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The Currency of Reciprocity - Gift-Exchange in the Workplace

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Gift-Exchange in the Workplace [†]

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Abstract

What determines reciprocity in employment relations? We conducted a controlled field experiment and tested the extent to which cash and non-monetary gifts affect workers' productivity. Our main finding is that the nature of the gift, not its monetary value, determines the prevalence of reciprocal reactions. A gift in-kind results in a significant and substantial increase in workers' productivity. An equivalent cash gift, on the other hand, is largely ineffective – even though an additional experiment showed that workers would strongly favor the gift's cash equivalent.

"...only social exchange tends to engender feelings of personal obligations, gratitude, and trust; purely economic exchange as such does not."

Blau (1964, p. 94)

1 Introduction

How can firms motivate their employees to provide effort above the minimal level? This question is of great importance for both theorists and practitioners. Assuming that workers strictly pursue what is in their material self-interest, a large theoretical literature explores how explicit and implicit contracts can be designed so that the workers' interests are aligned with the firm's objectives (see MacLeod (2007), Prendergast (1999) or Gibbons (1998)). A different strand of literature, based on sociological and psychological insights, questions the assumption of purely self-interested humans, underlining the importance of reciprocity in the presence of contractual incompleteness (see Fehr and Gächter (2000) for an overview).[1] According to this view, paying above market-clearing wages (i.e. sharing part of the profits) can be profitable for firms if workers reciprocate positively to kind treatment and return the favor by exerting higher effort (see Akerlof (1982)). The determinants of reciprocity in naturally occurring employment relations are largely unexplored, despite a wide range of potential economic implica-

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[1]By reciprocity we refer to the behavioral phenomenon where people respond likewise towards kind or unkind treatment, even in the absence of reputational concerns. For theoretical models of reciprocity, see Rabin (1993), Charness and Rabin (2002), Dufwenberg and Kirchsteiger (2004), Falk and Fischbacher (2006), or Cox et al. (2007).

tions such as downward wage rigidity and involuntary unemployment (see Bewley (1999)).

A substantial number of *laboratory* experiments provides empirical support for a positive relationship between fixed wages and effort, suggesting that reciprocal behavior can lead to large efficiency gains (e.g. see Fehr et al. (1993, 1997), Hannan et al. (2002), Brown et al. (2004) or Charness (2004)). However, the emerging experimental evidence from *naturally occurring* labor markets provides at best moderate or weak support for positive reciprocity. Output elasticities with respect to wages vary between only 0.07 and 0.38.[2] Until now, higher wages have thus led to relatively low and largely insignificant productivity gains in labor market field experiments.[3] A potential explanation for this discrepancy between the field and the lab is that the attribution of volition (i.e. the perceived kindness associated with the pay raise) is more difficult in the field than in the lab, where the entire action space and potential payoffs are salient information (see Falk (2007) p. 1510).[4] A low or absent correlation between wages and productivity could thus be the result of weak kindness signals, not necessarily implying that reciprocity does not matter in the labor market.

We hypothesize that, unlike a wage increase, non-monetary gifts or gifts

[2]See Gneezy and List (2006), Kube et al. (2007), Cohn et al. (2007), Bellemare and Shearer (2007), Al-Ubaydli et al. (2006), and Hennig-Schmidt et al. (2005) or Fehr et al. (2007) for an overview. See also Maréchal and Thöni (2007) and List (2006) for gift-exchange experiments in competitive markets.

[3]In contrast Kube et al. (2007) find a large negative impact of wage cuts on productivity.

[4]For example, if an agent knows that the principal can choose a wage from an interval between 1 and 100, it is clear that paying a wage of 100 to the agent is kind. One might therefore expect agents to be less reciprocal if they receive 100 without knowing that this is the highest possible wage. See Charness et al. (2004) or Hennig-Schmidt et al. (2005) for evidence that payoff information crucially affects the prevalence of reciprocal behavior.

in-kind provide a more salient signal of kind intentions and therefore represent a superior mechanism for the establishment of successful gift-exchange relations. In order to test this, we conducted a controlled experiment in a naturally occurring work environment. We hired job applicants to catalog the books from a library for a *limited* time duration (i.e. excluding any possibility of reemployment) at an announced hourly wage of €12 - the amount actually paid out in our benchmark treatment.[5] In a second treatment, we implemented an unexpected wage increase of nearly 20%. As an alternative, we gave subjects a gift in-kind (thermos bottle) of equivalent monetary value instead of additional money in the third treatment. Subsequently, we ran an additional control treatment, where workers were told the actual price of the gift in-kind, eliminating any uncertainty with regard to its monetary value.

The results show that the *nature* of gifts crucially determines the prevalence and strength of reciprocal behavior. An increase in fixed wages only has a negligible impact on workers' productivity. However, a gift in-kind of equivalent monetary value has an economically and statistically significant effect on productivity. Workers provide 30 percent more output on average. Moreover, this effect remains large and significant over the course of the entire working period. In contrast to all existing labor market field experiments, the elasticity of output towards the change in fixed compensation is remarkably high with 1.54, emphasizing that productivity gains exceed the relative increase in labor costs. Our main result remains largely unchanged if the price of the gift is communicated to the workers. Treatment differences

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[5] We emphasized the one-shot nature of this job offer in order to rule out reputational concerns, which are inherent in ongoing relations.

are thus not due to a systematic overestimation of the monetary value of the gift.

To track down the cause for the sharp behavioral contrast, we complement our field experiment with an experimental questionnaire study. We use short scenarios describing our treatment manipulations from the field experiment to elicit how the gift is perceived. We find that the gift in-kind is significantly more likely to signal kind intentions than the wage increase. In contrast to the gift in-kind, subjects consider the increase in hourly wage a payment for their performance rather than a present. An additional choice experiment shows, however, that these differences are not due to a general preference in favor of the gift in-kind. When given the choice between actually receiving the gift in-kind and its cash equivalent, the overwhelming majority of subjects opts for the money. Taken together, these additional results corroborate the field data and suggest that the symbolic aspect of the gift rather than its monetary value determines the successful establishment of gift-exchange relations.

This paper contributes to the existing literature in several ways. First, the existing evidence for reciprocity and social preferences in general is almost exclusively based on lab experiments. Generalizing experimental evidence from the laboratory to behavior in the field might be difficult, however; critics argue that several factors such as demand effects and the highly stylized context might influence behavior (see Levitt and List (2007)). Subjects in our experiment do not know that they are part of an experiment and perform a typical student helpers' job. We are therefore able to observe them in a naturally occurring - but controlled - work environment.

Second, our results provide a novel behavioral rationale as to why a large

and growing part of overall compensation takes the form of non-monetary benefits or perks (see Marino and Zabojnik (forthcoming a) Rajan and Wulf (2006)). Several theoretical arguments have been put forth in the literature to explain the use of perks. One of the most prominent explanation is based on the idea that firms can provide perks at lower costs due to economies of scale or exemptions from taxation (e.g. Lazear and Oyer (2007)). Other theories relate to agency problems (Marino and Zabojnik (forthcoming b)) or the reduction of worker's effort costs (Oyer (forthcoming)). In addition, our results suggest that a higher share of perks in the compensation mix can be profitable for the firm because workers are more likely to reciprocate positively to the receipt of perks.

Finally, the widespread phenomenon of non-monetary gift-giving is puzzling from a standard economic point of view. We expect money to be superior to gifts in-kind, as gifts in kind do not necessarily match the recipient's preferences (e.g. see Waldfogel (1993)). The results from our choice experiment support the latter argument and show that more than 90 percent of the subjects prefer receiving money to a gift in-kind. Despite this strong preference for cash, our gift in-kind had a surprisingly greater effect on workers' productivity than the cash gift. This suggests that the monetary value of the gift is of lesser importance than its signaling character. Our results are thus encouraging for recent theoretical advances analyzing the role of non-monetary gifts as costly signals (see Camerer (1988), Carmichael and MacLeod (1997) and Prendergast and Stole (2001)).

The remainder of this paper is organized as follows: In the next section, we describe the experimental design. Subsequently, we present and discuss

the experimental results in Sections 3 and 4.

2   Experimental Design

In May 2007, the library of an economic chair at a German University had to
be cataloged. We used this as an opportunity to run a field experiment and
recruited students from all over the campus with posters. The announcement
read that it was a one-time job opportunity for half a day (three hours), and
that pay would amount to €12 per hour. The announced wage of €12 served
as a reference point. About 300 students applied during the two month
announcement phase. A research assistant randomly selected 51 persons out
of the list of applicants. They were invited via email and asked to confirm
the starting date, reminding them that the job would pay €12 per hour.[6]
Upon arriving, the subjects were seated in front of a computer terminal
with a table of randomly selected books beside them. Their task was to
enter the books' author(s), title, publisher, year, and ISBN number into an
electronic data base. Participants were allowed to take a break whenever
necessary. A research assistant explained the task to them, strictly following
a fixed protocol. Before subjects actually started to work, they were told
their hourly wage and informed on any additional payments or benefits.

In a first wave, we conducted three different treatments. In our bench-
mark treatment (*Base*), we paid €12 per hour. In treatment *Money*, subjects'
total wage was increased unexpectedly by roughly 20% by paying them an ad-
ditional €7 for the day. In treatment *Bottle*, instead of the €7 wage increase,

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[6]As of May 2007 this corresponded to an hourly wage of $16.2 (€1=$1.35).

subjects received a small thermos bottle worth €7, which was wrapped in a transparent gift paper and which should therefore have clearly signaled that the employer wanted to be kind towards the worker.[7] We had 17 subjects in the benchmark treatment, 16 in *Money*, and 15 in *Bottle*; three subjects failed to show up to work.

In a second wave, we invited 15 additional subjects to participate in a fourth treatment (treatment *PriceTag*). This treatment was analogous to *Bottle*, except that we explicitly mentioned the actual price of the thermos bottle and marked it with a corresponding price tag. By comparing treatment *PriceTag* and *Bottle*, we asses the robustness of our results with regard to the uncertainty of the actual price of the gift.

The first wave of the experiment took place over a 9 day period, with up to 6 subjects per day. The second wave took place on the subsequent three days. The subjects showed up successively at different times (three in the morning and three in the afternoon). They were separated from each other in different rooms at an online computer terminal, without being monitored.[8] The computer application for entering the details of the books recorded the exact time of each log, allowing us to reconstruct exactly the number of characters each person entered over time. After 3 hours elapsed, subjects completed a short questionnaire and were paid their total wage. In order

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[7] The different gifts where communicated as follows: "We have a further small gift to thank you: You receive €7 (respectively: this thermos bottle) in addition." See Figure 4 for a depiction of the gift.

[8] All this was done in order to minimize the possible bias due to peer effects or monitoring. Furthermore, all subjects interacted with the same female research assistant to eliminate experimenter effects. In order to avoid an experimenter demand effect, the research assistant neither knew the purpose of the study nor the reason for the wage increase or the gift in-kind.

to observe them in a natural work environment, subjects were not told that they were participating in an experiment.

We complemented our field experiment with a survey experiment in order to test how our treatment manipulations were perceived. For this purpose, we invited 2475 students via email to participate in an online survey in November 2007. None of these students had taken part in the previous field experiment, and each student was only allowed to participate once. Participation was incentivized by raffling off seven €40 vouchers to be spent at an international online-shop. Upon logging into the electronic survey, the 1036 respondents were randomly assigned to one of three scenarios. Each began with a short description of one of our treatments described above (*Money, Bottle,* or *PriceTag*). Afterwards, subjects had to put themselves in the position of the employee in the described situation, and were then asked to rate different statements about the situation, the employers' action, and the gift, using 5-point Likert scales.[9]

Finally, we elicit preferences for receiving cash or the gift in-kind in an incentive compatible way by conducting a laboratory experiment in December 2007 and January 2008 with 172 subjects. All subjects had just completed and earned money in an unrelated experiment. We then told them that they would receive an additional payment of €7 in excess of their current payoff, and that they could choose between receiving the amount in cash or receiving a thermos bottle worth €7. We used exactly the same thermos bottle in all

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[9] We included the following negatively and positively loaded items: "I feel treated kindly/unkindly in the described situation", "I perceive the behavior of the other person in the described situation as kind/unkind", "I perceive the thermos bottle/the additional €7 as a gift", "I perceive the thermos bottle/the additional €7 as a payment for my performance".

of our studies, or a photograph of it in the survey study (see Figure 4).

3   Results

Cash, Perks and Performance

The number of characters entered precisely measures workers' productivity and is considered as outcome variable for the subsequent analysis.[10] Figure 1 depicts the development of output over time for our three main treatments in comparison with the baseline treatment. Consistent with most previous field experiments involving monetary gifts, a wage increase of roughly 20 percent has only a marginal impact on productivity: Compared to the benchmark treatment (*Base*), the average number of characters entered is approximately 6 percent higher in treatment *Money*. As can be inferred from Table 1 this difference does not reach statistical significance (Wilcoxon rank-sum test: p= 0.640). Result 1 summarizes the behavioral regularity:

Result 1: *An unexpected 20 percent increase in hourly wages only has a negligible impact on workers' productivity. The resulting 6 percent productivity gain is statistically insignificant.*

The results from treatment *Bottle*, on the other hand, paint a completely different picture. Workers typed in on average roughly 30 percent more characters compared to treatment *Base*. Moreover, as illustrated in Figure 1 Panel (b), this treatment effect remains large for the entire duration of

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[10]Our analysis focuses primarily on the quantity of output because we did not find any significant quality differences between treatments.

Figure 1: # Characters Entered per Time Interval by Treatment
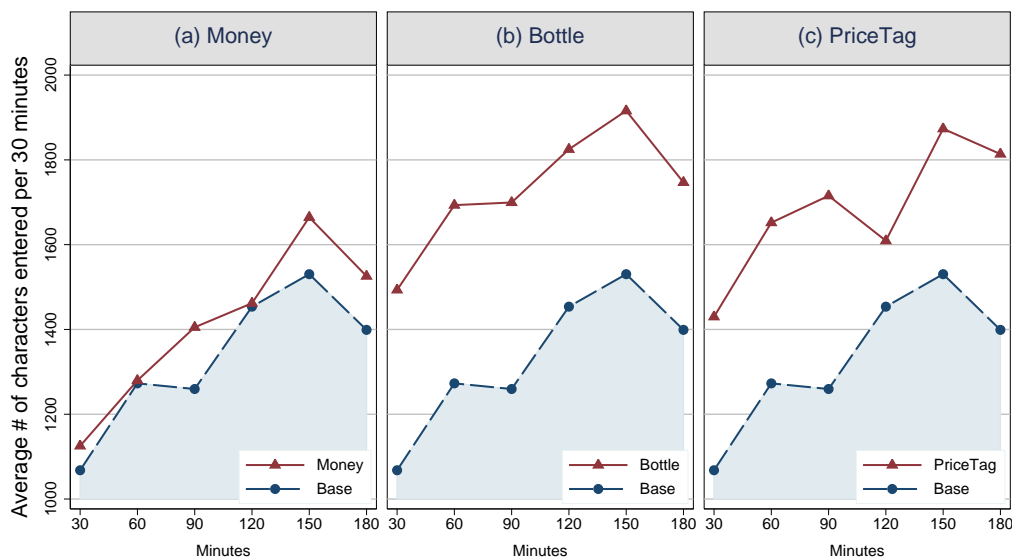
the experiment. In comparison, the gift raises the employer's costs by only 20 percent. Hence, the elasticity of output with respect to the increase in compensation amounts to a remarkable 1.54.

Table 1 highlights that the observed gift-exchange effect is also highly significant from a statistical point of view. Using Wilcoxon rank-sum tests, the hypotheses of identical productivity between treatments *Bottle* and *Base* (as well as between *Bottle* and *Money*) are rejected (p<0.01). The main findings are summarized in our second result:

Result 2: *In contrast to the wage increase, a gift in-kind of equivalent monetary value results in a highly significant and large productivity gain. The resulting productivity gain is larger than the relative increase in labor costs.*

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Table 1: Average Treatment Effects: # Characters Entered

	Base	Money	PriceTag
Bottle	+2390***	+1912***	+280
	(684)	(750)	(671)
PriceTag	+2110***	+1632**	
	(663)	(730)	
Money	+479		
	(731)		
Base			

Notes: This Table reports Average Treatment Effects (ATE) for different treatment comparisons (i.e. treatments indicated in the first column are compared with those in the first row). The outcome variable is the number of characters entered as a measure for the output produced. Standard errors are reported in parentheses. Significance levels from a (two-sided) Wilcoxon rank-sum test for the null hypothesis of equal output between treatments are denoted as follows: * p<0.1, ** p<0.05, *** p<0.01.

People might systematically overestimate the monetary value of the gift in treatment *Bottle*. Systematic overestimation could potentially explain the larger treatment effect for *Bottle* relative to *Money*. Treatment *PriceTag* allows us to test whether systematic overestimation alone drives the observed pattern. Given that we communicate the exact monetary value of the gift, output should be lower in treatment *PriceTag* than in *Bottle* if workers reciprocate only on the basis of monetary considerations and if they systematically overestimate the price of the gift. However, the behavioral pattern in Panel (c) of Figure 1 reveals that treatment *PriceTag* closely replicates the results from the *Bottle* treatment.

Workers are slightly more productive in treatment *Bottle* than *PriceTag* - i.e. measured output is 2.8 percent higher. However, this effect does not reach statistical significance (Wilcoxon rank-sum test: p=0.663). Similar to *Bottle*, treatment *PriceTag* resulted in a 26 percent higher output com-

pared to the benchmark *Base* (p=0.004). These productivity gains are still of greater magnitude than the increase in labor costs for the library. We summarize the results as follows:

Result 3: *Workers produce almost an equal amount of output in treatments* PriceTag *and* Bottle. *In comparison with the baseline treatment,* PriceTag *results in a substantial increase in productivity. The uncertainty concerning the exact monetary value of the gift in-kind thus fails to account for our treatment effects.*

The regression models in Table 2 corroborate the results described above. In column 1, the total number of characters entered is regressed on the treatment dummies using OLS. In comparison with the benchmark treatment, the number of characters entered is more than 2000 characters higher in *PriceTag* and *Bottle*. Both coefficients are statistically highly significant (p=0.002 and p=0.001). The coefficient for *Money*, however, is much lower and statistically insignificant. A Wald test rejects the hypothesis that the coefficient estimates are equal for *Bottle* (respectively *PriceTag*) and *Money*. Furthermore, we cannot reject the hypothesis that the coefficients for *Bottle* and *PriceTag* are equal. In column 2, we also consider the temporal dimension of the experiment by splitting the data into time intervals of 30 minutes and estimate a random effects panel data model.[11] All results are in line with the preceding cross-sectional analysis. We also extend the model by interacting the treatment dummies with the variable *Time* which indicates the six different time intervals. None of these interaction terms are significant,

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[11]Alternatively, we run OLS regressions using clustered standard errors. The results do not change with respect to this estimation method.

Table 2: GLS and OLS Regression Results

	(1) total time	(2)	(3)	(4)	(5)
		————— 30 minute intervals —————			
Money	478.779	37.594	10.227	7.379	109.630
	(735.526)	(110.011)	(110.062)	(111.576)	(135.408)
Bottle	2390.329***	438.470***	471.465***	466.803***	584.487***
	(682.502)	(113.506)	(115.047)	(122.123)	(151.707)
PriceTag	2110.396***	362.095***	405.667***	383.775***	460.469***
	(659.295)	(125.319)	(120.901)	(137.084)	(169.883)
Time		74.926***	74.926***	74.926***	72.329***
		(10.793)	(10.355)	(10.356)	(14.562)
Time*Money		16.881	16.881	16.881	20.620
		(14.977)	(14.587)	(14.582)	(18.513)
Time*Bottle		-16.033	-16.033	-16.033	-4.420
		(16.113)	(15.963)	(15.990)	(21.484)
Time*PriceTag		-4.145	-4.145	-4.145	6.065
		(17.290)	(17.151)	(17.215)	(20.991)
Constant	7983.471***	1143.263***	1601.744***	1549.132***	1360.579*
	(475.217)	(79.168)	(443.365)	(572.910)	(696.143)
Controls:					
Socioeconomic?	NO	NO	YES	YES	YES
Task perception?	NO	NO	NO	YES	YES
Previous wage?	NO	NO	NO	NO	YES
Obs.	63	378	378	378	294
R^2	0.223	0.255	0.340	0.342	0.384
Prob$> \chi^2, F$	0.001	0.000	0.000	0.000	0.000
Wald tests:					
Money=Bottle	0.013	0.000	0.000	0.000	0.001
Money=PriceTag	0.028	0.009	0.001	0.005	0.023
PriceTag=Bottle	0.678	0.547	0.611	0.557	0.471

Notes: The Table reports OLS coefficient estimates in column 1 and GLS coefficient estimates from Random Effects models in column 2-5 (robust standard errors in parentheses). The dependent variable is the number of characters entered (per 30 minute time intervals in column 2-5). The treatment dummies *Money*, *Bottle* and *PriceTag* are interacted with the variable *Time* which takes values from 0 to 5. Treatment *Base* serves as the reference category. A summary of statistics and exact definitions for the variables in the three different sets of controls (socioeconomic, task perception and previous wage) can be found in Tables 3 and 4. Because 14 students stated that they had never been employed before, we loose those observations when controlling for previously earned hourly wages in column (4). Values in the last three rows of this table represent p-values from a Wald test for the null-hypotheses of equal coefficients. Significance levels are denoted as follows: * p<0.1, ** p<0.05, *** p<0.01.

suggesting that treatment effects are stable over the observed time period.

We assess the robustness of our results with regard to the inclusion of an extensive set of control variables.[12] Age, gender, and major are included in the set of socioeconomic controls. We further include several variables capturing how workers perceived the task (e.g. interesting, strenuous etc.). Finally, we control for the hourly wage earned at the last job. The regressions in columns (3) to (5) of Table 2 highlight that our main results remain basically unchanged for all alternative model specifications.

In contrast to the quantity of output, *quality* is more difficult to observe for the employer. An important question is therefore, whether the observed productivity gain primarily stems from workers producing more low quality output. In order to test for quality differences, we measure the quality of output by the ratio of faultless logs to the total number of books entered.[13] With a quality ratio of 0.872, quality is lowest in the benchmark treatment. Treatment *Money*, *Bottle*, and *PriceTag* realized marginally higher quality ratios (i.e. 0.908, 0.894, and 0.910). Pairwise comparisons using Wilcoxon rank-sum tests indicate that qualities do not differ significantly in any treatments. Hence, if anything our results suggest that the opposite is true: Compared to the benchmark treatment, workers tend to produce output that is of slightly higher quality in all gift-exchange treatments.

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[12]Table 3 and 4 contain summary statistics and definitions for all included control variables.

[13]See Hennig-Schmidt et al. (2005) and Kube et al. (2007) for a similar approach. Two research assistants searched for spelling mistakes in the titles of the books by running an automatic spell check program.

Manipulation Check

The results from the survey experiment corroborate the observed behavioral patterns. Compared with treatment *Money*, subjects who were exposed to either the *Bottle* or *PriceTag* vignettes are significantly more likely to perceive the employer's course of action as kind. The results are basically the same if subjects are asked whether they feel treated kindly in the described situation. In contrast to the wage increase, the thermos bottle is significantly more likely to be perceived as a gift and less as a payment for one's performance. Consistent with the behavior in our field experiment, there are no significant differences in perception between the treatments *Bottle* and *PriceTag*.[14]

We constructed a kindness index using all six items from the questionnaire by computing an unweighted mean of all answers. A Cronbach's alpha of 0.832 shows that the internal reliability is quite high and suggests that our kindness index is unidimensional.[15] The cumulative distribution functions of the kindness index depicted in Panel (a) in Figure 2 show that our gift in-kind is more likely to achieve a higher score for the kindness index than the €7 wage increase. The null-hypothesis that a cash gift and the gift in-kind are considered to be equally kind must be rejected on any conventional significance level (Wilcoxon rank-sum test: $p<0.001$ for both non-monetary

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[14]See Table 5 for the corresponding significance levels.

[15]The Cronbach alpha is a measure of internal consistency or reliability of a scale, where 1 is the highest possible value (see Cronbach (1951)). We recoded the negatively loaded variables in such a way that a higher number indicates less agreement with the statement. We dropped 11 observations from the sample because they did not answer all six questions. This does not change any of the results qualitatively.

Figure 2: Kindness Manipulation and Revealed Preferences
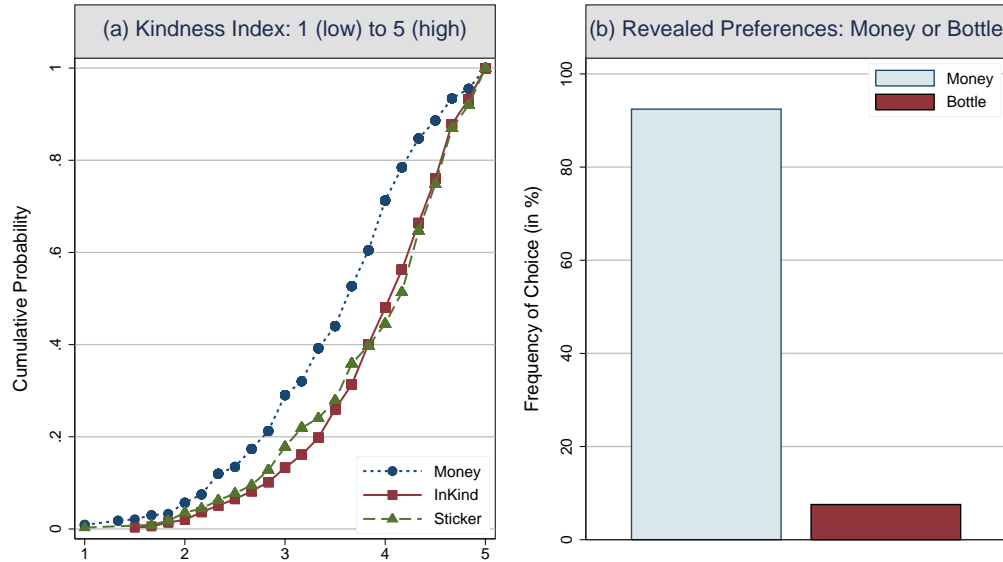
treatments). The results from the manipulation check can be summarized as follows:

Result 4: *The gift in-kind is a stronger signal of kind intentions than is an equivalent wage increase. An increase in hourly wages is more likely to be perceived as a payment for one's performance rather than an actual gift.*

Preferences for Money and Perks

Are our results driven by a general preference for the thermos bottle? In order to shed light on this question, we conducted an additional incentive compatible lab experiment.

We gave subjects in our lab experiment the actual choice between receiving an additional €7 or the thermos bottle used in the field experiment. We informed the subjects that the thermos bottle is worth €7. 159 out of 172 subjects (92.4%) opted to receive an extra payment of €7 in addition to their previously earned income in cash rather than the thermos of equivalent value (see Panel (b) of Figure 2). We can reject the hypothesis that subjects are drawn from a population in which preferences for cash gifts and in-kind gifts are equiprobable (binomial test, two-sided, p<0.0001). We thus conclude:

Result 5: *When subjects are free to choose between receiving €7 in cash or an object of equivalent value, more than 92 percent choose cash rather than the object. The gift in-kind is thus very unlikely to match its recipient's preferences.*

4   Discussion and Conclusion

In the present paper, we studied the determinants of reciprocity in employment relations using a controlled field experiment. We document a sharp contrast in responses of productivity towards cash and non-monetary gifts. An unexpected increase in fixed wages only had a negligible impact on the output workers generated. However, a gift in-kind of equivalent monetary value had an economically and statistically significant effect on productivity. The additional 20 percent increase in expenditures was rewarded by a sizably larger productivity gain of 30 percent.

Furthermore, we showed that eliminating subjects' uncertainty concern-

ing the true monetary value of the gift did not alter the results. Interestingly, as we illustrated in a follow-up experiment, cash and gifts had very different impacts, despite an overwhelming preference for the gift's cash equivalent. Our survey study illustrates that our gift in-kind is a stronger signal for kind intentions than is the wage increase. A wage increase is more likely to be considered a payment for one's performance rather than a gift. Together, these results suggest that the signal conveyed through the gift - and not its monetary value - determines the prevalence of reciprocal behavior.

These results have important methodological and practical implications. First, they point to a general problem when trying to transfer laboratory setups to the field, namely the decline of control over treatment manipulations. Applied to our design at hand, they imply that perceived kindness is probably more easily manipulated in the lab, especially when the range of possible actions and payoffs are clearly defined and common knowledge due to amplified salience. However, in the field "[...] the signal and perception of gifts is more ambiguous, which renders the establishment of a gift-exchange relationship difficult (Falk (2007) p. 1510)." Manipulation checks could therefore be a useful tool to understand disparities between field and lab evidence.[16]

Second, our findings suggest that appropriate gifts in-kind are likely to provide the recipient with a clearer and more salient signal of kind intentions than money. In fact, social scientists have found that money is, depending on the situation, deemed unacceptable as a gift (e.g. Webley et al. (1983) Webley and Wilson (1989) and Burgoyne and Routh (1991)). While our results show

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[16]See Perdue and Summers (1986) for a more extensive discussion of the importance of manipulation checks.

that a non-monetary gift is more likely to increase workers' productivity, it would be premature, however, to conclude that higher wages are generally not able to trigger reciprocity. Given that higher wages are communicated in a relatively neutral manner in our experiment - as well as in Gneezy and List (2006) and Kube et al. (2007) - future studies examining whether there is potential scope for increasing perceived kindness by choosing a more affective framing might be worthwhile.[17] Such framing could render the gift-character of the wage increase salient.

Interestingly, the superiority of the non-monetary gift comes at a surprise from a standard economic point of view, as we find that the gift in-kind is very unlikely to match the recipient's preferences (see also Waldfogel (1993)). While we provide evidence suggesting that part of the superiority originates from signaled intentions, an additional factor might be that non-monetary gifts enable a kind of emotional attachment on part of the receiver that is much harder to establish with money. In this context, non-monetary incentives and symbolic awards (e.g. "employee of the month") can be a promising and cheap motivational instrument (see also Ellingsen and Johannesson (2007), or Frey and Neckermann (forthcoming)). Non-monetary incentives and awards are further interesting since they are probably less likely than monetary incentives to crowd out workers' intrinsic motivation (see Heyman and Ariely (2004), Gneezy and Rustichini (2000) or Frey et al. (1996)). To explore whether such non-monetary incentives and gifts share the same nature promises to be a fruitful area for future research.

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[17]See the discussion of framing effects and fairness in Kahneman et al. (1986).

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Appendix

Table 3: Summary Statistics: Control Variables

Variable	Mean	Std. Dev.	Min.	Max.	Obs
Age	22.696	2.378	19	30	69
Male	0.507	0.504	0	1	69
Math	0.072	0.261	0	1	69
Engineering and Computer Science	0.261	0.442	0	1	69
Arts and Social Science	0.391	0.492	0	1	69
Economics	0.246	0.434	0	1	69
Strenuous	4	0.891	2	5	69
Interesting	3.203	1.132	1	5	69
Got tired	3.203	1.324	1	5	69
Problems	4.594	0.524	3	5	69
Worked before	0.203	0.405	0	1	69
Previous wage	9.060	2.21	5.600	17.5	55

Table 4: Control Variables: Wording and Coding (Translated from German to English)

Variable	Definition	Question wording [Possible answers in brackets]
Socioeconomic		
Age	years	Age? [free form]
Male	1=yes; 0=no	Gender? [free form]
Math and Physics	1=yes ; 0=no	Major? [free form]
Engineering and Computer Science	1=yes ; 0=no	
Arts and Social Science	1=yes ; 0=no	
Economics	1=yes ; 0=no	
Task perception		Please rate the following statements on a scale from 1 to 5 where
		1 means "fully agree" and 5 means "fully disagree".
Strenuous	1=fully agree ... 5=fully disagree	I perceived the job as strenuous [1...5]
Interesting	1=fully agree ... 5=fully disagree	I perceived the job as interesting [1...5]
Got tired	1=fully agree ... 5=fully disagree	I got tired with the elapse of time [1...5]
Had problems	1=fully agree ... 5=fully disagree	I had problems cataloging the books [1...5]
Previous wage		
Worked before	1=yes ; 0=no	Did you work somewhere before this job? [yes, no]
Previous wage	Euro per hour	If yes, what was your hourly wage on your last job? [free form]

Table 5: Vignette Study: Gift Perception Across Treatments

item	**Money** vs **Bottle**	**Money** vs **PriceTag**	**Bottle** vs **PriceTag**
feel treated kindly	$p = 0.0425$ (N=335 / N=355)	$p = 0.0303$ (N=335 / N=340)	$p = 0.8979$ (N=355 / N=340)
feel treated unkindly	$p = 0.0019$ (N=335 / N=355)	$p = 0.0734$ (N=334 / N=340)	$p = 0.1876$ (N=355 / N=340)
kind behavior	$p = 0.0156$ (N=336 / N=357)	$p = 0.0019$ (N=336 / N=341)	$p = 0.4474$ (N=357 / N=341)
unkind behavior	$p = 0.0452$ (N=335 / N=356)	$p = 0.0019$ (N=335 / N=339)	$p = 0.2226$ (N=356 / N=339)
perceive as gift	$p = 0.0000$ (N=334 / N=354)	$p = 0.0000$ (N=334 / N=337)	$p = 0.1838$ (N=354 / N=337)
perceive as payment	$p = 0.0000$ (N=334 / N=354)	$p = 0.0000$ (N=334 / N=337)	$p = 0.4816$ (N=354 / N=337)
kindness index	$p = 0.0000$ (N=334 / N=354)	$p = 0.0000$ (N=334 / N=337)	$p = 0.9693$ (N=354 / N=337)

Notes: This Table reports significance levels from a (two-sided) Wilcoxon rank-sum test for the null hypothesis of equal scores between treatments (i.e. vignettes). The outcome variables are the scores of the item in the specific row. Number of observations are reported in parentheses.

Table 6: Data Overview: Number of Characters (Books) Entered and Quality

Treat.	ID #	Total Chars.	Time Books	Quality ratio	Treat.	ID #	Total Chars.	Time Books	Quality ratio
Base	1	4570	44	0.727	**Money**	18	4470	50	0.920
	2	5122	55	0.582		19	6010	71	0.958
	3	5327	42	0.929		20	6426	60	0.883
	4	6862	75	0.613		21	7763	77	0.948
	5	7177	76	0.961		22	7801	77	0.883
	6	7208	78	0.936		23	7804	80	0.950
	7	7217	75	0.933		24	7823	82	0.744
	8	7581	66	0.909		25	7883	87	0.920
	9	8157	57	0.912		26	7959	84	0.917
	10	8607	93	0.849		27	8084	76	0.947
	11	8646	105	0.914		28	8180	91	0.846
	12	8688	97	0.938		29	9464	100	0.980
	13	8919	95	0.832		30	9707	96	0.948
	14	9443	99	0.990		31	10774	94	0.777
	15	9651	106	0.915		32	11150	112	0.973
	16	10224	112	1.000		33	14098	148	0.912
	17	12320	136	0.743					
	Avg.	*7983.5*	*83.0*	*0.872*		*Avg.*	*8462.3*	*86.6*	*0.908*
Bottle	34	6979	61	0.820	**PriceTag**	49	7503	77	0.935
	35	8671	82	0.768		50	7836	82	0.951
	36	8756	74	0.932		51	8332	86	0.942
	37	9018	92	0.913		52	8701	93	0.978
	38	9027	90	0.811		53	8804	103	0.942
	39	9492	93	0.946		54	9066	79	0.899
	40	9581	98	0.929		55	9449	99	0.929
	41	9796	106	0.877		56	9729	91	0.769
	42	10922	108	0.870		57	10164	104	0.683
	43	10939	112	0.893		58	10846	92	0.967
	44	11123	119	0.824		59	11517	116	0.888
	45	11936	126	0.921		60	11972	109	0.917
	46	12102	103	0.951		61	12059	137	0.971
	47	13254	120	0.967		62	12436	115	0.930
	48	14011	102	0.941		63	12994	136	0.934
	Avg.	*10373.8*	*99.1*	*0.894*		*Avg.*	*10093.9*	*101.3*	*0.910*

Figure 3: Screenshot: Computer Application

Figure 4: Gift In-Kind: Thermos Bottle