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# PERCEIVED UNFAIRNESS IN CEO COMPENSATION AND WORK MORALE.

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## Abstract

CEO compensation that is perceived to be excessive regularly causes agitation in the population. Using German data, we show that perceiving CEO pay to be unjust has economic repercussions in terms of lower work morale.

Keywords: Fairness, Social Comparisons, Work Morale.

JEL: A13, D63, J22

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## 1 Introduction

'Nothing in business excites so much interest in the wider world as the pay of top executives.' the *Economist* wrote in a 2003 article titled 'Fat cats feeding - Executive pay'. Indeed, it seems that the dwindling heights to which CEO compensation has risen trigger stronger feelings than just plain *interest*. The Enron scandal inspired the *Forbes* headline 'Pay Madness at Enron', and in March 2009 the *Economist* published an opinion poll in which 66% of respondents claimed to be 'very angry' about AIG bonuses, accompanied by an article headlined 'Will there be blood?'

It is likely that public protests are only the tip of the iceberg, considering that social psychologists and economists have shown that unfairness leads to a wide range of behavioral consequences.<sup>1</sup> One margin of adjustment that is likely to respond to fairness perceptions related to labor market income is work morale. Observing a close link between perceived pay inequities and work effort, Adams (1965) argued in his *equity theory* that individuals compare their effort-to-pay-ratio to that of others and adjust it whenever they differ. Along these lines, reduced work effort of individuals who perceive manager incomes to be excessively high could be interpreted as a means of restoring equity.

We empirically investigate whether fairness perceptions of CEO compensation indeed affect work morale. We use absenteeism from work due to sickness as a measure of work morale, based on data from the German Socioeconomic Panel (GSOEP). The results suggest that perceiving CEO compensation to be unfair is associated with up to 20% higher levels of absenteeism, even after conditioning on health and an exhaustive set of individual characteristics. Our research complements the social comparison literature, which suggests that higher income of a reference group affects subjective well-being negatively (Clark and Oswald, 1996; Ferrer-i-Carbonell, 2005; Luttmer, 2005). These studies look into the direct effects on utility in terms of stated happiness or satisfaction, while our outcome is an *observable economic behavior*. A further contribution of our study is showing the mere *perception* of unfairness of others' incomes, rather than the true relative income position, to affect behavior.

## 2 Data and Estimation Strategy

The 2005 GSOEP wave asked respondents whether they believed that the income of a manager on the board of directors of a large company had a 'just relation to the job demands'. Roughly three out of four didn't think that to be the case. If perceived unfairness triggers adjustment behavior, we expect to observe lower levels of work effort for these individuals. A particularly appealing way of adjusting effort is by increasing absenteeism. Unlike other measurable effort indicators such as hours worked or overtime hours, absenteeism does not come with monetary repercussions in the German system. There is no reduction of payments for the first six weeks of a sickness spell and for the first three days of each spell, employees are usually not even obliged to produce a doctor's note. At the same time the legal barriers to dismissing employees are high. Such a setup provides incentives and leeway for behaving opportunistically by feigning sickness. While we do not intend to imply that everyone on sick absence is a shirker, it is widely accepted in the labor economics literature (Barnby et al., 2002; Johannsen and Palme, 2005) that absenteeism is not purely a response to medical conditions. In accordance with perceived injustice increasing the propensity to display such behavior, table 1 shows that those who didn't think CEO pay to be fair also displayed significantly higher levels of absenteeism from work due to illness.

Table 1: ABSENTEEISM BY OPINION ON CEO PAY.

	CEO pay unfair		diff	t-test
	no	yes		
Days absent	5.79 (0.43)	8.32 (0.37)	2.53 (0.68)	***
N	901	2682		

*Note:* Mean days absent by opinion on whether CEO compensation is perceived to be unfair. Standard errors in parentheses. T-test of difference in means: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

<sup>1</sup>See Fehr (2005) and Tyler and Smith (1998) for literature surveys.

This is in line with the argument that unfairness deteriorates work morale, yet there are obviously many other factors that may determine absenteeism. In the following regressions we include a large number of these possibly confounding variables. The main driver of absenteeism should be an individual's physical constitution. Our dataset provides a variable 'health score' that accounts for the level of individual health, but because different individuals may judge the same health score differently, the respondent's rating of 'health satisfaction' is also included. If there were no fraudulent use of sick days, other factors should not have any significant impact on absenteeism once the effect of health is netted out. However, because of the aforementioned institutional setup it is clear that such a naive control approach may be insufficient. A standard predictor of shirking is the probability of getting caught, as reflected in the firm size variables and higher stakes are represented by controlling for gross income. Job security is mirrored in the personal fear of job loss as well as a control for being marginally employed. We also add standard Mincer equation variables, 'occupational status' dummies indicating an individual's rank in the firm's employment hierarchy as well as sectoral and regional dummies. The GSOEP also allows accounting for attitudes and personal traits that typically aren't collected in other surveys and may cause endogeneity if omitted from the regression. We include the level of job satisfaction, general negativism, laziness, risk aversion, and leftist political views because they may drive both beliefs on fairness of CEO pay as well as work effort. Summary statistics and variable descriptions are given in table 3.

Since the dependent variable only takes on non-negative integer values, count data methods are in order and our baseline estimations employ the two-step negative binomial quasi maximum likelihood estimator (QMLE) as described in Wooldridge (2002). This estimator is consistent under the correct conditional mean, which we model as an exponential function. It has an edge over Poisson and Negbin II approaches since it accounts for overdispersion and is robust against violations of the distributional assumptions.

### 3 Results

Estimates of the association between perceived fairness of CEO compensation obtained from various specifications are displayed in table 4. Coefficients must be interpreted as semi-elasticities and the bivariate specification in column (1) reflects the descriptive finding from table 1: those who think CEO pay is unfair show a larger number of days absent. Somewhat surprising is that the inclusion of health and income variables doesn't even scale down the coefficient by half in column (2). While the controls are all highly significant and the coefficients have the expected sign, the effect of perceived unfairness remains strong. It still suggests that those who believe CEO pay to be excessive have roughly one fifth more sick days. The naive estimator from column (2) already provides a very good approximation of the coefficient magnitude when all controls are included in column (6). Successively adding further controls does not decrease the coefficient at all. Backed by the coefficient's striking robustness to various specifications, these results imply massive behavioral consequences of perceiving the income of top managers to be unfairly high.

Alternative estimation methods are applied in table 2, where all specifications are as in column (6) of table 4. A probit specification in column (1) shows the effect of perceived unfairness on the probability of having at least 1 sick day. The coefficient is rather small and only significant at the 11% level. This is not very surprising, as this probability is pretty much out of the hands of the individual. Whether one gets sick for a day or not should be largely random and we also believe that people may often simply add a day or two when they were truly sick in the first place. Columns (2)-(4) further underscore the robustness of our results. OLS estimates in column (2) imply a difference of 1.4 days, which nicely translates to the 20% effect obtained via the QMLE estimations. Two alternative count data estimators are shown in columns (3) and (4). Neither Poisson nor Negative Binomial models suggest effects different from those obtained earlier. Taken together, the stability of the coefficient across specifications and estimation methods makes us confident that the estimates come close to the true causal effect.

Table 2: ROBUSTNESS CHECKS.

	Probit (1)	OLS (2)	Poisson (3)	Negbin (4)
CEO pay unfair	.03 (0.02)	1.37** (0.54)	.19*** (0.02)	.22*** (0.08)
60 controls	Yes	Yes	Yes	Yes
Obs	3583	3583	3583	3583
$R^2$	0.09	0.10		
log-l.	-2384	-1.5e+04	-3.0e+04	-9340

*Note:* Column (1) is a probit estimation with dependent variable taking on value 1 if absenteeism >0. Column (2) is standard OLS, columns (3) and (4) are standard Poisson and Negbin II count data estimators. The dependent variable in columns (2)-(4) is 'number of days absent'. Standard errors in columns (1)-(2) allow for clustering at the household level. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

## 4 Conclusion

That discontent with CEO compensation may have behavioral consequences could frequently be observed when people took to the streets in protest during the recent financial crisis. In this paper we have shown that perceived unfairness of CEO pay may also lead to 'hidden' protest behavior that bears the potential of large economic costs, even outside times of financial crisis.

That the income others supposedly earn has an effect on own economic behavior is also in stark contrast to standard neoclassical theory. The results are consistent with equity theory, yet they can also be reconciled with other adjustment triggering mechanisms such as envy – which are typically hard to distinguish from fairness. An interesting implication of our study is that the mere *perception* of what others earn may suffice to trigger adjustment behavior. This adds a new angle to the recent social comparisons literature.

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Table 3: DESCRIPTION OF VARIABLES AND SUMMARY STATISTICS.

Variable	Description	Mean	Std. Dev.
absenteeism	number of days absent in year of survey.	7.68	17.92
absenteeism dummy	indicator variable, 1 if absenteeism >0.	0.56	0.50
CEO pay unfair	indicator variable, 1 if respondent thinks CEOs pay is unfair.	0.75	0.43
health score	self reported current health. 'Poor' (1) to 'Very good' (5).	3.58	0.83
health satisfaction	satisfaction w/ health. Scale: 'totally unhappy' (0) to 'totally happy' (10).	7.07	1.88
gross income	gross monthly household income in 1000s of Euros.	2.98	1.96
age	age in years.	42.92	10.06
male	indicator variable, 1 if male.	0.59	0.49
children	the number of children <16 years in the household.	0.37	0.48
foreign	indicator variable, 1 if non-German citizen.	0.05	0.22
schooling	year of schooling (includes tertiary education and vocational training).	13.16	2.85
tenure	tenure with current employer.	12.29	10.13
full time experience	years of full time experience.	16.88	10.84
part time experience	years of part time experience.	2.37	4.94
part time	indicator variable, 1 if currently part time employed.	0.17	0.38
marginally employed	indicator variable, 1 if currently marginally employed.	0.03	0.16
< 20 employees	current employer firm size indicator variable.	0.19	0.39
20<=employees< 200	current employer firm size indicator variable.	0.29	0.45
200<=employees<2000	current employer firm size indicator variable.	0.24	0.43
employees>=2000	current employer firm size indicator variable.	0.29	0.45
afraid to lose job	indicator variable, 1 if individual concerned about job security.	0.58	0.49
satisfied w/ job	satisfaction w/ job. Scale: 'totally unhappy' (0) to 'totally happy' (10).	7.09	1.92
pessimist	indicator, 1 if pessimistic about the future.	0.25	0.43
lazy	Self reported laziness. Scale: 'not at all' (1) to 'applies perfectly' (7).	2.21	1.46
leftist	political views. Scale: 'Far right' (0) to 'Far left' (10).	5.31	1.75
risk taker	prepared to take risks. Scale (0) to (10).	4.88	2.13
sector dummies	9 indicator for the industry respondent is employed in.		
region dummies	16 indicator variables for the German states.		
occupation dummies	3 blue collar indicator variables: low, medium, high job level. 3 white collar indicator variables: low, medium, high job level. 3 public servant indicator variables: low, medium, high job level.		

Note: The number of observations for all variables is N=3583.

Table 4: PERCEIVED FAIRNESS OF CEO PAY AND ABSENTEEISM. TWO-STEP QMLE ESTIMATIONS.

	(1)	(2)	(3)	(4)	(5)	(6)
<b>Main explanatory variables</b>						
CEO pay unfair	.3384*** (0.074)	.1896*** (0.068)	.1932*** (0.069)	.1822** (0.071)	.1907*** (0.072)	.2202*** (0.072)
health score		-.3609*** (0.052)	-.3599*** (0.052)	-.3582*** (0.053)	-.36*** (0.054)	-.3437*** (0.055)
health satisfaction		-.1254*** (0.024)	-.1266*** (0.024)	-.1252*** (0.024)	-.1281*** (0.025)	-.1352*** (0.026)
gross income (1000s Euro)		-.0833*** (0.015)	-.0249 (0.020)	-.0529** (0.023)	-.0664*** (0.023)	-.0594** (0.025)
<b>Personal characteristics</b>						
age			-.011 (0.020)	-.0162 (0.033)	-.0403 (0.034)	-.0199 (0.034)
agesq			8.5e-05 (0.000)	7.3e-05 (0.000)	3.8e-04 (0.000)	1.7e-04 (0.000)
male			-.0888 (0.067)	-.173** (0.076)	-.1287* (0.078)	-.0849 (0.078)
children			-.2017*** (0.068)	-.0946 (0.069)	-.0957 (0.070)	-.085 (0.071)
foreign			.0903 (0.127)	.0876 (0.127)	.1043 (0.128)	.0436 (0.134)
schooling			-.055*** (0.012)	-.037** (0.016)	-.0319* (0.016)	-.0418** (0.017)
<b>Job related variables</b>						
tenure				.0225** (0.011)	.019 (0.012)	.0191 (0.012)
tenure sq				-4.4e-04 (0.000)	-4.5e-04 (0.000)	-4.1e-04 (0.000)
full time experience				-.0093 (0.017)	-.0103 (0.018)	-.019 (0.018)
full time experience sq				3.6e-04 (0.000)	3.2e-04 (0.000)	4.7e-04 (0.000)
part time experience				-.0067 (0.019)	-.0056 (0.019)	-.0168 (0.020)
part time experience sq				9.3e-05 (0.001)	3.3e-05 (0.001)	3.6e-04 (0.001)
part time <sup>a</sup>				-.1972* (0.118)	-.1885 (0.120)	-.1677 (0.121)
marginally employed				-1.129*** (0.268)	-.9265*** (0.270)	-.7908*** (0.298)
<b>Firm level variables</b>						
20<=employees<200 <sup>b</sup>					.4001*** (0.100)	.3979*** (0.102)
200<=employees<2000					.4816*** (0.102)	.4517*** (0.104)
employees>2000					.4396*** (0.101)	.4451*** (0.103)
<b>Personal attitudes</b>						
afraid to lose job						.0129 (0.069)
satisfied w/ job						-.0222 (0.017)
pessimist						-.0863 (0.071)
lazy						-.0166 (0.022)
leftist						.0336* (0.017)
risk taker						.0159 (0.016)
constant	1.759 (0.063)	4.127 (0.144)	5.088 (0.422)	5.241 (0.665)	5.31 (0.691)	5.291 (0.714)
9 sectoral dummies	No	No	No	No	Yes	Yes
9 occupation dummies	No	No	No	Yes	Yes	Yes
16 region dummies	No	No	No	Yes	Yes	Yes
observations	5200	4223	4131	3970	3747	3583
log-likelihood	-1.3e+04	-1.1e+04	-1.1e+04	-1.0e+04	-9851	-9398

Note: Reference categories are (a) full-time for 'job status', (b) less than 20 employees for 'firm size'. All estimations are two-step quasi-maximum likelihood (QMLE) implying fully robust standard errors. The dependent variable is 'number of days absent'. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .