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Do Self-Determined Wages Really Improve Employees Performance? Evidence from a Randomized Field Experiment

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**When Pay Increases are Not Enough:
The Economic Value of Wage Delegation
in the Field**

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May 2014

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When Pay Increases are Not Enough: The Economic Value of Wage Delegation in the Field

By Sabrina Jeworrek and Vanessa Mertins*

May, 2014

Abstract

By conducting a natural field experiment, we test whether a managerial policy of allowing employees to self-determine their wages is as successful as recently suggested by laboratory evidence. We find that this policy indeed enhances performance. However, our data is clearly at odds with the conjecture of Pareto improvements, since labor costs grow even faster. Admittedly, the performance change is remarkable given that a considerable pay increase has no effect at all. Surprisingly, the data suggests that explicitly denying parts of the workforce this choice boosts performance, too. Additional experimental and survey data provides important insights into employees' underlying motivations.

JEL Classifications: C91, C93, J33, M52, M54

Keywords: Field experiment, Delegation, Reciprocity, Responsibility alleviation, Compensation, Worker empowerment, Workplace democracy

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In the presence of incomplete contracts, paying workers high wages is by now considered a standard approach when employers intend to elicit effort above the minimal level. This is not surprising since considerable evidence from laboratory experiments points to reliable performance improvements in the generosity of the wage offer, therewith underlining the importance of reciprocity in employment relations. Recent field experiments have challenged this perspective by demonstrating that the idea of mutual gift exchange cannot necessarily survive a robustness test outside the laboratory (e.g. Gneezy and List 2006; Hennig-Schmidt, Sadrieh, and Rockenbach 2010; Kube, Maréchal, and Puppe 2012).

These studies, however, usually implement unilateral wage decisions by the employer and neglect the possibility of employees' codetermination. Thus, considering the fact that workplace behavior is particularly sensitive to the way employees are treated (Dur 2009; Ellingsen and Johannesson 2007; Kosfeld and Neckermann 2011; Bradler, Dur, Neckermann, and Non 2013) and endowed with decision rights, the picture may change dramatically when we also incorporate how the wage came about. Then, the same payment may have different effects, depending on whether employees had a say in the wage determination process.

The present paper is the first to analyze the managerial policy of delegating the wage choice to employees in a naturally occurring work environment. In a controlled field experiment, we test whether granting employees the right to decide about their remuneration promotes performance. Furthermore, since the cost of delegating authority is the employer's loss of control, a closely related question is whether employers are well advised in introducing a wage choice policy given that employees can fully exploit it. Similarly important, we examine the behavior of employees who are explicitly denied the right.

Both anecdotal evidence from real-world observations and some recent laboratory experiments indeed suggest that delegating the wage decision to employees may be a valuable and profitable strategy. On the one hand, some pioneering companies, such as Brazilian manufacturer Semco, allow a large number of its employees to set their own wages (Semler 1993). Individuals can choose between different options, varying not only by the wage level but also by the payment structure. Similarly, a German hotel called Schindlerhof delegates the wage choice to its 80 employees. At the time of recruitment and promotion, employees are asked what they think their work should cost the employer. If this sum is in the particular job's predetermined interval, no further negotiation takes place. Both companies report their policy to be highly successful: employees are highly satisfied with work relations,¹ do not exploit the granted autonomy,² and seem to perform well, given high revenues or customer satisfaction. However, the evidence is more anecdotal than clean, given the vagaries of completely uncontrolled field data (Harrison 2004). Furthermore, since the managerial policy of self-determined wages is usually embedded in a more complex strategy of overall worker empowerment, giving employees the freedom to make decisions about their jobs in autonomous ways, observational data does not allow disentangling single triggering factors.

¹ Both companies report extremely low turnover intentions and regularly high numbers of applicants. Furthermore, they have been awarded numerous prizes concerning how employees are treated. The Schindlerhof has been chosen four times since 2007 as "best place to work" in the hospitality industry in Europe. The *Wall Street Journal's* Latin American magazine named the founder of Semco "Latin American businessman of the Year" in 1990.

² In both companies, employees are provided with some relevant information to figure out their individual adequate salary. This information includes market wages, co-workers earnings, and the company's financial situation. As a wage disciplining device, everyone at Semco knows that if their own wage demand is too high, a department may decide not to buy their work anymore (Semler 1993). The hotel management also relies on high transparency and on some kind of social pressure as well: The rather small size of the company makes it easy for anyone to grasp the undesirable consequences of exaggerated wage claims in relation to insufficient performance.

On the other hand, economic experiments account for these facts by building upon tight controls. Our research is most closely related to the work by Charness et al. (2012). The authors investigated the effect of delegating the wage choice to employees on workers' performance in a laboratory gift exchange game. Their results remarkably show that workers exert higher effort levels when they are free to choose their wage. The delegation of wage choices also led to Pareto improvements, pointing to a particularly interesting feature of such an empowerment strategy. Charness et al. (2013) report that these findings are robust to increases in the size of the workforce and robust against stated versus real effort. Interestingly, they find behavior to be more sensitive to relative decision rights than to relative wages. In the broader context of the positive effects of democratic institutions, Dal Bó, Foster, and Putterman (2010) show that the effect of a fine on cooperation in a prisoners' dilemma game is 40 percent larger if it is democratically chosen rather than randomly determined. By conducting a real-effort experiment on workplace democracy, Mellizo, Carpenter, and Matthews (2011) provide further support for the notion that it sometimes pays for employers to refrain from their right to allocate payment unilaterally. Their results suggest that groups of workers who voted for their preferred compensation scheme provided significantly more effort than groups that had no say. To the contrary, Franke, Gurtoviy, and Mertins (2014) report no such positive effect of participation in the wage determination process on effort by systematically varying the degree of workers' involvement in a laboratory gift-exchange game ranging from no participation at all to a limited degree of participatory influence.

Our research also contributes to a growing body of literature on nonmonetary gift giving. A principal cannot only signal benevolence toward agents by setting a fair wage but also by treating agents fairly and thereby making a nonmonetary gift. There are many different ways to treat agents fairly, such as

offering recognition by symbolic awards (Kosfeld and Neckermann 2011; Bradler, Dur, Neckermann, and Non 2013), accommodating status concerns (Ball and Eckel 1998; Ball, Eckel, Grossman, and Zame 2001; Auriol and Renault 2008; Besley and Ghatak 2008), or by paying attention or respect to workers (Ellingsen and Johannesson 2007; Dur 2009). Fair treatment increases workers' motivation significantly, sometimes even in a stronger way than monetary gifts (Kube, Maréchal, and Puppe 2012). This leads to the related question of whether granting the right to employees to determine their own wage is even a better gift than money. There is, however, an important difference between such a right and the aforementioned nonmonetary gifts: employers are usually not at risk of getting exploited, and often, sending a signal of benevolence is costless to the employer. This is somewhat different in the case of granting autonomy or participation in decision making at the workplace. However, empirical studies (e.g. Falk and Kosfeld 2006; Fehr, Herz, and Wilkening 2013) also suggest that treating employees fairly in terms of expanding their discretionary power leads to better organizational outcomes as effort provision increases.

In September 2013, we exploited the fact that a research institute had to file its collection of business reports to make them accessible for research purposes. One hundred and fifty employees were hired for a half-day data entry job and were promised a flat wage of 30 EUR. To implement treatment variations, a random sample of workers received the right to choose their own wage after one hour of work. Employees in two additional treatments were not allowed to choose their wage, but received the same set of wages randomly allocated to individuals. These treatments differed in one dimension only: workers either did or did not know that their co-workers in previous shifts had the right to choose their wage. We implemented this additional group of employees who were aware that they were being treated worse than some of their peers to

study an important real-world scenario where workers with different contracts (e.g. fixed-term vs. permanent contracts or – as at Semco – only part of a company’s workforce is allowed to set wages) work side by side. A baseline treatment in which workers simply received the announced wage serves as a further control. The resulting output measures and the information from two post-experimental questionnaires contribute to a rich data set to study employees’ behavior and their underlying motivations in a real-world setting of increased worker empowerment through autonomy over their own remuneration.

By building upon a research setting that combines the advantages of both the lab and the field, leading us to a natural field experiment (Harrison and List 2004), we aim at providing clean evidence on self-determined wage effects in a real labor market setting. A high external validity is given by employees not being aware that they are taking part in an experiment while undertaking a task, which is quite common for a temporary job. At the same time, we were able to tightly control for any potentially intervening or explaining factors by keeping variables, such as the work task, its duration, and the whole working environment, constant. Additionally, we randomized relevant factors across treatments, for example, offices and shifts, and measured individual characteristics such as abilities or preferences.

The results show that the wage choice policy is indeed highly successful in motivating employees, since output increased *ceteris paribus* by about 9 percent. This is even more surprising since the pure monetary bonus had no effect at all, therewith underlining the importance of nonmonetary gifts. Our result, however, challenges the idea that increasing autonomy to such a large extent can be considered a Pareto improvement for employers and employees: although employees show a sense of proportion in determining their individual wage, the increase in labor costs by about 20 percent clearly outperforms the

output increase. Relating to the consciously discriminated employees, an astonishing finding can be reported: their output also increased significantly, raising the question whether increased autonomy is sometimes seen as a burden rather than as a gift. To the best of our knowledge, this study is the first to provide field experimental evidence on the effects of workplace democracy in the realm of remuneration.

The remainder of the paper is organized as follows. Section I explains details of the experimental design and discusses the behavioral predictions. Our results are presented in Section II along with a discussion of potential underlying motivations. We conclude in Section III.

I Study Design

To investigate the performance effect of granting the right to self-determine one's wage, we exploited the happenstance that a German research institute has collected annual business reports from a broad range of German as well as international companies over decades that have not been archived systematically. This collection, located in the basement of a campus building, is called the *Business Archive*. In order to be adequately useable for research purposes, those reports had to be filed first. This need offered the opportunity to conduct a natural field experiment (Harrison and List 2004) in which we were able to observe hired employees in a controlled working environment, without the employees knowing that they were taking part in an experiment.

The job advertisement was spread via regional online platforms and via posters on the campuses of the two local universities. The offer announced a job for three and a half hours and promised a fixed payment of 30 EUR. It was made clear that it was a one-time job because of the unique assignment to build up a database on business reports. Prospective workers applied using an

online interface by providing some personal data (gender, birth date, nationality, highest educational degree, and field of study/actual employment), individual time constraints, contact information, and written consent to data usage. To avoid a selection bias due to different working time preferences, applicants were told that they should pick only those days on which they were available for the whole day and to provide as many days as possible. These restrictions helped to ensure the random allocation of workers into treatments.

Of 227 applicants, 70 males and 70 females were picked by chance and allocated randomly, given their time constraints into working time slots and treatments. Due to some cancellations on short notice and invitations to workers from the waiting list, the gender composition slightly changed and resulted in 56 percent females. In the acceptance email, we invited applicants to participate in the filing project and reminded them once again of the job's one-time character and of the payment. The filing project was conducted at the end of September 2013 over seven consecutive working days with three shifts per day. With the exception of the head of the institute who provided the necessary budget to accomplish this task and who had given his consent for conducting this field study, no one on the staff of the research institute was aware of the research background. To rule out peer effects, everybody was allocated a different meeting time and place. Furthermore, employees worked alone in single offices (for pictures, see Appendix A.2) without any co-workers or supervisors around. We also made sure that offices were equipped completely identically with a desk, two office chairs, shelves, and a phone to call in case of any technical problem. Approximately 600 reports were stored in each office. We provided such a large number of reports so that it was clear that filing all of them would be impossible; hence, workers would not feel obliged to try to master it. Work stations had highly comparable working memory capacity and installed software (standard office software and an

Internet browser). Furthermore, we used identical input devices. Since we cannot completely rule out the possibility that one of the factors would systematically effect workers' performance, for example, if a button on a key board did not work very well, we perfectly randomized equipped offices over the treatments and controlled for their appearance in the regressions. One week before the archiving project started, we conducted a pretest with ten additionally hired workers who were paid the announced flat wage of 30 EUR. The pretest yielded an average performance of 145 business reports during three hours of networking time. Later, all workers in the archiving project were casually informed about the number of reports that had been filed by previous shifts. Table 1 provides an overview on the sequence of events. Note that we took great care to hold everything but the treatment variation completely identical.

TABLE 1 - SEQUENCE OF EVENTS AND TREATMENT VARIATION

Process		Treatment			
		BASE [N = 20]	WAGE CHOICE [N = 40]	CONTROL [N = 40]	NO WAGE CHOICE [N = 40]
1	Welcome	Employee arrives			
2	Instruction	Explanation of working task [approx. 10 min]			
3	Performance indicator	1 hour working time			
4	Intro treatment	Apology for interruption			
5	Wage determination and payment	Payment of preannounced wage [30 EUR]	Wage choice	No wage choice	No wage choice
				+ No information about others' wage choice	+ Information about others' wage choice
			+ Payment of wages between 30 and 42 EUR		
6	Performance measurement	2 hours working time			
7	Feedback	Short feedback sheet [approx. 5 min]			

Arriving at the arranged place and time, employees were welcomed and shortly told about the background of the project from a detailed script (see Appendix A.1). The task consisted of catching a report from a pile, recording relevant data (such as company name, year and the report's quality) by entering them into a web interface (see Appendix A.3) using the URL of the Business Archive, and afterwards, depositing the report on another pile. After having filed ten reports, workers placed a colored piece of paper in between them to keep an overview on the amount of work done.

An instructor briefed one worker at a time on the task by assisting in filing three report examples. While the archiving project was running, the project coordinator could only observe the starting and expected ending time of any worker, but not the individual performance, since data was saved on a global server. The time keeping was used to enter individual offices exactly at the same points in time. Before leaving the office at the end of the briefing, instructors told workers that they would probably not manage to tell anyone when their individual shift was over, and therefore a timer had been installed on the data entry mask to inform each employee of the remaining working time. After having completed three hours of work, employees were allowed to leave without giving notice of departure. Payment and related paper work was announced to take place during the shift. Breaks could be taken whenever necessary. Given these particular circumstances, we ensured that workers would feel fully self-responsible for the managed work load.

After a working time of 60 minutes, which served as an individual performance indicator, the treatment variation took place (see Appendix A.4 for exact wording). Overall, we conducted four treatments. The sequence of running the treatments was given by design. First, in the treatment BASE, we simply paid workers the announced 30 EUR. Afterwards, we conducted the treatment WAGE CHOICE. In this treatment, workers were told that the project

coordinator grants workers the right to determine their own wages because they would know best what they will have achieved during their shift. Consequently, workers were made responsible for choosing an “adequate” payment (see appendix for exact wording). Even though we set an upper limit of 42 EUR, the leeway in decision making was quite large, as workers had the possibility of receiving a wage premium of up to 40 percent compared to the announced wage. To identify the clean performance effects of granting the right to self-determine wages, we conducted the additional treatment CONTROL, in which workers did not know about the special treatment of their co-workers, but received exactly the same set of wages ranging from 30 EUR to 42 EUR. This means that we replicated the wage distribution resulting from the choices in the treatment WAGE CHOICE by randomly allocating these wages to the workers in the treatment CONTROL. This procedure made exactly the same number of workers (i.e., 40 workers each) necessary. The same holds true for the last treatment NO WAGE CHOICE, which investigates the effect of a discriminating treatment of a group of employees (e.g., permanent workers may be entitled to different rights than temporary workers) within the same organization. Once again, we replicated the wage distribution received from the treatment WAGE CHOICE. The single difference between the CONTROL and NO WAGE CHOICE is that workers were told in the latter that they were not entitled to choose their wages, even though others had already done so, since the right to self-determine wages had been withdrawn. Therewith, it was made clear that the decision to change the organization’s policy would be the same for all upcoming shifts and did not depend on the particular worker. Hence, workers were completely aware of the discriminating treatment.

By comparing CONTROL and WAGE CHOICE, we keep the sum of labor costs constant and analyze the pure effect of delegating the wage choice. Given previous evidence from laboratory experiments (Charness et al. 2012, 2013),

we expect the wage choice policy to increase performance and thus to generalize to a real labor market. Furthermore, if the treatment works as predicted, workers will not choose excessive wage premiums, therewith allowing a Pareto improvement on behalf of the workers and their employer. While standard economic theory predicts that workers will choose the lowest effort, two competing motivations could explain a positive performance effect: *positive reciprocity* and *responsibility alleviation* (Charness et al. 2012). Just like (or even better than) a monetary gift, the nonmonetary gift of being delegated the wage choice may trigger an urge to reciprocate. Alternatively, employees are said to behave more generously when they bear the full responsibility for the final outcome.

In the case of comparing CONTROL and NO WAGE CHOICE, we expect the opposite to happen: workers will decrease their effort due to the knowledge that others were allowed to determine their own wage while they were not. Although we know that peer comparison plays a major role in the monetary domain, it is less clear what happens when nonmonetary goods, such as the right to self-determine wages, are unequally distributed. However, a negative reaction is most likely since at least two behavioral motivations could drive such a result: *negative reciprocity* and *conformity*. The unfavorable peer information could lead to a decrease in effort if the discriminatory treatment were to be perceived by employees as an unkind signal on behalf of the employer, therewith triggering a negative reciprocal reaction. Although field evidence on negative reciprocity in real labor markets is scarce and to the best of our knowledge, restricted to wage cuts (see e.g. Kube, Maréchal, and Puppe 2013), there is no plausible reason why nonmonetary signals of unkindness should not result in negative reciprocal behavior. In a similar vein, Falk and Kosfeld (2006) have shown that exerting control by restricting employees' choice set can be perceived as a signal of distrust and result in negative

consequences. Taken together, the unkind signal is expected to result in a performance decrease. In his theoretical framework, Sliwka (2007) offers an alternative rationale why workers in the treatment NO WAGE CHOICE should exert lower effort. He suggests that some people act as conformists and adjust their own actions to others' behavior. In the case of withdrawing a right others had, the employer signals the impression that many people are not trustworthy, and granting an additional right does not work out because the resulting performance is not sufficient to warrant it. As a result, conformists adjust their performance to their environment, which seems to perform poorly. If enough conformists are among the employees, we should expect a lower mean performance in the NO WAGE CHOICE than in CONTROL treatments. To sum up, these considerations lead us to the following hypothesis:

$$\text{Performance}_{\text{WAGE CHOICE}} > \text{Performance}_{\text{CONTROL}} > \text{Performance}_{\text{NO WAGE CHOICE}}$$

Subsequent to the treatment variation, employees were paid in cash. The average payment for all 140 workers was 35.40 EUR. Afterwards, workers filed business reports for another two hours. Five minutes before the working time ended, an instructor handed over a very short feedback questionnaire (see A.5 and A.6) about the working conditions and potential improvements.

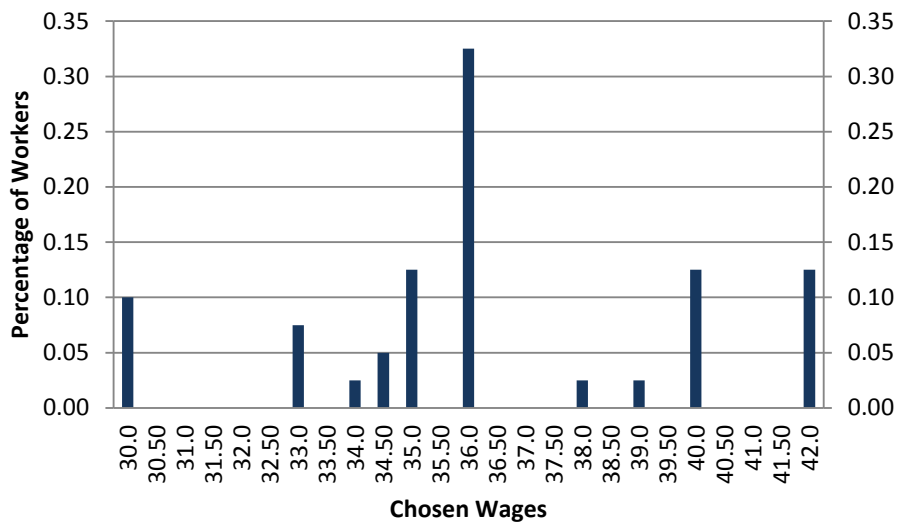
Shortly after the filing project was finished, we contacted the workers to take part in an online survey (see A.7) to gain some scientific insights into their recent work experience. Participants were paid a flat fee of 5 EUR and were informed that they could earn further money in incentivized experiments. On average, participants earned 10.97 EUR for an average processing time of 42 minutes. Taken together, the study design provides four sources of information: application form, observed working behavior, feedback sheet, and follow-up online survey. This rich data set allows us to investigate how employees respond to wage delegation and to figure out the potential underlying channels of their actual behavior.

II Results

A Employees' Wage Choices

Figure 1 provides an overview of the wages set by the 40 workers in the treatment WAGE CHOICE who were instructed to determine an adequate payment on their own. The average wage was 36.33 EUR. A small but significant portion of employees stuck to the announced wage of 30 EUR. The majority of workers asked for 36 EUR and, hence, did not choose excessive wages. Presumably, the medium wage seems to work as some kind of focal point. The highest wage was chosen by 12.5 percent, and even though exploiting the scope of possible wages, their choice was not inappropriate given their high level of initial performance ($mean = 50.6$) compared to the whole sample ($mean = 44.8$).

FIGURE 1: WAGES CHOSEN IN TREATMENT WAGE CHOICE



Comparing these wage choices with those by laboratory participants (Charness et al. 2012), we find considerably diverging patterns. Whereas only few people asked for the maximum possible amount in the field setting, this was the case for almost 90% of all wage choices by laboratory participants. Informing the

instructor in a face-to-face communication about the chosen wage may have led to such moderate claims. To figure out whether these moderate choices were due to the non-anonymous decision situation and to reveal their unbiased payment preferences, we designed a simple incentivized³ experiment implemented in the follow-up survey: Participants made 13 decisions in total between a fixed payment (starting with 30 EUR) and the possibility to self-determine a payment (30 to 42 EUR). Whereas choosing an amount up to 42 EUR was the same in all of the 13 decision situations, the fixed amount increased by 1 EUR each time until the upper limit of 42 EUR was reached. Since we aimed at withdrawing the pressure of choosing a concrete payment, we did not ask directly for a desired amount of money. Rather, we assume the threshold at which individuals switch to the fixed payment expresses exactly the amount they are satisfied with since they would not switch otherwise.

Obviously, from a standard payoff-maximizing point of view, participants should always choose the possibility to self-determine payoffs and take the 42 EUR afterwards (with the exception of the last option where people are indifferent). Nevertheless, only 10 percent of employees pursued this strategy. To the contrary, three out of four started with opting for that choice and then, at a certain threshold, switched to the fixed payment.⁴

Interestingly, we found that employees' choices were still quite moderate, with an average of 37.38 EUR, although the anonymous decision situation would have allowed them easily to ask for a higher amount. Compared to the average actual wage choice (36.33 EUR), we do not find a significant difference here ($p = 0.254$, Wilcoxon matched-pairs signed rank test), making it likely that the moderate wage choice in the field was not due to the particular setting but

³ We randomly picked 3 participants (and among those one decision out of 13) who received the corresponding payment between 30 EUR and 42 EUR.

⁴ The remaining 13.33% did not behave consistently and switched several times between the self-chosen and the fixed payment.

rather reflects employees' preferences. The moderate wage choice is also in line with the anecdotal evidence from managements' observations at Semco and Schindlerhof. However, the finding challenges the excessive wage choices observed in the lab (Charness et al. 2012).

Next, we examine the driving forces behind employees' wage choices. Our data allows studying a number of behavioral motivations. In particular, workers may have adjusted their wage choice (a) to their initial performance (*efficiency hypothesis*), (b) to their first-order beliefs about their peers' choices (*conformity hypothesis*), and (c) to their second-order beliefs about the employer's expectation (*guilt aversion hypothesis*). Furthermore, it seems plausible to test whether various socio-demographics influence workers' decisions. Table 2 summarizes OLS regression results.

Controlling for workers' initial performance in models (1) and (2), we can confirm the first conjecture that they adjusted their wage claim to their achievements during the first hour. Even in the case of controlling for the socio-demographic information for gender, age, and nationality, which was received from the application forms and, hence, available for all workers, the positive relationship between initial performance and chosen wages still persists and is highly significant. Nonetheless, the estimated coefficients for the initial performance appear to be rather small because workers only asked for 10 more cents for each additionally filed report. Since they chose their wage for the whole working period of three hours, they only asked for approximately 3 cents, given a stable performance. Taking into account the average number of 149.44 filed reports during the whole shift, we can explain roughly 4.75 EUR of the chosen wage. Hence, workers seem to adjust solely the wage premium in addition to the announced 30 EUR to their performance rather than their overall wage claim. This also becomes obvious when investigating the joint distribution of initial performance and chosen wages.

Since all workers had been told that the average number of filed reports in previous shifts was approximately 145, one might expect that workers would only ask for a wage premium if they were better than average (i.e., achieved the filing of 49 reports or more during the first hour). However, 24 out of our 40 workers in treatment WAGE CHOICE performed on the average level or even worse, but almost all of them (21 workers) asked for a wage premium. Apparently, employees on average indeed followed the employer’s request to choose an “adequate relationship between wage choice and work performance,” and low-performing employees did not exempt themselves from imposing a wage premium.

TABLE 2 - ANALYSIS OF WAGE CHOICES

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Initial performance	0.0928*** (0.033)	0.0954*** (0.032)					0.0954*** (0.026)	0.101*** (0.025)
First-order belief			0.511** (0.230)	0.486* (0.251)			0.377* (0.213)	0.404 (0.256)
Second-order belief					0.353* (0.179)	0.232 (0.176)	0.232* (0.135)	0.110 (0.131)
Female		-1.567* (0.921)		-2.021** (0.975)		-2.170** (0.911)		-1.556 (0.921)
Age		0.0155 (0.103)		-0.0722 (0.114)		-0.0471 (0.142)		-0.0125 (0.097)
Foreign		3.001 (2.714)		4.637*** (0.638)		3.869*** (0.721)		5.001*** (0.620)
Constant	32.09*** (1.542)	32.09*** (3.604)	36.73*** (0.515)	39.23*** (3.002)	36.73*** (0.533)	38.70*** (3.690)	32.36*** (1.258)	32.79*** (3.220)
Observations	40	40	30	30	30	30	30	30
Adjusted R²	0.069	0.111	0.152	0.335	0.091	0.219	0.295	0.478

Notes: The dependent variable is the chosen wage. The table reports OLS coefficient estimates (standard errors in parentheses). The decreasing number of observations is due to some non-responses to the survey invitation.

Significance levels are denoted as follows:

*** Significance at the 1 percent level.

** Significance at the 5 percent level.

* Significance at the 10 percent level.

Specifications (3) and (4) include workers’ first-order beliefs about peers’ wage choices and show that claims rose by approximately 50 cents for each

additional Euro that employees expected their fellow workers to ask for. Thus, conformity seems to play a role in setting the wage. Interestingly, workers expected modest wage choices (*mean* first-order belief 37.42 EUR), quite close to the actually chosen average of 36.33 EUR. Admittedly, we can only speculate whether this result points to a possible explanation why wage choices in the lab clearly exceed those in the field.

Last, employees might experience a utility loss if they believe they have let their employer down. If guilt aversion is a valid explanation, we should observe a positive correlation between elicited second-order beliefs and wage choices. The empirical evidence, however, is rather weak, illustrated by specifications (5) and (6). We indeed observe a positive relationship at the 10 percent significance level, but the correlation disappears when controlling for socio-demographics. Thus, guilt aversion can obviously not explain employees' wage choices to a great extent. Specifications (7) and (8) test all three hypotheses jointly. Whereas specification (7) suggests that initial performance, first-order beliefs, and second-order beliefs altogether play a role in individual wage determination processes, adding the socio-demographic controls in specification (8) leads to the loss of significance with regard to the first- and second-order beliefs. Only the influence of the initial performance is strikingly robust. Note, however, that the loss of significance could be driven by the rather low number of observations. Hence, sparse models might be more appropriate here.

Result 1: Employees refrain from choosing maximum wages, therewith not betraying their employer's trust. Their modest behavior seems not to be driven by the particular face-to-face decision situation, but by their willingness to adjust their claims, at least to some extent, to their initial performance and to expectations about co-workers' decisions.

Individual socio-demographics also add to the explanation of employees' wage choices. Foreign employees ask for a significantly higher wage, possibly because they have fewer opportunities available to earn money. A final interesting observation occurs with regard to gender differences. Even though the average chosen wages (men: *mean* = 37.16; women: *mean* = 35.57) are not different using a Mann-Whitney test ($p = 0.101$, one-sided), regression analyses suggest that female workers ask for significantly less money. This is particularly interesting since no gender difference in initial performance exists (Wilcoxon rank sum test, $p = 0.357$, two-sided). In a setting of self-determined wages, we can completely rule out the possibility that women earn less than men because of gender discrimination, lower productivity, or lower voluntary tendency to engage in competitive environments (Gneezy, Niederle, and Rustichini 2003; Niederle and Vesterlund 2007; Niederle 2007). Rather, our data suggests that women simply do not ask for higher remuneration. Although it is well known (Bowles, Babcock, and Lai 2007; Bowles and Babcock 2013) that women could shrink the gender pay gap by negotiating more effectively for higher wages, previous research has suggested that female employees face considerable social penalties when they attempt to do so. In the wage choice setting under study, however, all those factors that are said to prevent women from negotiating were eliminated, such as the burden of taking the initiative on their own, the social risk of asking, the perception of driving a hard bargain, or negotiating with men (Bowles, Babcock, and Lai 2007; Bowles and Babcock 2013). Since female employees' modest behavior still persists, it seems likely that it is not the fear of social consequences, but satisfaction with lower payments that could be a driving force, therewith offering an alternative perspective on the gender pay gap.

Result 2: Females ask for significantly lower wages, even in such a low-barrier setting, pointing to their voluntary modest behavior as an explanation of the gender pay gap.

B Descriptive Results

While the average initial performance did not differ between treatments, there was a significant performance difference after the treatment variation took place. As can be seen in Table 3, employees in CONTROL handled only 97.65 reports on average in the remaining two hours; employees' output in both WAGE CHOICE and NO WAGE CHOICE is higher by more than 11 reports, although the average payment of 36.33 EUR was exactly identical in all three treatments. As can be seen in the last column of Table 3 with regard to socio-demographics and personality traits,⁵ randomization across treatments was successful with the exception of one educational background cluster.⁶ We therefore control for the educational background in the regression analyses.

TABLE 3 - DESCRIPTIVES BY TREATMENT

	BASE [N = 20]	WAGE CHOICE [N = 40]	CONTROL [N = 40]	NO WAGE CHOICE [N = 40]	<i>p-value</i> (Kruskal- Wallis test)
Paid wage	30.00	36.33	36.33	36.33	
Output during 1 st hour	41.35	43.55	45.70	46.88	0.263
Output after treatment variation	100.75	109.25	97.65	108.975	0.066
<i>Socio-demographics:</i>					
Female	0.600	0.550	0.525	0.575	0.946
Age	26.300	25.975	25.45	24.625	0.187
Foreign	0.100	0.150	0.103	0.125	0.915
<i>Educational background:</i>					
Language & cultural studies	0.350	0.231	0.395	0.359	0.454
Law, economics & social sciences	0.400	0.205	0.342	0.359	0.348
Mathematics & natural sciences	0.200	0.359	0.105	0.179	0.050
Engineering	0.050	0.128	0.053	0.051	0.497
Arts	0.000	0.077	0.105	0.051	0.466
<i>Big Five personality factors:</i>					
Openness	4.625	4.923	4.863	4.936	0.651
Conscientiousness	4.589	4.742	4.504	4.711	0.130
Extraversion	3.741	3.815	3.933	3.886	0.533
Agreeableness	4.938	5.161	4.958	5.018	0.431
Neuroticism	3.929	3.637	3.775	3.861	0.557

⁵ Big Five were measured using a 40-item version (Saucier 1994; Weller and Matiaske 2009) of the well-established NEO-FFI by Costa and McCrae (1989). The measure meets all conventional reliability standards with Cronbach's alpha ranging from 0.77 to 0.86 (see B.1).

⁶ The educational background has been clustered according to the classification of the Federal Statistical Office of Germany.

C Empirical Strategy

In addition to non-parametric tests, we use the following regression model to disentangle treatment effects on performance:

$$\log(y_{it}) = \alpha + \beta TC_{it} + \gamma_1 \log(y_{0,i}) + \gamma_2 T_{it} + \gamma_3 T_{it}^2 + \gamma_4 w_i + \delta X_i + \varepsilon_{it} ,$$

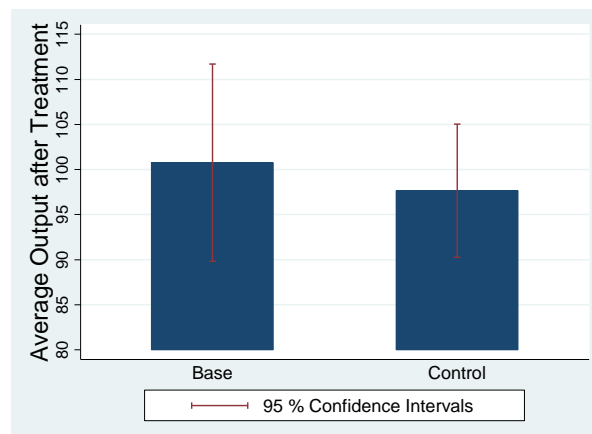
where the dependent variable is the log of the number of filed business reports of individual i in the 5-minute time interval t . Small intervals allow us to properly control for (non-linear) time trends resulting from learning or exhaustion by including the current time interval linearly as well as squared, represented by the variables T_{it} and T_{it}^2 . TC_{it} illustrates a vector of dummy variables, one dummy for each of the different treatment conditions. By using the log of the number of filed reports, the estimated coefficients β can be interpreted as the percentage change of employees' performance induced by the corresponding treatment when multiplied by 100. To control for workers' ability, we take the log of the initial performance (number of filed reports during minutes 0 to 60) divided by 12 so that we have the average performance for a 5-minute time interval during the first hour. In this case, the coefficient depicts the estimated elasticity of the subsequent performance with respect to workers' initial performance. w_i is workers' wage, and X_i represents a set of further control variables consisting of the socio-demographic factors of gender, age and nationality, and educational background and organizational variables (time of day when the shift started and allocated office to work in). We estimate the model by using ordinary least squares (OLS) and by clustering the standard errors on the individual level to take into account individual dependency of the error term ε_{it} in the course of the filing project. For the estimations, we use the minutes 65 to 180, since the first hour of the working period is taken into account by controlling for workers' ability, and we exclude the 5-minute time interval after the first

working period in which the treatment variation took place to exclude the possibility that the length of the treatment communication would erroneously point to performance differences.

D Wage-Effort Sensitivity

In this subsection, we test the validity of the wage-effort hypothesis in various ways. We first investigate the role of a pure monetary gift on employees' performance by comparing treatments BASE and CONTROL. This gives us an impression of the comparability of our results to previous monetary gift-exchange studies in the field. More importantly, a monetary gift represents a substantial part of the two main treatments WAGE CHOICE and NO WAGE CHOICE, and hence, analyzing the role of a monetary gift helps to disentangle a pure nonmonetary treatment effect later on. Remember that after one hour of working time, all employees were paid. Treatments BASE and CONTROL differ only in the payment level: while all individuals in BASE received the prearranged 30 EUR, employees in CONTROL were randomly paid a wage premium of 0 to 12 EUR out of the set of wages chosen in treatment WAGE CHOICE, resulting in an average payment of 36.33EUR.

FIGURE 2 - AVERAGE PERFORMANCE AFTER TREATMENT



As becomes already obvious from Figure 2, paying unexpected wage premiums does not increase the average workload done. Indeed, performance does not differ significantly (Wilcoxon rank-sum test, $p = 0.447$, two-sided) between treatments even though wages rose by more than 20 percent in the treatment CONTROL. This result is highly robust using regression analysis with various specifications (see Appendix B.3). The finding is obviously at odds with the fair wage-effort model and contradicts laboratory experimental evidence that suggests a robust and positive influence of monetary gifts on effort provision (Fehr, Kirchsteiger, and Riedl 1993; Fehr, Kirchler, Weichbold, and Gächter 1998; Fehr and Falk 1999; Charness 2000), but is completely in line with recent field experiments (Gneezy and List 2006; Hennig-Schmidt, Sadrieh, and Rockenbach 2010; Kube, Maréchal, and Puppe 2012, 2013).

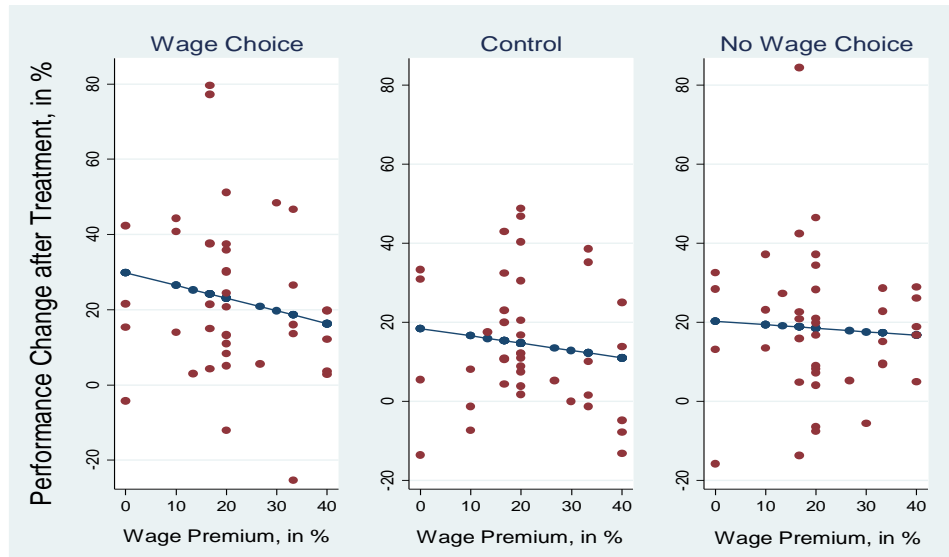
In a second step, we check whether there is a positive correlation between wage and performance within treatments. Since this is not the case neither in CONTROL ($\rho = -0.062$, $p = 0.706$), in WAGE CHOICE ($\rho = 0.190$, $p = 0.240$) nor in NO WAGE CHOICE ($\rho = 0.008$, $p = 0.963$) using Spearman's rank correlation coefficients, our data suggests that monetary gift-giving does not play a role here, which is in contrast to evidence from the lab, including the study by Charness et al. 2012.

In a third step, we look at the correlation between the received wage premium in addition to the announced 30 EUR and the average per-hour performance change after the treatment variation took place.⁷ At this point, at the latest, one should expect a positive correlation if the standard monetary gift-exchange result holds. However, as can be seen in Figure 3, the correlation is even slightly negative for all three treatments, but statistically insignificant (WAGE

⁷ The average per-hour performance change is calculated as (*performance in minutes 60-180*)/2) divided by *initial performance*.

CHOICE: Spearman's $\rho = -0.226$, $p = 0.162$; CONTROL: $\rho = -0.113$, $p = 0.487$; NO WAGE CHOICE: $\rho = -0.111$, $p = 0.494$). Hence, we do not find any evidence for performance enhancing wage effects in this field setting.

FIGURE 3 - WAGE PREMIUM AND PERFORMANCE CHANGE



What are the potential reasons for the non-existence of a monetary gift exchange? Recent studies identified two crucial conditions for the existence of a positive wage-effort relation in the field: first, employees get surplus information, and second, they feel rather underpaid at the base level. Only when explicit cost and surplus information are provided, allowing employees to calculate their employer's surplus from the work contract, do workers have a reference point for being reciprocal (Hennig-Schmidt, Sadrieh, and Rockenbach 2010). Since our employees were informed that an average co-worker managed 145 reports and was paid 30 EUR, it is likely to assume that they could easily conclude from this information that one filed report entitled them to receive slightly more than 20 Eurocent. Additionally, given that individuals could check their own previous performance at a glance, it is hard to imagine that they were not able to adapt their effort to paid wages if they

would have been willing to do so. The second prerequisite is based on the fairness perception of the payment. When people feel they are being overpaid, they might reduce their effort because they take the overpayment as a signal for an altruistic gift that need not be reciprocated (Charness, Frechette, and Kagel 2004; Gneezy and List 2006). Accordingly, Cohn, Fehr, and Goette (2013) observed in a field experiment that only those workers who felt underpaid at the base wage reciprocated the wage increase, while adequately or overpaid workers showed no wage-effort sensitivity.

This explanation is likely to apply here given three pieces of evidence. First, the base wage (about 8.60 EUR/ hour) was quite generous compared to typical alternative employment opportunities for occasional jobs. Second, in the online survey (see Appendix A.7), workers rated the fairness of the paid wage as very high, and fairness perceptions did not differ significantly (Wilcoxon rank-sum test, $p = 0.831$, two-sided) between treatment BASE ($mean = 6.143$) and CONTROL ($mean = 6.484$). Third, employees obviously did not feel underpaid at the base wage level since roughly 94% in the treatment BASE stated exactly this wage or even less as the fair wage. Taken together, these facts indicate a high level of payment satisfaction, which might in turn have contributed to the non-response to increased wages.

Result 3: A pure monetary gift has no impact at all on employees' performance.

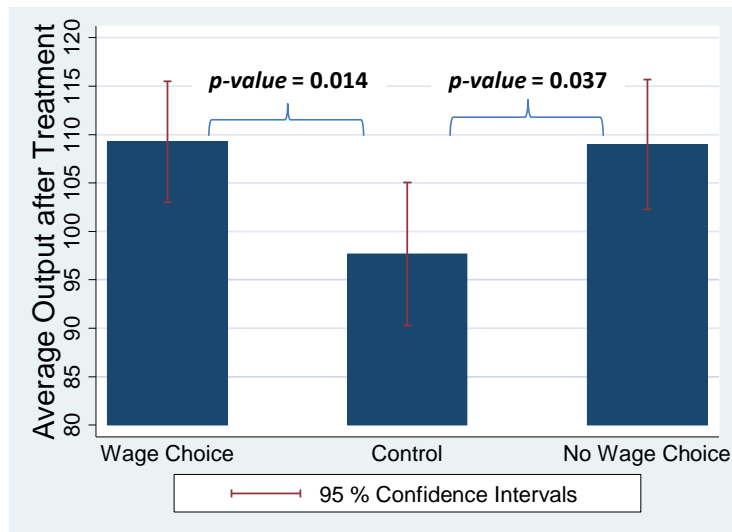
A likely reason is employees' positive fairness perception toward the base wage.

Whether granting additional autonomy enhances performance in a work setting in which even a monetary gift has no significant impact is the question to be answered in the following section.

E Treatment Effects: Overview

Comparing the average number of filed business reports between the treatments WAGE CHOICE, NO WAGE CHOICE, and CONTROL (where the set of paid wages and thus the average payment was completely identical), it becomes obvious that employees' performance is actually affected by the right to determine their own wage and the knowledge about others' having this right without having it by themselves. The following Figure 4 provides the main results in short (see also Appendix B.2 for quantiles of performance per treatment).

FIGURE 4 - PERFORMANCE EFFECTS OF MAIN TREATMENTS



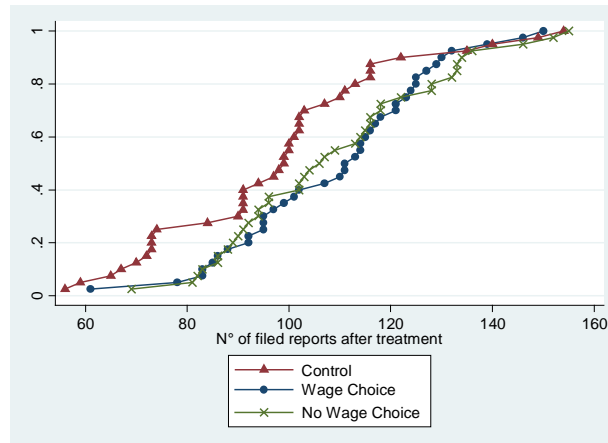
Notes: Wilcoxon rank sum test, two-sided.

Average output after treatment variation is approximately 12 percent higher for those who had the right to self-determine their wages ($mean = 108.33$) compared to the control group ($mean = 98.83$). This is in line with the hypothesis that employees react positively to such a signal of benevolence.

Surprisingly, an explicit denial of the right of employees to set their own wage does not result in lower, but in significantly higher performance ($mean =$

107.02) compared to the control group. The cumulative distribution function in Figure 5 illustrates that both results are not driven by single outliers.

FIGURE 5 - THE CUMULATIVE DISTRIBUTION FUNCTION



By using regression analysis (Table 4), we can show that the observed performance effects are highly robust. Controlling additionally for (2) initial performance and time trend, (3) the paid wage and socio-demographics, and (4) educational background shows that the estimated performance effects of the treatment WAGE CHOICE decrease slightly but stay highly significant at the 1 percent level. These findings suggest that the delegation of the wage choice to workers increases performance by approximately 9 percent. Since the average wage increase is about 20 percent, as shown before, our results are at odds with previous laboratory findings (Charness et al. 2012), suggesting a Pareto improvement through wage delegation.

Result 4: In line with theoretical predictions and previous laboratory evidence, delegating the wage choice to employees significantly increases performance. However, the performance increase of about 9 percent does not compensate for the 20 percent wage increase. Hence, we find no evidence for a Pareto improvement.

The performance effect by the treatment NO WAGE CHOICE is not as intense as the effect of the former one, with a roughly 6 percent increase in the number of filed reports compared to the treatment CONTROL. The effect, however, is still significant at a 5 percent level. Even taking the organizational background of the research design into account by controlling for (5) shifts (morning, afternoon, and evening) and offices does not alter the main results.

TABLE 4 - MAIN REGRESSION ANALYSIS

	(1)	(2)	(3)	(4)	(5)
CONTROL	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
WAGE CHOICE	0.135*** (0.049)	0.095*** (0.030)	0.090*** (0.030)	0.092*** (0.032)	0.078*** (0.029)
NO WAGE CHOICE	0.123** (0.049)	0.064** (0.028)	0.059** (0.028)	0.064** (0.029)	0.055* (0.030)
Initial performance		0.676*** (0.046)	0.671*** (0.047)	0.686*** (0.047)	0.692*** (0.046)
Wage			-0.002 (0.004)	-0.001 (0.004)	-0.001 (0.004)
Female			-0.001 (0.024)	0.007 (0.024)	-0.009 (0.025)
Age			-0.002 (0.003)	-0.001 (0.003)	-0.003 (0.003)
Foreign			-0.088*** (0.032)	-0.084** (0.032)	-0.091** (0.039)
Constant	1.365*** (0.038)	0.044 (0.108)	0.198 (0.179)	0.061 (0.189)	0.098 (0.204)
<i>Further Controls:</i>					
Time trend	-	✓	✓	✓	✓
Educational background	-	-	-	✓	✓
Organizational variables	-	-	-	-	✓
Observations	2725	2725	2725	2637	2637
Adjusted R²	0.027	0.243	0.249	0.254	0.261

Notes: The dependent variable is the log of the number of filed reports. The table reports OLS coefficient estimates (standard errors adjusted for clustering on the individual level are reported in parentheses). Data received from the treatment BASE is excluded here. Significance levels are denoted as follows:

- *** Significance at the 1 percent level.
- ** Significance at the 5 percent level.
- * Significance at the 10 percent level.

Since an increase in output might be related to a higher error rate, we checked a random sample of 10 percent of all entries for correctness. The average rate of correct entries across all treatments was as high as 93.38 percent (see Appendix B.4). Using a chi-square test, we find that the error rate is

independent of treatments ($p = 0.284$), suggesting that output in WAGE CHOICE or NO WAGE CHOICE does not increase at the expense of a quality decrease.

Result 5: Contrary to predictions, informing employees that co-workers were allowed to set their own wage (while they were not) significantly increases performance by approximately 6 percent.

Turning to the remaining control variables, we find a highly significant influence of workers' initial performance on their subsequent performance. A 1 percent higher initial performance translates into about 0.68 percent higher performance during the remaining two working hours. The linear and squared time trends (results not explicitly reported) are always highly significant at the 1 percent level, too. The negative sign of the estimated coefficient for the squared time trend suggests that after a certain time of increasing performance due to learning effects, performance decreases again, possibly due to exhaustion or being bored by fulfilling such a monotonous task. Workers with a foreign background filed roughly 9 percent fewer business reports than their German co-workers, which might be due to language deficiencies. To the contrary, employees' gender, age, and education, as well as organizational background variables, had no effect on performance.

F Explaining Treatment Effects

We will now try to uncover employees' underlying motivations with respect to the expected performance increase in WAGE CHOICE and the unexpected increase in NO WAGE CHOICE. As discussed before, two competing rationales, positive reciprocity and responsibility alleviation, might explain the first observation. To see whether the performance increase in the treatment WAGE CHOICE is indeed due to positive reciprocity in response to the nonmonetary gift of setting the wage, we measured participants' reciprocal inclinations

during the follow-up survey by applying a simple incentivized trust game (Berg, Dickhaut, and McCabe 1995) using the strategy method with all participants playing in both roles (see Appendix A.7).

Splitting the sample into highly reciprocal workers and those who have a lower reciprocal inclination (according to a median split over the amount sent back by the receiver), it turns out that highly reciprocal workers (performance increase of 23.71 percent) behave not significantly different than less reciprocal ones (22.26 percent) in the treatment WAGE CHOICE using a Wilcoxon rank sum test ($p = 0.756$, two-sided).⁸ This finding is in line with the broadly conclusive weak support for positive reciprocity in the field. Additionally, it matches our Result 3, where we have also not been able to report any support for positive reciprocity. Hence, workers obviously do not perceive the wage delegation as a gift or even a “better gift than a high wage” as hypothesized, but also finally rejected, by Charness et al. (2012).

To investigate whether the alleviation of responsibility is the key to understanding workers’ behavior, we implemented three relevant questions in the follow-up survey (see Appendix A.7). Answers were summed up to create an index to indicate employees’ sense for responsibility. Applying a median split reveals that employees in WAGE CHOICE with a stronger perception of increased responsibility show a significantly ($p = 0.018$, Wilcoxon rank sum test, one-sided) higher performance increase of 28.34 percent than the remaining workers (17.63 percent), as predicted by the *responsibility-alleviation* effect (Charness 2000). Both findings support the laboratory evidence by Charness et al. (2012) and lead to the following conclusion:

Result 6: The positive performance effect of the treatment WAGE CHOICE can be explained by responsibility alleviation rather than by positive reciprocity.

⁸ Hereinafter, we always look at performance changes to take into account possible differences in workers’ ability.

We will now tackle the question of why employees increase (rather than decrease) their performance when they are explicitly denied the right to choose their own wage (treatment NO WAGE CHOICE). We split the analysis in two parts, with the first figuring out why workers' performance did not decrease compared to the treatment CONTROL as expected, and the second part discussing possible reasons why workers' performance instead increased.

We suspect that two factors have jointly driven the nonexistence of a performance drop: workers' satisfaction with the wage and the overall working conditions. It is necessary to keep in mind that the treatment NO WAGE CHOICE (similar to WAGE CHOICE) consisted of two jointly sent signals: an unexpected wage premium and information about additional autonomy. As already mentioned in chapter II *D*, an overwhelming majority of workers felt adequately paid even in the treatment BASE in which no one received a wage premium. Comparing workers' stated fair wage with the actually paid wage in the treatment NO WAGE CHOICE, we find that approximately 65 percent of workers felt adequately paid and 30 percent felt overpaid so that they would have been pleased even with a smaller wage. Hence, paid wages seem to exceed a certain threshold, with the result that they probably compensate for the discriminating treatment the workers receive. To evaluate this assertion, we simply asked employees in the follow-up survey to record their thoughts when they became aware that others had had the right to self-determine their wages. A total of 20 out of 36 participants explained that they were angry or upset at first, but finally they received a good wage, which made them overlook this unfair treatment. Apparently, employees in NO WAGE CHOICE indeed perceived the treatment as somewhat unfair and discriminating. Hence, we can rule out the possibility that we do not observe the expected treatment effect due to a misperception of the intended signal. Additionally, we can again draw on answers from the follow-up survey in which participants stated

the extent they felt distrust on the part of their employer. Workers in the treatment NO WAGE CHOICE actually did perceive higher distrust (*mean* = 1.543) compared to workers in the control group (*mean* = 1.128). To be sure, the perceived level of distrust is very low even in the NO WAGE CHOICE treatment, and the statistical evidence for differences between treatments is rather weak (Wilcoxon rank sum test, $p = 0.066$, one-sided). However, given that workers rated the overall working conditions as very good on a 7-point Likert scale (overall job satisfaction: *mean* = 6.450; satisfaction with employment conditions: *mean* = 6.447), it is surprising that we actually do find treatment effects, albeit small ones. In the context of such good working conditions, workers indeed claim to understand employers who do not trust their new employees so much that they delegate the wage choice (*mean* = 5.971 on a 7-point scale with 7 indicating complete agreement). All these facts together might form a possible explanation why workers' performance did not collapse after being informed about the ongoing discrimination. Obviously, conclusions drawn from one-time jobs are transferable to comparable short-run contracts only, implying the possibility that the picture changes drastically when considering a long-term job relation.

Result 7: A fair wage and overall good working conditions seem to make employees overlook a clearly discriminating treatment, at least in the short run.

Still, the question remains why performance even rose. So far, the delegation of the wage choice was assumed to be an employer's signal of benevolence or an extraordinary nonmonetary gift. At first glance, this seems to be highly justified since employers who grant additional autonomy for a job signal a high level of trust, allow employees to get more money the easy way, and are, finally, at the mercy of employees. However, does every employee necessarily value such a distinguished status? Psychological as well as economic research (see, e.g., Iyengar and Lepper 2000; Irons and Hepburn 2007) suggests that an

individual's desire for choice is not unlimited. Under certain circumstances, having the choice might be seen as a burden rather than a gift. Especially when it comes to the distribution of money, an individual's wish to earn more possibly interferes with the shame of being looked upon as greedy, an inner conflict by which having a choice generates disutility.

To scrutinize whether this assertion has any explanatory power, we designed a simple incentivized experiment to measure participants' aversion toward decision making. The game was implemented in the follow-up survey for workers of treatments WAGE CHOICE and NO WAGE CHOICE only. Subjects were endowed with 5.00 EUR to play a dictator game with an anonymous and randomly matched receiver who was one of the remaining workers. Contrary to the standard game, dictators decided not only which part (if any) to send to the receiver, they could alternatively choose not to play the game, therewith leaving the matched player uninformed that a game could have taken place. In that case, a dictator simply received 4.50 EUR. Obviously, from a standard payoff-maximizing point of view, each dictator should choose to play the dictator game and to keep 5.00 EUR. However, those who dislike decision making can simply quit the game by foregoing 0.50 EUR. We categorize those who quit as decision-averse individuals and those remaining individuals as decision-seeking individuals.

Roughly 35 percent of the participants indeed opted out of the game. In those cases, the disutility from decision making seems to exceed the loss of utility from foregoing some money. Interestingly, workers in the treatment NO WAGE CHOICE who were revealed to be decision-averse workers performed significantly better (Wilcoxon rank sum test, $p = 0.049$, one-sided) than decision-seeking individuals: After being treated, the performance of decision-averse workers rose by 27.44 percent compared to their initial performance, whereas the performance increase of the decision-seeking individuals

amounted to only 14.32 percent. Interestingly, the latter number is almost identical to the 14.47 percent performance increase in the control group. Hence, those who would have likely appreciated the right to self-determine their wages (decision-seeking workers) did not perform worse compared to the control, but they did not perform any better, either. Obviously, decision-averse workers drive the positive result in the treatment NO WAGE CHOICE.

Finally, we check whether the working environment in the treatment NO WAGE CHOICE is perceived differently by both groups. If decision-averse individuals are indeed less willing to make decisions, then they should value this treatment since it accounts for their preferences, in that they were simply saved the burden of making a meaningful choice. As pointed out before, overall working conditions have been rated as very good with no significant difference between treatments (Kruskal-Wallis test, $p = 0.480$). However, we indeed observe a significant difference (Wilcoxon rank sum test, $p = 0.037$, one-sided) *within* the treatment NO WAGE CHOICE comparing decision-averse ($mean = 6.800$) and decision-seeking workers ($mean = 6.261$). These findings lead to our last result.

Result 8: Decision-averse workers drive the positive performance effects in the treatment NO WAGE CHOICE. In the case decision-averse employees, the wage choice seems to be considered a burden rather than a gift.

III Concluding Remarks

In this paper, we extend previous research on workplace democracy in two important ways. First, we increase the credibility of the work situation by conducting a natural field experiment. Exploiting the happenstance that several thousand business reports had to be filed by temporary personnel, we were able to implement a research design that combined a natural workplace environment with a highly controlled experimental setting. Besides collecting

a wider array of socio-demographic data compared to a standard student subject pool, the study design is able to provide more reliable insights into field behavior than conventional laboratory experiments, since the hired employees accomplish a valuable task in a natural work environment by not knowing that they are taking part in an experiment. In this way, our study sheds light on workers' wage choices in the context of real work contracts, on performance effects through the granted right to determine the own wage, and on potential detrimental effects caused by workers' knowing that others are allowed to set wages while they are not. Second, we are able to study the driving forces behind individual behavior and decision making by combining data from the field with preferences and motivations from incentivized experiments and questionnaires.

Our findings suggest that employees indeed respond positively to having a say in the wage determination process by increasing their performance significantly. This is completely in line with theoretical predictions and previous laboratory evidence. The rise in performance is particularly remarkable given that a pure monetary gift has no effect at all. However, while the performance increase amounts to a considerable 9 percent, labor costs grow even faster by approximately 20 percent. Although the wage increase can still be considered moderate even though workers were allowed to claim a bonus of up to 40 percent, the resulting outcome clearly affects the employer's benefit-cost analysis adversely. Thus, our field data rejects the presumption of a Pareto improvement under the given conditions. Indeed, in the context of particular production functions (e.g., if the product is highly valuable and production cannot be arbitrarily extended), a bilateral beneficial situation is at least conceivable in other workplaces.

Using additional data from ex-post questionnaires and experiments, we show that the positive performance effect of the wage delegation policy can be

explained by responsibility alleviation instead of positive reciprocity. This implies that empowered employees behave to a great extent in a responsible manner. Nonetheless, the policy did not work out from an employer's point of view. Hence, our study shows that workplace institutions that include a certain amount of risk need to be designed with caution. However, it also illustrates that, in general, individuals are able to handle alleviated responsibility since even those who do not want to bear it perform at least not worse than non-empowered individuals and, hence, the delegation of responsibility might be worth considering even in a broader context when it comes to institutions outside the workplace.

On the other hand, the policy did not have the expected negative implications for those who were denied a wage choice right. To the contrary, informing employees that co-workers were allowed to self-determine their own remuneration (while they were not) significantly increased performance by approximately 6 percent. By investigating the reasons why performance did not decrease as expected, we found that the combination of a generous wage and overall good working conditions made employees overlook a clearly discriminating treatment, at least in the short run. Finally, the performance increase among those who were not allowed to choose their wage is likely due to decision-averse workers who consider the additional right a burden rather than a gift. This result might have changed if the discrimination would be based on an individual's previous behavior. Here, it was made clear that the decision to change the organization's policy was the same for all upcoming shifts and did not depend on the particular worker. However, our results suggest that a discriminating treatment is not a problem per se. A newly hired employee, for example, might accept starting a job with fewer rights than permanent staff, at least for a certain amount of time.

To sum up, our results suggest that the influence of money is often overvalued. In the real labor market, the influence of employee participation on individual behavior seems to be much more pronounced than expected. However, it is unclear how far-reaching the impact of participation actually is, since job satisfaction, turnover intentions, and the quantity and quality of the application pool might additionally be affected in a positive way. Investigating these additional outcome effects remains for future research.

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APPENDIX

Appendix A: Experimental Design and Procedures

A.1 INTRODUCTORY SCRIPT [ORAL INSTRUCTIONS FOR ALL WORKERS]

[Translated from German. The original script is available from the authors upon request.]

The *Unternehmensarchiv* has existed for the past 20 years or so. It is supposed to be a unique and comprehensive collection of annual reports of a wide range of companies, covering quite small ones as well as big ones that are listed on the stock market. However, in order to promote the collection to local, national, and international students and researchers, we need a more comprehensive and easy-to-access data base. Therefore, we applied and received additional funding and hired data entry helpers like you in order to collect the necessary data.

[Your task]

Here you see a shelf with a lot of reports. The reports are not in any particular order. Just take the first one in a row, enter the data into the system, and put it on an empty shelf. After each package of ten reports, please insert a colored spacer to keep the overview. We hope you understand that the *Unternehmensarchiv* wants to turn correct information over to the interested institutions. Therefore, please take care to enter the information about the reports without any mistakes.

[Organization]

We want to have this work finished by the end of the term, and only several days are left. Therefore, we are really in a hurry and have a tight schedule. Our solution was to hire many helpers who will work in parallel shifts in separate offices like this. These offices can be booked during term breaks only. Because many more students than we actually needed applied for this job, we decided to give as many people as possible the opportunity to earn some money rather than to pick only some. Thus, this is a one-time job for you. We will not be able to renew your contract. Furthermore, as concentration rapidly decreases after some hours of working time, everybody works

for three hours only. In this time, we will not be able to stay with you, as a great deal of work still needs to be done. Before you start with your actual work, however, you will be introduced to the task you are going to perform, and you will have the opportunity to familiarize yourself with the word processor by typing three reports for training. After having completed the training phase, we kindly ask you to work for *three hours*. Please understand that we cannot accommodate you with deviating shifts, as we otherwise would not be able to keep our tight schedule. You will be notified by a timer on the screen on the fulfilled working time. Just stop typing after this time autonomously because the next temporary worker might already be waiting in front of the door to displace you.

[Previous Performance]

As you are not the first doing this job for us, we already gained some relevant experience in terms of how many reports an average helper manages within three hours: it is 145 reports. I personally found it quite interesting that performance varies in such a way. You might or might not find this information useful or interesting.

[Payment]

You will receive 30 EUR for the short instruction and training phase plus the three-hour working time. As I will probably not have the time to say goodbye to you at the end, I will just finish instructing all workers within this shift. Then I will come back to you and bring you the money. According to my schedule, this will be in about one hour. If you have any questions or if any technical problems arise, please *immediately* call the project coordinator. You can find the phone number next to the phone.

A.2 PICTURES OF A REPRESENTATIVE WORKPLACE



A.3 SCREENSHOT OF THE ONLINE-SURFACE

Allgemeine Angaben

Arbeitszeit 0:03

Unternehmensnummer	<input type="text"/>
Unternehmensname (Langform)	<input type="text"/>
Unternehmensname (Kurzform)	<input type="text"/>
Jahr	<input type="text"/>
Seitenzahl	<input type="text"/>
Zusatzmaterial	Ja <input type="radio"/> Nein <input type="radio"/>
DIN A4 Format	Ja <input type="radio"/> Nein <input type="radio"/>

Qualität

Gebrauchsspuren außen	Ja <input type="radio"/> Nein <input type="radio"/>
Gebrauchsspuren innen	Ja <input type="radio"/> Nein <input type="radio"/>
Lagerschaden	Ja <input type="radio"/> Nein <input type="radio"/>

A.4 TREATMENT SCRIPTS

[Translated from German. The original script is available from the authors upon request.]

[All]

I don't want to disturb you. As I already told you at the beginning, we are very busy at the moment. Therefore, I will probably not have the time to say goodbye to you at the end of your shift, and I will need to hand over your payment right now.

[Additionally for treatments WAGE CHOICE/CONTROL/NO WAGE CHOICE]

We recalculated the project funding and realized that—arithmetically speaking—we could pay up to 42 EUR (instead of the originally announced 30 EUR). The project coordinator has now decided to...

[Additionally for the treatment WAGE CHOICE only]

...allow our helpers to determine their own wage. It's up to you to tell me how much you'd like to be paid, between 30 and 42 EUR. You probably know best what you will achieve during your shift, so it's your responsibility to find an adequate payment. The project coordinator fully trusts you to choose an adequate relationship between wage choice and work performance. So, just tell me what you personally think your work should cost us, and I will promptly give you the money.

[Additionally for the treatment CONTROL only]

[30 EUR] ...to leave it as it was, however. So you'll receive 30 EUR.

[>30 EUR] ...increase the payment to x EUR, in case you agree.

[Additionally for the treatment NO WAGE CHOICE only]

Maybe you already heard about our payment policy. Last week, our helpers were allowed to self-determine a wage between 30 and 42 EUR. The project coordinator was sure that people would know best what they would achieve during their shift, so

they were given the responsibility to set an adequate payment. The project coordinator fully trusted the helpers to choose an adequate relationship between wage choice and work performance. However, the project coordinator's boss convinced her not to trust in strangers and to withdraw the right to self-determine wages. Do not take this decision personally. The decision does not depend on your present or upcoming performance. This withdrawal concerns not only you, but all upcoming shifts.

Back to your payment:

[30 EUR]: The project coordinator has now decided to leave the payment as it was at 30 EUR.

[>30 EUR]: The project coordinator has now decided to increase the payment to x EUR, in case you agree.

[All] Workers were paid out in cash and signed a receipt.

A.5 FEEDBACK SHEET SCRIPT

[Translated from German. The original script is available from the authors upon request.]

[Five minutes before the end]

I also have a very short feedback sheet for you, since we, as your employer, are interested in what you think about your job and what we could improve. We would be very happy to receive your feedback in the end. You can simply leave the questionnaire on the table when you leave the room.

A.6 FEEDBACK SHEET

[Translated from German. The original sheet is available from the authors upon request.]

Feedback Sheet

Dear Employee,

Thank you very much for your work effort! As we, as your employer, are still willing to learn and to improve our employer-employee relationships, we are highly interested in your opinion. Thus, we kindly ask you to carefully fill in the following feedback sheet. Thank you!

1. How satisfied have you been with your job altogether?

Very satisfied not satisfied at all

2. How satisfied have you been with the conditions of employment?

Very satisfied not satisfied at all

3. How interesting did you find the task?

Very interesting not interesting at all

4. How exhausting did you find the task?

Very exhausting not exhausting at all

5. How do you assess your own work performance?

Very good not good at all

6. Which wage would have been appropriate, given your performance?

7. According to your opinion, can we improve something? If yes, please provide any suggestions: _____

8. Did this job meet your expectations? Yes No
If not, why? _____

A.7 FOLLOW-UP QUESTIONNAIRE AND EXPERIMENTS

[Translated from German. The original questionnaire is available from the authors upon request. The original questionnaire contains additional items not used in the analyses. Annotations in brackets are comments only and were not part of the original questionnaire.]

The Business Archive project is now finished. Today, we conduct a scientific survey and would like to ask you to contribute to it by answering some questions, given your valuable recent working experience. You will receive 5 Euro for a completed questionnaire. Additionally, you can earn some more money by making decisions.

[Beliefs and rationale on wage choices: workers in WAGE CHOICE only]

- What do you think: Which wage did the other employees choose? _____
- What do you think: Which wage choice did your employer expect? _____
- Please indicate how you came up with a decision about your own wage level and which criteria you used to determine your wage: _____

[Payment: workers in NO WAGE CHOICE]

Please indicate your thoughts when you learned that your coworkers were allowed to determine their own wages while you were not?

[Questions concerning the fairness of the wage: all workers]

Please indicate on a 7-point Likert scale how strongly you agree with the following statements.

	Completely disagree (1)				Completely agree (7)
The paid wage was fair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The paid wage was higher than expected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt a large degree of distrust by the employer toward me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[Responsibility alleviation: workers in WAGE CHOICE and NO WAGE CHOICE]

Please indicate on a 7-point Likert scale how strongly you agree with the following statements.

	Completely disagree (1)	Completely agree (7)
The determination of my own wage involves a huge responsibility.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
I like taking on the responsibility involved when setting my own wage.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
The wage choice involves a high level of responsibility.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

[Wage Choice Game: played by participants in treatments WAGE CHOICE and NO WAGE CHOICE]

Imagine you can choose between a fixed payment and payment you determine on your own. As you can see below, we ask you to make 13 decisions. The choices vary in the level of the fixed payment ranging from 30 EUR to 42 EUR. Three participants will be randomly determined. For each winner, one out of 13 options is randomly chosen. The winning participants receive—depending on their own choice—either the fixed payment or are allowed to pick any amount between 30 EUR and 42 EUR. Note that the money transfer will proceed in a completely anonymous manner.

Please make your decisions now by ticking the appropriate boxes:

- | | |
|--|--|
| <input type="checkbox"/> Fixed payment of 30 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 31 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 32 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 33 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 34 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 35 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 36 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 37 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 38 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 39 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 40 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 41 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |
| <input type="checkbox"/> Fixed payment of 42 EUR | <input type="checkbox"/> self-determined payment between 30 EUR and 42 EUR |

[Trust Game: played by all participants]

Please read the following instructions carefully. Your additional payment depends on your own decisions and those of another anonymous participant.

You are going to play a two-person-game either in the role of a **Sender** or **Receiver**. In both cases, you get an endowment of 1.20 EUR. When the game is over, your role will be randomly determined. Furthermore, you will be randomly assigned to another participant. The assignment will be anonymous, allowing no one to know at any point which other participants he or she is assigned to.

Since you do not know your role yet, you **need to decide in both roles**, as Sender and as Receiver. Please make careful decisions in both roles, as each role can be relevant to the payoff.

Decision as **Sender**:

You have the opportunity to transfer nothing, everything, or part of your endowment to the other player. You can choose between the following transfer amounts:

0.00 EUR
0.20 EUR
0.40 EUR
0.60 EUR
0.80 EUR
1.00 EUR
1.20 EUR

The amount you send to the Receiver will be subtracted from your endowment. The amount you send will be tripled before the Receiver receives it. Examples:

You send 0.40 EUR, the Receiver receives $3 \cdot 0.40 \text{ EUR} = 1.20 \text{ EUR}$.

You send 1.00 EUR, the Receiver receives $3 \cdot 1.00 \text{ EUR} = 3.00 \text{ EUR}$.

Decision as **Receiver**:

Now you have the opportunity to send an amount back to the Sender. Since you do not know yet at this point in time which amount the Sender has sent to you, you need to make a decision for any feasible amount sent. You can choose any amount between “sending back nothing” up to the maximum available amount (i.e., your endowment of 1.20 EUR plus the tripled amount received from the Sender).

Your final payment depends on your role and is made up as follows:

Payment Sender = the amount you keep + the amount returned by the Receiver

Payment Receiver = the amount you have received by Sender – the amount you sent back to the Sender

Please decide now in the role of a Sender: Which amount do you want to send?
Please tick the appropriate box.

- 0.00 EUR
- 0.20 EUR
- 0.40 EUR
- 0.60 EUR
- 0.80 EUR
- 1.00 EUR
- 1.20 EUR

Please decide now in the role of a Receiver: Which amount do you want to send back?
Note the maximum available amount you are allowed to send. Please make a decision for all 7 feasible cases.

Imagine that you have received:	Maximum amount to be sent back:	Your decision:
0.00 EUR	$3 \cdot 0.00 + 1.20 = 1.20$ EUR	_____
0.20 EUR	$3 \cdot 0.20 + 1.20 = 1.80$ EUR	_____
0.40 EUR	$3 \cdot 0.40 + 1.20 = 2.40$ EUR	_____
0.60 EUR	$3 \cdot 0.60 + 1.20 = 3.00$ EUR	_____
0.80 EUR	$3 \cdot 0.80 + 1.20 = 3.60$ EUR	_____
1.00 EUR	$3 \cdot 1.00 + 1.20 = 4.20$ EUR	_____
1.20 EUR	$3 \cdot 1.20 + 1.20 = 4.80$ EUR	_____

[Modified Dictator Game: workers in treatments WAGE CHOICE and NO WAGE CHOICE played the game as dictators (player A), while the remaining participants could potentially receive money in the role of player B.]

You have been assigned the role of player A. You will be randomly and anonymously assigned a player B only in case you decide to play the game. Neither you nor the other player will ever learn who has been assigned to whom.

You have the choice whether you want to play the game or not.

The game is as follows:

You, as player A, receive 5 EUR. You can split this amount of money between you and player B. Player B has no endowment and makes no decision. Accordingly, what happens depends on your decisions only. You can decide how much to transfer to player B. Any multiples of 0.50 EUR between 0 EUR and 5 EUR are feasible. The following table provides an overview of your payment and the resulting payment of player B:

Player A transfers to player B [in EUR]:	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
Payment player A [in EUR]	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.50	1.00	0.50	0.00
Payment player B [in EUR]	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00

Now you have two options to choose between:

Option 1: You play the game by choosing an amount you want to transfer to player B. You, as well as player B, receive the resulting payment as indicated in the table above.

Option 2: Instead of deciding about a distribution of the 5 EUR between you and player B, you have the opportunity to receive 4.50 EUR and not to play the game. Then, you receive 4.50, while player B receives nothing. Player B will never even learn that the game could have taken place.

Please decide now by ticking the appropriate box:

- Option 1:** I want to decide how to allocate the payment of 5 EUR between me and an anonymous player B. Player B is informed about the game and the resulting payment.
- Option 2:** I do not want to decide how to allocate the payment of 5 EUR between me and an anonymous player B. I receive 4.50 EUR. Player B will never be informed about the game.

If option 1 is chosen:

You have chosen option 1 (playing the game). So please make your decision about the allocation of 5 EUR between you and player B now by ticking the appropriate box:

Please tick one box:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your transfer to player B [in EUR]:	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
Your payment [in EUR]	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.50	1.00	0.50	0.00
Payment of player B [in EUR]	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00

Thank you very much. You receive the chosen payment in addition to your previous payment, while a randomly chosen player B is informed and receives the corresponding payment (if applicable).

If option 2 is chosen:

Thank you very much. You receive 4.50 EUR in addition to your previous payment.

[Big Five personality questionnaire: all workers]

Please use this list of common human traits (arranged in alphabetical order) to describe yourself as accurately as possible. Describe yourself as you see yourself at the present time, not as you wish to be in the future. Describe yourself as you are generally or typically, as compared with other persons you know of the same sex and of roughly your same age.

Please indicate on a 7-point Likert scale for each trait how accurately the trait describes you.

	Completely inapplicable		Neutral			Completely applicable	
	(1)		(4)			(7)	
Bashful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Careless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooperative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Disorganized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Efficient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Energetic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Envious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extraverted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fretful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Harsh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Imaginative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inefficient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intellectual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jealous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kind	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moody	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Philosophical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Practical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quiet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relaxed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rude	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sloppy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sympathetic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Systematic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Talkative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperamental	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Touchy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uncreative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unenvious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unintellectual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unsympathetic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Warm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Withdrawn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix B: Further Empirical Results

B.1 DESCRIPTIVE STATISTICS

	SCALE	MEAN	STANDARD DEVIATION	MINIMUM	MAXIMUM
N° of filed reports during 1st hour (performance indicator)	quantity	44.800	11.285	21	79
N° of filed reports after treatment variation	quantity	104.643	21.991	56	155
<i>Socio-demographics</i>					
Female	0/1	0.557	0.499	0	1
Age	years	25.486	3.882	18	43
Foreigner	0/1	0.121	0.328	0	1
<i>Educational background:</i>					
Language & cultural studies	0/1	0.331	0.472	0	1
Law, economics, & social sciences	0/1	0.316	0.467	0	1
Mathematics & natural sciences	0/1	0.213	0.411	0	1
Engineering	0/1	0.066	0.250	0	1
Arts	0/1	0.074	0.262	0	1
<i>Big Five Personality Factors – CRONBACH'S α</i>					
Openness		0.77			
Conscientiousness		0.83			
Extraversion		0.86			
Agreeableness		0.79			
Neuroticism		0.84			

B.2 QUANTILES OF PERFORMANCE PER TREATMENT

Number of filed business reports after treatment variation				
	BASE	CONTROL	WAGE CHOICE	NO WAGE CHOICE
Average	100.75	97.65	109.25	108.98
SD	23.44	23.12	19.52	21.01
75 th	121.5	110.5	123.5	125.0
Median	103.0	99.0	112.0	106.5
25 th	85.0	79.0	95.0	91.5

B.3 TREATMENT BASE VS. CONTROL

	(1)	(2)	(3)
CONTROL	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
BASE	-0.0244 (0.070)	-0.038 (0.053)	-0.067 (0.053)
Initial performance		0.778*** (0.057)	0.844*** (0.073)
Wage		-0.003 (0.007)	-0.001 (0.006)
Female			-0.002 (0.033)
Age			0.001 (0.004)
Foreign			-0.027 (0.053)
Constant	1.389*** (0.059)	0.017 (0.224)	-0.295 (0.260)
<i>Further Controls:</i>			
Time trend	-	✓	✓
Educational background	-	-	✓
Organizational variables	-	-	✓
<i>Adjusted R²</i>	0.000	0.299	0.334
<i>Observations</i>	1365	1365	1342

Notes: The dependent variable is the log of the number of filed reports. The table reports OLS coefficient estimates (standard errors adjusted for clustering on the individual level are reported in parentheses). Significance levels are denoted as follows:

- *** Significance at the 1 percent level.
- ** Significance at the 5 percent level.
- * Significance at the 10 percent level.

B.4 QUALITY CHECKS

	ALL	BASE	WAGE CHOICE	CONTROL	NO WAGE CHOICE	<i>p</i> -value (Chi ² -test)
Correct entries	1974	451	412	454	657	
Wrong entries	150	42	22	38	48	
Share of wrong entries	0.076	0.085	0.077	0.051	0.068	0.284

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