median split on *Investor_PVHon* and categorized investors as high and low in *Investor_PVHon*. We categorized participants as pro-social ($N = 60$) when they chose the cooperative alternative in six out of the nine *Investor_SVO* items. They are categorized as pro-self ($N = 72$) when they chose the self-maximizing alternative in six out of the nine items. Data are from Experiment 2.

<i>Investor_PVHon</i>	<i>Investor_SVO</i>		Total
	Pro-self	Pro-social	
Below median	34	29	63
Above median	26	43	69
Total	60	72	132

4.2.2 Investment decisions

In Experiment 2, we investigate how personal characteristics of the investor affect the findings we obtain in Experiment 1. Do “birds of a feather flock together?” That is, do investors who value honesty highly simply invest with CEOs whom they perceive as honest? Or are there some investors who make this choice based on more opportunistic considerations?

Figures 2 and 3 provide insights into these questions. Figure 2 Panel A shows a familiar picture. It displays investors’ choices in favor of CEO A as a function of ΔCEO_PVHon for when CEO A announced higher returns than CEO B and vice versa. Similarly as in Figure 1 for Experiment 1, the two lines converge as CEO A is being increasingly perceived as treating honesty as a protected value. That is, pro-self investors become less sensitive towards returns the more they perceive a CEO to treat honesty as a protected value compared to the other.

Next, we introduce a novel dimension, namely the impact of the investors’ own level of protected values for honesty (*Investor_PVHon*) on their investment behavior. Figure 3 Panel A depicts this interaction. The more the investor is committed to honesty, the smaller the effect of return differences on investment choices. Interestingly, however, *Investor_PVHon* alone does not predict these investors’ investments in CEO A.

For the pro-social investors, we find a completely different picture regarding the influence of the main variables of interest on investment behavior. Panel B in Figure 2 demonstrates that differences in returns between the two CEOs do not noticeably affect the pro-socials’ investment choices, and that ΔCEO_PVHon also does not play a role here. However, Panel B in Figure 3 shows that pro-social investors invest more heavily with CEO A the more they themselves are committed to honesty.

Figure 2: Choices in favor of CEO A and Perceived CEO Protected Values for Honesty

These graphs plot the share of investors' choices for CEO A depending on the differences in perceived PV_{honesty} between CEO A and CEO B (ΔCEO_PVHon) separately for pro-self (Panel A) and pro-social investors (Panel B). Participants made in total four investment choices between the company managed by CEO A and the company managed by CEO B. Two choices were made with CEO A announcing higher future returns than CEO B (red line, squares) and two decisions with CEO A announcing lower future returns than CEO B (blue line, diamonds). We categorized investors in terms of ΔCEO_PVHon in tertiles.

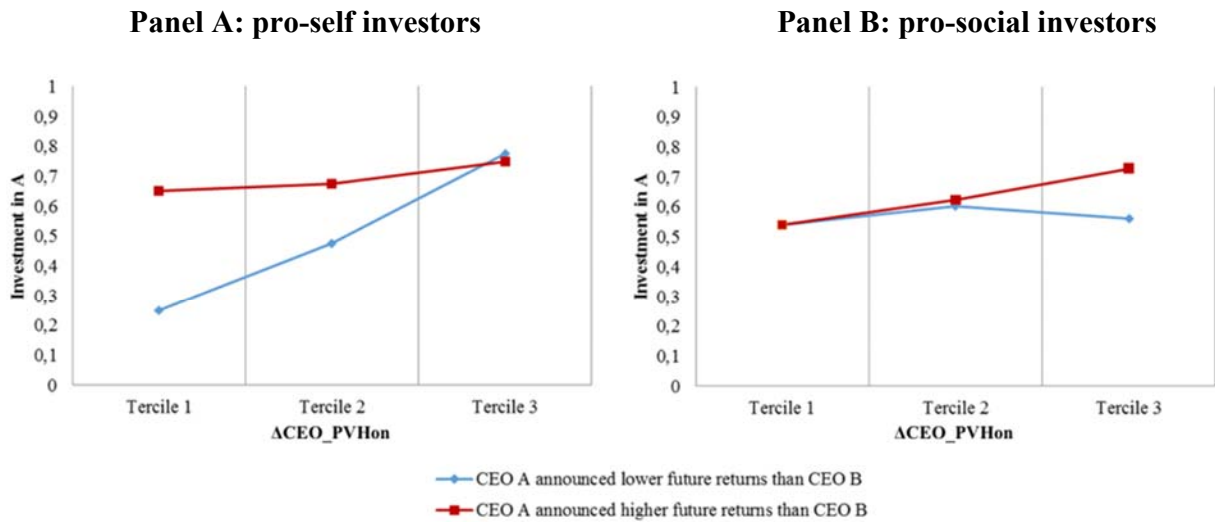
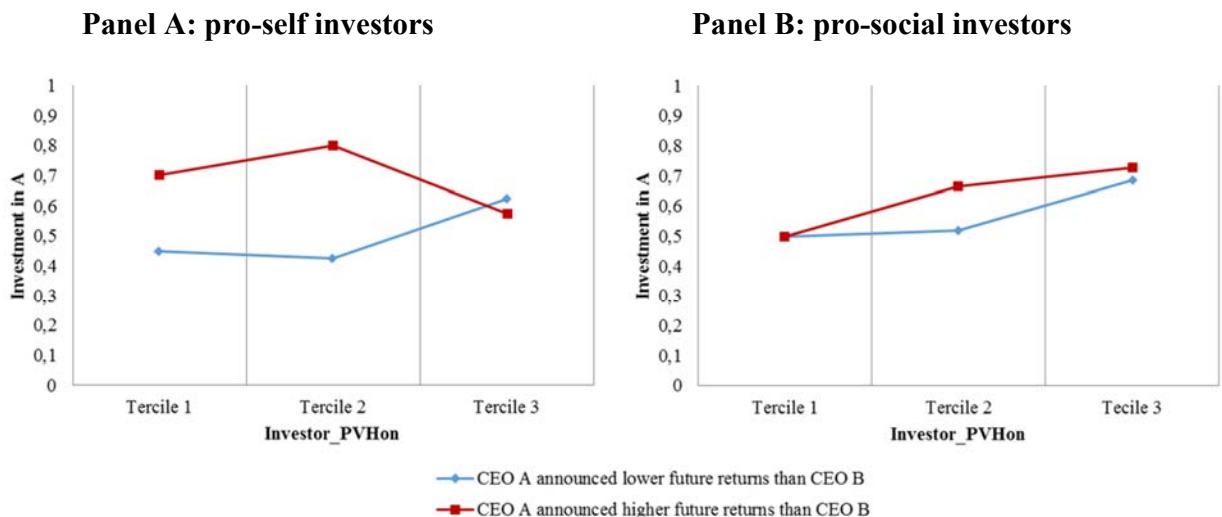


Figure 3: Choices in favor of CEO A and Investor Protected Values for Honesty

These graphs plot the share of investors' choices for CEO A depending on investors' own PV_{honesty} ($Investor_PVHon$) separately for pro-self (Panel A) and pro-social investors (Panel B). Participants made in total four investment choices between the company managed by CEO A and the company managed by CEO B. Two choices were made with CEO A announcing higher future returns than CEO B (red line, squares) and two decisions with CEO A announcing lower future returns than CEO B (blue line, diamonds). We categorized investors in terms of $Investor_PVHon$ in tertiles.



To more rigorously test the statistical significance of this suggestive evidence, we estimate logit regression models, where the investment in CEO A is the dependent variable. Table 9 summarizes regressions for the pro-self investors (Columns 1 – 3), for the pro-social investors (Columns 4 – 6), and a regression for the full sample (Column 7). We again control for participants' *Age*, gender (*Female*), differences in perceived trustworthiness ($\Delta CEO_Trustworthy$), and academic major (*Economics*) in all regressions.

Column (1) echoes the findings we obtain in Experiment 1. First, the regression shows a positive direct effect for $\Delta Return$: Pro-self investors are indeed sensitive towards differences in announced returns between the CEOs. Pro-self investors are also sensitive towards differences in $PV_{honesty}$ between the two CEOs, as shown by the significant direct effect for ΔCEO_PVHon . They tend to invest more heavily with CEO A, the more they perceive the CEO to be committed to honesty relative to CEO B. Finally, we replicate the negative interaction term between ΔCEO_PVHon and $\Delta Return$ as observed in experiment 1. For pro-self investors, the positive main effect of announced future returns on investment behavior is strengthened when they perceive this CEO as more committed to honesty, but is weakened when they perceive the CEO as deceptive. Column (1) also shows that we do not find a significant main effect of $Investor_PVHon$ on investment in CEO A for pro-self investors, thus the choices made by these investors do not depend directly on their own preferences for truthfulness.

In Column 2 we include the interaction between $Investor_PVHon$ and $\Delta Return$ in the regression. We find a negative interaction between these two variables. Pro-self investors become less sensitive to announced returns the more they themselves treat honesty as a protected value. This result is consistent with the trade-off resistance to monetary benefits displayed by high $PVHon$ individuals as documented in Gibson et al (2013). The investor's own protected values and those attributed to the CEOs do not interact, however.

Results highlighted in the figures for the pro-socials are also corroborated by the regression analysis. First, the insignificant main effect for $\Delta Return$ in Column (4) of Table 9 suggests that pro-social investors are generally only weakly, if at all, sensitive towards differences in announced returns. The main effect for ΔCEO_PVHon means that pro-social investors tend to invest more heavily with CEO A, the more they perceive the CEO to be committed to honesty relative to CEO B. Column 4 also shows a significant main effect for $Investor_PVHon$.

Importantly, while ΔCEO_PVHon matters for the pro-selfs' assessment of returns, this variable plays a different role for the pro-socials. The regression results in Column 5 and Column 6 show that pro-social investors tend to invest with the CEO that shares a similar commitment to honesty: We observe a significantly positive interaction between $Investor_PVHon$ and ΔCEO_PVHon on investments with CEO A for pro-social investors. Thus, pro-social investors follow a simple heuristic of investing more heavily with CEO A the more their own protected values overlap with the values of this CEO. Differences in announced future returns do not affect this behavioral pattern. We do not find any evidence that $Investor_PVHon$, ΔCEO_PVHon , and $\Delta Return$ interact.

Column 7 presents the results for both pro-self and pro-social investors in a single regression. We include $Investor_SVO$ as a dichotomous variable with pro-self = 0 and pro-social = 1 in the regression. The effects of the main variables of interest, $\Delta Return$, ΔCEO_PVHon and their interaction are all significant and echo the effects observed in Experiment 1. These effects are thus essentially driven by the pro-self investors. We also find a direct effect of $Investor_PVHon$ on investment choices that is driven by the pro-social investors. Finally, the significant three-way interaction between $Investor_SVO$, $\Delta Return$, and ΔCEO_PVHon underpins the main finding for Experiment 2. Pro-self investors trade off return differences with differences in CEO $PV_{honesty}$ between the two CEO. Pro-social investors are generally insensitive to announced returns and

base their investment choices on the congruency between their own PV_{honesty} and perceived CEO PV_{honesty} .

To sum up, the results of Experiment 2 suggest that both pro-self and pro-social investors are sensitive towards CEO commitment to honesty, but for different reasons. Pro-self investors aim to maximize their individual benefit, by investing with the CEO who claims higher returns relative to the other. They are therefore sensitive towards CEO commitment to honesty because this informs them about the likelihood that the promised returns will be achieved. Pro-social investors do not aim to maximize their economic benefits; differences in announced future returns between the two CEOs are in general irrelevant for them. However, pro-social investors derive utility from investing with the CEO who shares similar protected values for honesty.

4.2.3 Additional results and robustness

We categorized participants as pro-social when they chose the cooperative alternative in six out of the nine *Investor_SVO* items, which is in line with previous research (Van Dijk, De Cremer and Handgraaf 2004). Doing so, 18 participants do not fall into either of the two categories. To make sure that our results also hold for the full sample, we ran another analysis categorizing investors in terms of their *Investor_SVO* using a median split. Participants who chose more than the median number of self-maximizing choices in the *Investor_SVO* task were categorized as pro-self and participants below or on the median were categorized as pro-social. Our main results hold for both approaches (see Table A3 in the Appendix).

Table 9: Investment choices and Perceived CEO Protected Values for Honesty depending on investor Social Value Orientation

This table presents the results of logit regressions for Experiment 2. The dependent variable is *Invest in A*, which is 1 when a participant chooses to invest in the company managed by CEO A, and 0 otherwise. Participants made four such choices each. The table shows two regressions for each investor subsample, i.e. investors with a pro-self and investors with a pro-social orientation. All variables were measured like in Experiment 1, with the exception of the *ΔCEO_Trustworthy* measure, which is a two-item measure (trustworthiness and credibility) in Experiment 2 (see method section). *Investor_PVHon* is the investors' own commitment to honesty. *ΔCEO_Trustworthy* and *ΔCEO_PVHon* were orthogonalized. *Investor_SVO* in column 7 is a dichotomous variable with pro-self = 0 and pro-social = 1. P-values, based on standard errors clustered at the individual level, are reported in parentheses. *** 1% significance; ** 5% significance, * 10% significance.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Investor_Investor_SVO</i>	Pro-self orientation			Pro-social orientation			Full sample
<i>ΔReturn</i>	0.020** (0.02)	0.019** (0.04)	0.019** (0.04)	0.006 (0.41)	0.007 (0.40)	0.007 (0.39)	0.019** (0.04)
<i>ΔCEO_PVHon</i>	0.713*** (0.00)	0.720*** (0.00)	0.711*** (0.00)	0.322*** (0.01)	0.305*** (0.01)	0.305*** (0.01)	0.686*** (0.00)
<i>ΔReturn * ΔCEO_PVHon</i>	-0.019* (0.07)	-0.018* (0.09)	-0.021** (0.05)	0.003 (0.67)	0.004 (0.64)	0.004 (0.62)	-0.019* (0.07)
<i>Investor_PVHon</i>	-0.079 (0.60)	-0.080 (0.57)	-0.072 (0.60)	0.553*** (0.00)	0.582*** (0.00)	0.581*** (0.00)	0.235** (0.03)
<i>Investor_PVHon * ΔCEO_PVHon</i>		-0.040 (0.78)	-0.060 (0.67)		0.170* (0.06)	0.168* (0.08)	0.094 (0.25)
<i>Investor_PVHon * ΔReturn</i>		-0.018** (0.04)	-0.017* (0.05)		-0.001 (0.95)	-0.001 (0.90)	-0.010 (0.14)
<i>Investor_PVHon * ΔReturn * ΔCEO_PVHon</i>			0.012 (0.25)			-0.002 (0.76)	0.002 (0.82)
<i>Investor_SVO</i>							-0.190 (0.30)
<i>Investor_SVO * ΔCEO_PVHon</i>							-0.346* (0.07)
<i>Investor_SVO * ΔReturn</i>							-0.011 (0.35)
<i>Investor_SVO * ΔReturn * ΔCEO_PVHon</i>							0.023* (0.08)
<i>ΔCEO_Trustworthy</i>	0.313** (0.04)	0.324** (0.04)	0.337** (0.04)	0.333*** (0.00)	0.351*** (0.00)	0.351*** (0.00)	0.294*** (0.00)
<i>Age</i>	0.009 (0.88)	0.010 (0.86)	0.006 (0.92)	-0.031* (0.09)	-0.031* (0.08)	-0.031* (0.08)	-0.029* (0.10)
<i>Female</i>	-0.005 (0.99)	-0.038 (0.89)	-0.043 (0.87)	-0.510* (0.05)	-0.467* (0.07)	-0.468* (0.07)	-0.315 (0.12)
<i>Economics</i>	-0.013 (0.96)	-0.027 (0.91)	-0.039 (0.87)	0.052 (0.83)	0.095 (0.70)	0.094 (0.70)	-0.027 (0.89)
<i>Constant</i>	0.271 (0.83)	0.296 (0.81)	0.385 (0.75)	1.270** (0.01)	1.210** (0.02)	1.210** (0.02)	1.333*** (0.01)
<i>Observations</i>	240	240	240	288	288	288	528
<i>Pseudo R-squared</i>	0.135	0.157	0.163	0.0790	0.0832	0.0836	0.0847
<i>Pseudo Log Likelihood</i>	-140.1	-136.5	-135.6	-178.4	-177.6	-177.6	-372.4
<i>Base Log Likelihood</i>	-161.9	-161.9	-161.9	-193.7	-193.7	-193.7	-406.8

Generally, we use the exact same experimental setup as in Experiment 1. However, in Experiment 2, we measure trustworthiness with two items, i.e. we also asked participants to which extent CEO A (CEO B) was seen as *credible vs. not credible*. For our main analysis (Table 10) we pooled this item with the trustworthiness item. To make sure that this difference does not affect our findings and to increase comparability with Experiment 1, we also ran the regression in Experiment 2 with the single item measure for trustworthiness. We find that the results also hold for the single trustworthiness item measure.

Finally, in Experiment 2, we also collected data on HEXACO. The HEXACO Personality Inventory (HEXACO-PI) captures six personality factors, i.e. Honesty-Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O) (Ashton and Lee 2009). We measured investors' Honesty-Humility in this research. In tables available on request, we find that our results hold even when controlling for this HEXACO (H) sub-scale. As expected, HEXACO (H) itself is, among the pro-social investors, positively related to a preference for investing with the honest CEO.

5 Concluding remarks

Hirshleifer (2015) calls for a move from behavioral finance to “social finance”, where social finance “includes the study of how social norms, moral attitudes, religions and ideologies affect financial behaviors” (p. 159). This paper contributes towards this goal. Specifically, we conduct two laboratory experiments to shed light on how investor perception of managerial honesty as well as investors' own characteristics affect investment choices. Investors, on average, perceive a CEO to be more committed to honesty when he or she has previously resisted engaging in earnings management at a personal cost. Perceived managerial honesty in turn matters for investment choices, attracting several investors clienteles: those among the pro-social investors

who themselves have high protected values for honesty; as well as pro-self investors who value managerial honesty as a signal of the credibility of the CEOs' announced returns. These results demonstrate that (a) (perceived) honesty of the CEO matters in investment choices, (b) investors' personal values also play a pivotal role in these choices and (c) that investors segment into stocks based on the joint effects of these two driving forces.

From an overall financial market perspective, these findings suggest that managerial honesty can boost stock market participation from a variety of investor types. From a corporate finance perspective, it would be worth exploring empirically whether this managerial quality thus translates into a positive impact on the firms' ability to raise equity, to benefit from a liquid secondary stock trading activity and ultimately from a lower cost of equity. From a prudential perspective, observing that broad clienteles of investors' elect to invest into firms managed by honest CEOs, though for different reasons, suggests that, after all, market discipline may contribute towards curbing managerial unethical behaviors.

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6 Appendix

6.1 Additional analyses

Table A1: Investment choices and the interaction of CEO characteristics with announced future return

This table presents the results of logit regressions for Experiment 1. The dependent variable is *Invest in A*, which is 1 when a participant chooses to invest in the company managed by CEO A, and 0 otherwise. Participants made four such choices each. $\Delta Return$ is the difference in announced returns between CEO A and CEO B. We test the interaction of differences in perceived CEO willingness to make financial sacrifices (*Sacrifice*) and differences in perceived CEO long-term orientation (*LTO*) with differences in announced returns ($\Delta Return$). All other variables remain exactly as in Table 6. P-values, based on standard errors clustered at the individual level, are reported in parentheses. *** 1% significance; ** 5% significance, * 10% significance.

	(1)	(2)
$\Delta Return$	0.028*** (0.00)	0.028*** (0.00)
ΔCEO_PVHon	0.726*** (0.00)	0.745*** (0.00)
$\Delta CEO_Trustworthy$	0.512*** (0.00)	0.532*** (0.00)
$\Delta Return *$ ΔCEO_PVHon	-0.010* (0.10)	-0.013** (0.04)
$\Delta Return *$ $\Delta CEO_Trustworthy$	0.004 (0.39)	0.003 (0.55)
$\Delta Return * Sacrifice$		0.002 (0.77)
$\Delta Return * LTO$		0.007 (0.31)
<i>Sacrifice</i>		0.003 (0.97)
<i>LTO</i>		-0.058 (0.62)
<i>Age</i>	0.005 (0.83)	0.008 (0.77)
<i>Female</i>	0.192 (0.35)	0.192 (0.36)
<i>Economics</i>	-0.176 (0.39)	-0.186 (0.38)
<i>Constant</i>	0.444 (0.48)	0.399 (0.54)
<i>Observations</i>	564	564
<i>Pseudo R-squared</i>	0.164	0.168
<i>Pseudo Log Likelihood</i>	-315.1	-313.5
<i>Base Log Likelihood</i>	-376.7	-376.7

Table A2: Correlation Matrix in Experiment 2

The tables in Panel A and Panel B present the Spearman above the diagonal and the Pearson correlations below for the subsamples pro-self and pro-social investors separately. * indicate significance at the 5% level.

Panel A Investors with a pro-self orientation

	<i>Invest in A</i>	Δ Return	Δ CEO_PVHon	Δ CEO_Trustworthy	Age	Female	Economics	Investor_PVHon
<i>Invest in A</i>	1.00	0.21*	0.29*	0.27*	-0.04	0.03	-0.05	0.03
Δ Return	0.21*	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Δ CEO_PVHon	0.29*	0.00	1.00	0.65*	-0.03	0.04	-0.11	0.13*
Δ CEO_Trustworthy	0.28*	0.00	0.65*	1.00	0.02	0.15*	-0.24*	0.28*
Age	0.01	0.00	0.04	0.09	1.00	-0.19*	0.20*	0.18*
Female	0.03	0.00	0.06	0.11	-0.11	1.00	-0.45*	0.16*
Economics	-0.05	0.00	-0.14*	-0.19*	0.15*	-0.45*	1.00	-0.22*
Investor_PVHon	0.05	0.00	0.11	0.30*	0.27*	0.21*	-0.24*	1.00

Panel B Investors with a pro-social orientation

	<i>Invest in A</i>	Δ Return	Δ CEO_PVHon	Δ CEO_Trustworthy	Age	Female	Economics	Investor_PVHon
<i>Invest in A</i>	1.00	0.07	0.14*	0.22*	-0.07	-0.09	-0.07	0.19*
Δ Return	0.07	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Δ CEO_PVHon	0.16*	0.00	1.00	0.48*	-0.01	-0.14*	-0.24*	0.12
Δ CEO_Trustworthy	0.22*	0.00	0.51*	1.00	-0.02	-0.12*	-0.16*	0.06
Age	-0.04	0.00	0.09	0.06	1.00	-0.16*	0.19*	-0.07
Female	-0.08	0.00	-0.08	-0.10	-0.16*	1.00	-0.23*	0.15*
Economics	-0.09	0.00	-0.26*	-0.16*	0.04	-0.23*	1.00	-0.44*
Investor_PVHon	0.21*	0.00	0.22*	0.11	-0.03	0.18*	-0.42*	1.00

Table A3: Investment choices and Perceived CEO Protected Values for Honesty depending on investor Social Value Orientation (Median Split)

This table presents the results of logit regressions for Experiment 2. The dependent variable is *Invest in A*, which is 1 when a participant chooses to invest in the company managed by CEO A, and 0 otherwise. Participants made four such choices each. The table shows two regressions for each investor subsample. Participants are categorized as pro-self or pro-social based on a median split to overcome excluding participants using the traditional approach by van Lange et al. (1997). We counted the self-maximizing choices in the Investor_SVO task and performed a median split on this variable. Participants above the median were categorized as pro-self and participants below or on the median were categorized as pro-social. All other variables remain exactly as in Table 10 columns 1- 6. P-values, based on standard errors clustered at the individual level, are reported in parentheses. *** 1% significance; ** 5% significance, * 10% significance.

	(1)	(2)	(3)	(4)	(5)	(6)
Investor_Investor_SVO	Pro-self orientation			Pro-social orientation		
<i>ΔReturn</i>	0.016** (0.04)	0.014* (0.08)	0.014* (0.08)	0.008 (0.28)	0.008 (0.27)	0.008 (0.25)
<i>ΔCEO_PVHon</i>	0.656*** (0.00)	0.668*** (0.00)	0.672*** (0.00)	0.320** (0.01)	0.314** (0.01)	0.313** (0.01)
<i>ΔReturn * ΔCEO_PVHon</i>	-0.013* (0.10)	-0.011 (0.15)	-0.012 (0.13)	0.504** (0.00)	0.515** (0.00)	0.514** (0.00)
<i>Investor_PVHon</i>	-0.085 (0.52)	-0.033 (0.78)	-0.034 (0.76)	*	*	*
<i>Investor_PVHon * ΔCEO_PVHon</i>		0.081 (0.34)	0.053 (0.57)		0.101 (0.26)	0.098 (0.29)
<i>Investor_PVHon * ΔReturn</i>		-0.014* (0.06)	-0.011 (0.15)		-0.003 (0.76)	-0.003 (0.71)
<i>Investor_PVHon * ΔReturn * ΔCEO_PVHon</i>			0.008 (0.27)			-0.003 (0.64)
<i>ΔCEO_Trustworthy</i>	0.291** (0.04)	0.273* (0.07)	0.280* (0.06)	0.295** (0.00)	0.308** (0.00)	0.308** (0.00)
<i>Age</i>	0.041 (0.10)	0.040 (0.11)	0.041 (0.11)	-0.031* (0.09)	-0.031* (0.09)	-0.031* (0.09)
<i>Female</i>	-0.131 (0.61)	-0.156 (0.52)	-0.148 (0.54)	-0.484* (0.07)	-0.460* (0.08)	-0.461* (0.08)
<i>Economics</i>	-0.035 (0.88)	-0.003 (0.99)	-0.009 (0.97)	-0.077 (0.77)	-0.065 (0.81)	-0.065 (0.80)
<i>Constant</i>	-0.372 (0.55)	-0.354 (0.56)	-0.371 (0.54)	1.341** (0.01)	1.311** (0.01)	1.312** (0.01)
<i>Observations</i>	288	288	288	312	312	312
<i>Pseudo R-squared</i>	0.120	0.136	0.141	0.0807	0.0826	0.0834
<i>Pseudo Log Likelihood</i>	-172.5	-169.2	-168.3	-193.8	-193.4	-193.3
<i>Base Log Likelihood</i>	-195.9	-195.9	-195.9	-210.8	-210.8	-210.8

6.2 Instructions for Experiment 1

Welcome!

This is a study on decision-making of individuals in the role of shareholders. With your participation you help us learn more about factors that are associated with decision making. The study will take about 15 minutes to complete. In what follows, you should put yourself in the role of a shareholder. As such, you will have to make a series of decisions, just like a real shareholder.

Of course, your information will be treated confidentially and anonymously. For your participation you earn 10-15 CHF. Total compensation depends on your decisions as well as on the correctly answered interposed questions (that can be answered correctly by reading the instructions carefully).

We wish you lots of fun!

If you participate from home, please enter the following code:

- *The last 3 digits of your Legi +*
- *3 letter of your choice*

*Example: Legi number = 01-705-234 -> 234
3 random letters: dnz*

-> Insert code: 234dnz (Example)

If you participate in the laboratory, please enter the following code:

- *The last 3 digits of your Legi +*
- *"R" +*
- *2 letters of your choice*

*Example: Legi number = 01-705-234 - any> 234
2 random letters. Nz*

-> Insert code: 234Rnz (Example)

General Information

Please consider the following:

- *Read the instructions for the tasks and questions carefully!*
- *Please answer all questions!*
- *Please answer openly and honestly! As only your personal perspective counts, there are - except for the interposed questions - no right or wrong answers.*

Personal details

Sex

- *Male*
- *Female*

Age (for example, 38)

In which field are you studying?

- *Psychology: Social and Economic Psychology*
- *Psychology: Another area*
- *Psychology Minor: Major subject:*
- *Economics: Banking and Finance*
- *Economics: Another area:*
- *Economics as a minor subject: Main subject:*

Information about your compensation

- *In what follows, you will put yourself in the role of a shareholder. The amount of money you receive at the end of the experiment depends on whether you will have been successful with your investment or not. Thus you receive between 10 CHF and 15 CHF.*
- *In addition, some interposed questions are asked that lead to a discount in case of a false answer. However, the questions can be answered easily, if you read the instructions carefully. In case of complete participation, you receive 10 CHF in any case.*

Introduction

Please read the following description of the situation carefully.

Imagine...

You are an investor and think about investing 50'000 CHF in either **Firm A** or in **Firm B**. In order to get a picture of each CEO and company, you will be provided with information below.

Firm A and Firm B differ only in terms of their publicly announced earnings per share and the performance-based compensation of each CEO.

The CEO compensation consists of a fixed and a flexible component. The flexible component is a bonus, which depends on the announced earnings per share. As you know, a CEO can influence the publicly announced earnings per share using legal accounting procedures.

Firm	Market's expected earnings per share	True earnings per share	Earnings per share announced by the CEOs	CEO's compensation
A	35	Only known by CEO	31	1'300'000 CHF
B	35	Only known by CEO	35	2'200'000 CHF

The table shows:

CEO B announced higher earnings per share and therefore the CEO of Firm B received a higher salary. If the CEO of Firm A had announced the same earnings as CEO B, he would have also earned 2'200'000 CHF.

Information

Prior to the actual decisions, you will be asked some interposed questions on the next page. Answering these questions incorrectly will lead to a discount of your compensation and you will need to answer these questions correctly to proceed.

Interposed questions

Can a CEO announce earnings that deviate from the company's true earnings?

- Yes
- No

The compensation of the CEO...

- depends on the announced earnings per share
- does not depend on the announced earnings per share

Which CEO has a higher salary?

- CEO of Firm A
- CEO of Firm B



Now we are interested in how you perceive the two CEOs – Firm A vs. Firm B - to differ from your personal point of view.

To what extent do you rate CEO A as ...

	-2	-1	0	+1	+2	
<i>untrustworthy</i>						<i>trustworthy</i>
<i>short time profit-oriented</i>						<i>long term profit-oriented</i>
<i>not willing to make financial sacrifices</i>						<i>willing to make financial sacrifices</i>

To what extent do you rate CEO B as ...

	-2	-1	0	+1	+2	
<i>untrustworthy</i>						<i>trustworthy</i>
<i>short time profit-oriented</i>						<i>long term profit-oriented</i>
<i>not willing to take financial sacrifices</i>						<i>willing to take financial sacrifices</i>



Compensation scheme in the experiment

Now you will be informed about the possible returns on investment of the two companies. The amount you receive at the end of the experiment corresponds to 5 CHF + 1/10'000th of the total returns.

2 examples - You invest 50'000 CHF:

- If the investment turns out to be **successful**, and the announced future return is 10%, then you will receive a fixed compensation of CHF 50,000 (5 CHF) plus the amount of CHF 5,000 (0.50 CHF), thus 5.5 CHF in total.
- With an announced future return of 30%, you will receive the fixed compensation of CHF 50,000 (5 CHF) plus the amount of CHF 15,000 (1.50 CHF), thus 6.5 CHF in total.

If the investment turns out to be **unsuccessful**, you will receive only the investment of CHF 50,000 (5 CHF) back.



In what follows, 4 possible investment situations will be presented to you.

Situation 1

Now you have the opportunity, to invest 50'000 CHF either in Firm A or in Firm B.

CEO A claims to increase the firm value by **20%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 10,000** (or 1.00 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

CEO B claims to increase the firm value by **30%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 15,000** (or 1.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

In which company do you invest your money?

- I invest in Firm A
- I invest in Firm B

Situation 2

Now you have the opportunity, to invest 50'000 CHF either in Firm A or in Firm B.

CEO A claims to increase the firm value by **30%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 15,000** (or 1.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

CEO B claims to increase the firm value by **20%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 10,000** (or 1.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

In which company do you invest your money?

- I invest in Firm A
- I invest in Firm B

Situation 3

Now you have the opportunity, to invest 50'000 CHF either in Firm A or in Firm B.

CEO A claims to increase the firm value by **10%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 5,000** (or 0.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

CEO B claims to increase the firm value by **40%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 20,000** (or 2.00 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

In which company do you invest your money?

- I invest in Firm A
- I invest in Firm B

Situation 4

Now you have the opportunity, to invest 50'000 CHF either in Firm A or in Firm B.
 CEO A claims to increase the firm value by **40%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 20,000** (or 2.00 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

CEO B claims to increase the firm value by **10%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 5,000** (or 0.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

In which company do you invest your money?

- I invest in Firm A
- I invest in Firm B

CEOs' compensation levels depend on the earnings they report to shareholders. CEOs have an incentive to modify reports to shareholders. What do you think is the CEO of Firm A's opinion on modifying company information in reports?

Please choose the appropriate category for CEO A.
 CEO A thinks that this is ...

<i>very immoral</i>								<i>very moral</i>
<i>not at all praiseworthy</i>								<i>very praiseworthy</i>
<i>not at all blameworthy</i>								<i>very blameworthy</i>
<i>not at all outrageous</i>								<i>very outrageous</i>
<i>not at all acceptable</i>								<i>very acceptable</i>

CEOs' compensation levels depend on the earnings they report to shareholders. CEOs have an incentive to modify reports to shareholders. What do you think is the CEO of Firm B's opinion on modifying company information in reports?

Please choose the appropriate category for CEO B.
 CEO B thinks that this is ...

<i>very immoral</i>									<i>very moral</i>
<i>not at all praiseworthy</i>									<i>very praiseworthy</i>
<i>not at all blameworthy</i>									<i>very blameworthy</i>
<i>not at all outrageous</i>									<i>very outrageous</i>
<i>not at all acceptable</i>									<i>very acceptable</i>

CEOs have an opportunity to modify information in the reports they provide to shareholders. Some view such modification as a violation of truthfulness; others regard it as acceptable protection of personal interests. What do you believe does **CEO A** 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.

<i>CEO strongly disagrees</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>CEO strongly agrees</i>
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... for which it is right to make a cost-benefit analysis.

<i>CEO strongly disagrees</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>CEO strongly agrees</i>
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... that cannot be measured in monetary terms.

<i>CEO strongly disagrees</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>CEO strongly agrees</i>
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... about which one can be flexible if the situation demands it.

<i>CEO strongly disagrees</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>CEO strongly agrees</i>
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CEOs have an opportunity to modify information in the reports they provide to shareholders. Some view such modification as a violation of truthfulness; others regard it as acceptable protection of personal interests. What do you believe does **CEO B** 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.

<i>CEO strongly disagrees</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>CEO strongly agrees</i>
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... for which it is right to make a cost-benefit analysis.

<i>CEO strongly disagrees</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>CEO strongly agrees</i>
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... that cannot be measured in monetary terms.

<i>CEO strongly disagrees</i>	1	2	3	4	5	6	7	<i>CEO strongly agrees</i>
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... about which one can be flexible if the situation demands it.

<i>CEO strongly disagrees</i>	1	2	3	4	5	6	7	<i>CEO strongly agrees</i>
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Thank you very much for your participation!

6.3 Instructions for Experiment 2

6.3.1 Instructions of the questionnaire part of Experiment 2

Welcome!

This is the online questionnaire part of the investment behavior study. Your participation will help us learn more about factors that are associated with decision making.

Please note that you cannot participate in the laboratory experiment without completing the present questionnaire.

The questionnaire will take about 15 minutes to complete.

*For your full participation you will receive a total amount between **10 and 15 CHF**, depending on your decisions in the computer lab. The amount will be paid at the end of the experiment in the computer lab.*

Your information will be treated confidentially and anonymously.

We wish you lots of fun!

Anonymity

To ensure anonymity, please generate your personal identification code.

Your identification code is composed as follows:

- *First letter of the first name of the mother* (Ex: Andrea = A)
- *Second letter of the first name of the father* (Ex: Stefan = t)
- *Month of your birthday* (Ex: 06/17/1963 = 06)
- *Last two digits of the Legi* (Ex: At0601)

*Please fill in your **personal identification code**. Make sure to use the same identification code later in the experiment in the computer lab!*

General Information

Please note the following points:

- *Read the instructions for the individual tasks and questions carefully!*
- *Please answer all questions!*
- *Please answer openly and honestly! Since your personal perspective alone counts, there are no right or wrong answers.*

Personal details

Sex

- Male
- Female

Age

In which field are you studying?

- Psychology: Social and Economic Psychology
- Psychology: Another area
- Psychology Minor: Major subject:
- Economics: Banking and Finance
- Economics: Another area:
- Economics as a minor subject: Main subject:

After entering your personal information, let us go on to with the actual survey.

Have fun!

On this page and the next page, you will find statements that may apply more or less to yourself.

Please indicate how much you agree or disagree with each statement.

	<i>strongly disagree</i>	<i>disagree</i>	<i>neutral</i>	<i>agree</i>	<i>strongly agree</i>
<i>I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.</i>					
<i>If I want something from someone, I will laugh at that person's worst jokes.</i>					
<i>I wouldn't pretend to like someone just to get that person to do favors for me.</i>					
<i>If I knew that I could never get caught, I would be willing to steal a million dollars.</i>					
<i>I would never accept a bribe, even if it were very large.</i>					

Please indicate how much you agree or disagree with each statement.

	<i>strongly disagree</i>	<i>disagree</i>	<i>neutral</i>	<i>agree</i>	<i>strongly agree</i>
<i>I'd be tempted to use counterfeit money, if I were sure I could get away with it.</i>					
<i>Having a lot of money is not especially important to me.</i>					
<i>I would get a lot of pleasure from owning expensive luxury goods.</i>					
<i>I think that I am entitled to more respect than the average person is.</i>					
<i>I want people to know that I am an important person of high status.</i>					

Because of their profit-related compensation structure, CEOs have the incentive to modify information in the reports they provide to shareholders.

What do you think about managers changing company information in reports?

<i>very immoral</i>							<i>very moral</i>
<i>not at all praiseworthy</i>							<i>very praiseworthy</i>
<i>not at all blameworthy</i>							<i>very blameworthy</i>
<i>not at all outrageous</i>							<i>very outrageous</i>
<i>not at all acceptable</i>							<i>very acceptable</i>

CEOs have an opportunity to modify information in the reports they provide to 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 truthfulness in such a situation?

Truthfulness is something ...

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

<i>I strongly disagree</i>							<i>I strongly agree</i>
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... for which it is right to make a cost-benefit analysis.

<i>I strongly disagree</i>								<i>I strongly agree</i>
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... that cannot be measured in monetary terms.

<i>I strongly disagree</i>								<i>I strongly agree</i>
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... about which one can be flexible if the situation demands it.

<i>I strongly disagree</i>								<i>I strongly agree</i>
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Imagine that you were paired randomly with another person. You do not know the other person and you will not know the person in the future. By your own decision, you spread points to you and the other person. The same way, the other person is distributing points to you and himself /herself. Every point is valuable. The more points you get, the better for you, and the more points the other person gets, the better for him / her. Here is an example of how the task works:

In this example, if you select A you would get 500 points and the other person would get 100 points; if you choose B, you would get 500 points and the other person 500; and if you choose C would you 550 points and run the other person 300.

<i>(Example)</i>	<i>A</i>	<i>B</i>	<i>C</i>
<i>You receive</i>	<i>500</i>	<i>500</i>	<i>550</i>
<i>Other person receives</i>	<i>100</i>	<i>500</i>	<i>300</i>

Thus, you see your decision influences both the score you achieve and the score for the other person. For each of these nine decision situations click A, B or C, depending on which column you prefer most.

<i>1.</i>	<i>A</i>	<i>B</i>	<i>C</i>
<i>You receive</i>	<i>480</i>	<i>540</i>	<i>480</i>
<i>Other person receives</i>	<i>80</i>	<i>280</i>	<i>480</i>
<i>A</i>	<i>B</i>		<i>C</i>

<i>2.</i>	<i>A</i>	<i>B</i>	<i>C</i>
<i>You receive</i>	<i>560</i>	<i>500</i>	<i>500</i>
<i>Other person receives</i>	<i>300</i>	<i>500</i>	<i>100</i>
<i>A</i>	<i>B</i>		<i>C</i>

<i>3.</i>	<i>A</i>	<i>B</i>	<i>C</i>
<i>You receive</i>	<i>520</i>	<i>520</i>	<i>580</i>
<i>Other person receives</i>	<i>520</i>	<i>120</i>	<i>320</i>
<i>A</i>	<i>B</i>		<i>C</i>

4.	A	B	C
You receive	500	560	490
Other person receives	100	300	490
A	B	C	

5.	A	B	C
You receive	560	500	490
Other person receives	300	500	90
A	B	C	

6	A	B	C
You receive	500	500	570
Other person receives	500	100	300
A	B	C	

7.	A	B	C
You receive	510	560	510
Other person receives	510	300	110
A	B	C	

8.	A	B	C
You receive	550	500	500
Other person receives	300	100	500
A	B	C	

9.	A	B	C
You receive	480	490	540
Other person receives	100	490	300
A	B	C	

Important!

Appointment reminder for the computer lab!

The online questionnaire is almost over now. We thank you for your participation! As previously mentioned, the experiment consists of this online questionnaire and a part in the computer lab, for which you have already registered. Please reserve the date in advance!

Of course, your answers in today's survey as well as your answers in the next session remain anonymous. Only you know your personal code, which you have chosen at the beginning. You

will enter this code at the beginning of the session in the computer lab to take part in the experiment.

The payment will be carried out after the session in the computer lab. You will receive an envelope labeled with your code containing your payment. The person giving you the envelope does not know the its content. Thus, complete anonymity is guaranteed.

For questions or comments feel free to contact us.

6.3.2 Instructions of the laboratory part of Experiment 2

Welcome!

This is a study on investment behavior. Your participation will help us learn more about factors that are associated with decision making.

This study will take about 15 minutes. Please take this time. It is very important for us that you complete the tasks carefully and seriously.

In what follows, you should put yourself in the role of a shareholder. As such, you will have to make a series of decisions, just like a real shareholder.

For your complete participation you earn 10 – 15 CHF. Total compensation depends on your decisions as well as on the correctly answered interposed questions (that can be answered correctly by reading the instructions carefully).

Your information will be treated confidentially and anonymously.

We wish you lots of fun!

Anonymity

To ensure your anonymity, please generate your personal identification code.

Your identification code is composed as follows:

- *First letter of the first name of the mother* (Ex: Andrea = A)
- *Second letter of the first name of the father* (Ex: Stefan = t)
- *Month of your own birthday* (Ex: 06/17/1963 = 06)
- *Last two digits of the Legi* (Ex: At0601)

Only you know your personal code. Please note down your code. You will need the code for your compensation.

General Information

Please note the following points:

- *Read the instructions for the individual tasks and questions carefully!*
- *Please answer all questions!*

Please answer openly and honestly! Since your personal perspective alone counts, there are - except for the interposed questions - no right or wrong answers.

Information about your compensation

- In what follows, you will put yourself in the role of a shareholder. The amount of money you receive at the end of the experiment depends on whether you will have been successful with your investment or not. Thus you receive between 10 CHF and 15 CHF.
- In addition, some interposed questions are asked that lead to a discount in compensation in case of a false answer. However, the questions can be answered easily, if you read the instructions carefully. In case of complete participation, you receive 10 CHF in any case.
- You will receive your compensation at the end of the experiment. You will get more information on that at the end of the experiment..

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Introduction

Please read the following description of the situation carefully.

Imagine...

You are an investor and think about investing 50'000 CHF in **Firm A** or in **Firm B**. In order to get a picture of each CEO and the company, you are provided with information below.

Firm A and Firm B differ only in terms of their publicly announced earnings per share and the performance-based compensation of each CEO.

The CEO compensation consists of a fixed and a flexible component. The flexible component is a bonus, which depends on the announced earnings per share. As you know, a CEO can influence the publicly announced earnings per share using legal accounting procedures.

Firm	Market's expected earnings per share	True earnings per share	Earnings per share announced by the CEOs	CEO's compensation
A	35	Only known by CEO	31	1'300'000 CHF
B	35	Only known by CEO	35	2'200'000 CHF

The table shows:

CEO B has announced higher earnings per share and therefore the CEO of Firm B received a higher salary. If the CEO of Firm A had announced the same earnings as CEO B, he would have also earned 2'200'000 CHF.

Information

Prior to the actual decisions, you will be asked some interposed questions on the next page. Answering these questions incorrectly will lead to a discount of your compensation and you will need to answer these questions correctly to proceed.

Interposed questions

Can a CEO announce a profit, known different from the actual profit?

- Yes
- No

The compensation of the CEO is ...

- depending on the announced earnings per share
- regardless of the announced earnings per share

Which CEO has a higher salary?

- CEO of Firm A
- CEO of Firm B

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-

Now we are interested in how you perceive the two CEOs – Firm A vs. Firm B - to differ from your personal point of view.

To what extent do you rate the **CEO A** as ...

<i>not credible</i>						<i>credible</i>
<i>untrustworthy</i>						<i>trustworthy</i>
<i>short time profit-oriented</i>						<i>long term profit-oriented</i>
<i>not willing to take financial sacrifices</i>						<i>willing to take financial sacrifices</i>

To what extent do you rate the **CEO B** as ...

<i>not credible</i>						<i>credible</i>
<i>untrustworthy</i>						<i>trustworthy</i>
<i>short time profit-oriented</i>						<i>long term profit-oriented</i>
<i>not willing to take financial sacrifices</i>						<i>willing to take financial sacrifices</i>

Compensation scheme in the experiment

Now you will be informed about the possible returns on investment of the two companies. The amount you receive at the end of the experiment corresponds to 5 CHF + 1/10'000th of the total returns.

2 examples - You invest 50'000 CHF:

- If the investment turns out to be successful, and the announced future return is 10%, then you will receive a fixed compensation of CHF 50,000 (5 CHF) plus the amount of CHF 5,000 (0.50 CHF), thus 5.5 CHF in total.
- With an announced future return of 30%, you will receive the fixed compensation of CHF 50,000 (5 CHF) plus the amount of CHF 15,000 (1.50 CHF), thus 6.5 CHF in total.

If the investment turns out to be unsuccessful, you will receive only the investment of CHF 50,000 (5 CHF) back.

In what follows, 4 possible investment situations will be presented to you..

Situation 1

Now you have the opportunity, to invest 50'000 CHF either in Firm A or in Firm B. CEO A claims to increase the firm value by **40%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 20,000** (or 2.00 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

CEO B claims to increase the firm value by **10%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 5,000** (or 0.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

In which company do you invest your money?

- I invest in Firm A
- I invest in Firm B

Situation 2

Now you have the opportunity, to invest 50'000 CHF either in Firm A or in Firm B.

CEO A claims to increase the firm value by **30%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 15,000** (or 1.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

CEO B claims to increase the firm value by **20%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 10,000** (or 1.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

In which company do you invest your money?

- I invest in Firm A
- I invest in Firm B

Situation 3

Now you have the opportunity, to invest 50'000 CHF either in Firm A or in Firm B.

CEO A claims to increase the firm value by **20%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 10,000** (or 1.00 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

CEO B claims to increase the firm value by **30%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 15,000** (or 1.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

In which company do you invest your money?

- I invest in Firm A
- I invest in Firm B

Situation 4

Now you have the opportunity, to invest 50'000 CHF either in Firm A or in Firm B.

CEO A claims to increase the firm value by **10%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 5,000** (or 0.50 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

CEO B claims to increase the firm value by **40%**. Should this prove to be the case, you receive - in the case of investment - in the upcoming year **CHF 20,000** (or 2.00 CHF), as well as the investment of CHF 50,000 back (or 5 CHF).

In which company do you invest your money?

- I invest in Firm A
- I invest in Firm B

CEOs' compensation levels depend on the earnings they report to shareholders. CEOs have an incentive to modify reports to shareholders. What do you think is the CEO of Firm A's opinion on modifying company information in reports?

Please choose the appropriate category for CEO A.
CEO A thinks that this is ...

<i>very immoral</i>								<i>very moral</i>
<i>not at all praiseworthy</i>								<i>very praiseworthy</i>
<i>not at all blameworthy</i>								<i>very blameworthy</i>
<i>not at all outrageous</i>								<i>very outrageous</i>
<i>not at all acceptable</i>								<i>very acceptable</i>

CEOs' compensation levels depend on the earnings they report to shareholders. What do you think is the CEO of Firm B's opinion on modifying company information in reports?

Please choose the appropriate category for CEO B.
CEO B thinks that this is ...

<i>very immoral</i>								<i>very moral</i>
<i>not at all praiseworthy</i>								<i>very praiseworthy</i>
<i>not at all blameworthy</i>								<i>very blameworthy</i>
<i>not at all outrageous</i>								<i>very outrageous</i>
<i>not at all acceptable</i>								<i>very acceptable</i>

CEOs have an opportunity to modify information in the reports they provide to shareholders. Some view such modification as a violation of truthfulness; others regard it as acceptable protection of personal interests. What do you believe does **CEO A** 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.

CEO strongly disagrees	1	2	3	4	5	6	7	CEO strongly agrees
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... for which it is right to make a cost-benefit analysis.

CEO strongly disagrees	1	2	3	4	5	6	7	CEO strongly agrees
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... that cannot be measured in monetary terms.

CEO strongly disagrees	1	2	3	4	5	6	7	CEO strongly agrees
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... about which one can be flexible if the situation demands it.

CEO strongly disagrees	1	2	3	4	5	6	7	CEO strongly agrees
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CEOs have an opportunity to modify information in the reports they provide to shareholders. Some view such modification as a violation of truthfulness; others regard it as acceptable protection of personal interests. What do you believe does **CEO B** 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.

CEO strongly disagrees	1	2	3	4	5	6	7	CEO strongly agrees
------------------------	---	---	---	---	---	---	---	---------------------

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

CEO strongly disagrees	1	2	3	4	5	6	7	CEO strongly agrees
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... that cannot be measured in monetary terms.

CEO strongly disagrees	1	2	3	4	5	6	7	CEO strongly agrees
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... about which one can be flexible if the situation demands it.

CEO strongly disagrees	1	2	3	4	5	6	7	CEO strongly agrees
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Thank you very much for your participation!

You can pick up your compensation. Please take the envelope that is labeled with your personal identification code.

Feel free to contact us for questions and comments.