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Immaterial and monetary gifts in economic transactions: Evidence from the field

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Immaterial and Monetary Gifts in Economic Transactions. Evidence from the Field*

Michael Kirchler† and Stefan Palan‡

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Abstract

Reciprocation of monetary gifts is well-understood in economics. In contrast, there is little research on reciprocal behavior following immaterial gifts like compliments. We close this gap and investigate how employees reciprocate after receiving immaterial and material gifts. We purchase (1) ice cream from fast food restaurants, and (2) durum doner, a common lunch snack, from independent vendors. Prior to the food's preparation, we either compliment or tip the salesperson. Salespersons reciprocate compliments with higher product weight than in a control treatment. This reciprocal behavior grows over repeated transactions. Tips have a stronger level effect which marginally decreases over time.

JEL classification: D01, D03

Keywords: gift exchange, reciprocity, natural field experiment.

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1 Introduction and Literature

Textbook theory postulates that monetary gifts exceeding a theoretical minimum increase an agent's utility, which she reciprocates with higher effort (Akerlof, 1982). Laboratory (Fehr et al., 1993; Fehr and Falk, 1999; Fehr and Gächter, 2000; Gächter and Falk, 2002; Charness, 2004) and field evidence (Falk, 2007; Maréchal and Thöni, 2007; Kube et al., 2012; Currie et al., 2013; Cohn et al., 2014) is broadly supportive, showing that monetary gifts from employers cause employees to expend more effort. Surprisingly, the role of purely immaterial gifts—e.g., private compliments and individual expressions of appreciation and respect—in economic contexts is unclear. This is remarkable, as the desire for approval and being esteemed is deeply rooted in human behavior, likely because esteem is associated with material and reproductive benefits (Fershtman and Weiss, 1998; Fessler, 2004). Moreover, according to Gintis et al. (2003) reciprocating positive immaterial stimuli may have evolved as an evolutionarily stable strategy, because it signaled potential for future cooperation. Theoretical studies postulate that expressions of esteem may increase the recipient's utility, and that the recipient will then reciprocate with additional effort (Brennan and Pettit, 2004; Ellingsen and Johannesson, 2007, 2008, 2011). However, evidence from the field is missing. In the behavioral management literature the distinct concept of public social recognition is conjectured to be an important performance reinforcer beside money (Haynes et al., 1982; Bandura, 1986; Markham et al., 2002; Stajkovic and Luthans, 2003). The behavioral labor market literature also provides limited evidence that public recognition programs and awards positively influence work effort (Kosfeld and Neckermann, 2011; Bradler et al., 2014).[1] However, such programs and awards include an extrinsic component in that they are awarded publicly, and thus provide the recipient with status through publicity (Frey, 2007).

Immaterial gifts as defined in our study (i.e., private compliments and individual expressions of appreciation and respect) do not contain a public component. The effects of such compliments or expressions of esteem are unclear even though this form of gift exchange is fundamental to everyday economic interactions. It occurs constantly between employees

[1] In related research Masclet et al. (2003) show that immaterial expressions of *disapproval* can serve as a form of punishment, which leads punished parties to increase their future contributions to a public good.

and employers, between employees at different hierarchy levels, and between salespersons and customers. In addition to this gap, economics lacks research on the influence on reciprocal behavior when gifts are given repeatedly over time. Gneezy and List (2006) show that reciprocal effects following one monetary gift can be temporary and fade out over time. Moreover, material and particularly immaterial gift exchange situations have nearly exclusively been investigated in classical employer-employee relationships, making it difficult to generalize their relevance. We identify customer-salesperson interactions as ideal for analyzing the effects of repeatedly giving immaterial and material gifts. From a consumer perspective interactions with salespersons are highly relevant as they occur frequently (i.e., in some cases multiple times a day) and extra effort/kindness from the salesperson is valued greatly.

In this paper we fill these research gaps by reporting results from two natural field experiments (Harrison and List, 2004), both of which involve a salesperson preparing a food item following a customer (experimenter) order. We study whether immaterial gifts in the form of a compliment (treatment COMPLIMENT) and material gifts in the form of a tip (treatment TIP)—both provided prior to the product's preparation—trigger reciprocal behavior from the salesperson. The third treatment, NORMAL, serves as a benchmark.[2] In our first experiment, we collected one-shot data for purchases of ice cream, investigating the level effect on salesperson reciprocation induced by our experimental treatments. We quantify the level of salespersons' reciprocal behavior by measuring the food items' weights. In our second experiment, we collected data for repeated purchases of doner durum, exploring how the observed effects hold up over time by purchasing the product from the same salesperson on five consecutive days.[3]

[2]Note that our approach differs from those of Kosfeld and Neckermann (2011), Bradler et al. (2014), and the literature on social recognition programs mentioned above. The "Thank You" cards and award certificates employees are presented with in these studies have both a material and an (immaterial) "award" component. A card or a certificate can be preserved and may provide utility at a later time. It can also be displayed to serve as a public signal to others. A private compliment like in our study is entirely immaterial, cannot be "stored", cannot be used as physical evidence for impressing others, and thereby expresses respect directly (and usually only) to the recipient.

[3]A doner durum is a dish of Turkish origin, made of meat roasted on a vertical spit, and served in a wrap. The dish is referred to as "shawarma" in Arabic, as "doner" in German and Turkish, as "gyros" in Greek, and as "gyro" in the US. Doner durum are a popular form of snack particularly, but not exclusively, in Europe. The annual revenues of the doner industry in Germany (the United Kingdom) amounted to €3.5bn in 2011 (£2.2bn, as of December 2015). See `http://online.wsj.com/news/articles/SB10001424052702304432704577350194262835880` and `http://www.britishkebabawards.co.uk/about_british_kebab_awards`, retrieved on December 4, 2015.

Translating the idea of Ellingsen and Johannesson (2007) on social esteem to our setting, a salesperson's utility depends both on her income and on her pride from being esteemed by the consumer. We hypothesize that making compliments leads to increased salesperson utility and therefore to increased reciprocal behavior. The salesperson is made to feel proud of what she is doing and exchanges kindness (measured by product weight) for given esteem, yielding our first research question.

RQ1: Does an immaterial gift in the form of a compliment provided by the consumer trigger increased salesperson kindness compared to "normal" consumer-salesperson interactions?

Based on the literature outlined above, we expect a tip in advance to also increase a salesperson's utility, which she reciprocates with increased product weight. This exchange of greater salesperson kindness for extra money underlies our second research question.

RQ2: Does a monetary gift by the consumer trigger increased salesperson kindness compared to "normal" transactions in consumer-salesperson interactions?

Gneezy and List (2006) show the importance of investigating how reciprocity develops over time. They find that in a labor market setting reciprocal behavior triggered by *one* monetary gift is temporary. We address this issue and extend it by providing five immaterial or monetary gifts in five consecutive transactions. We visit each salesperson on five consecutive days, always using the same role (normal order, tip, or compliment). This design allows us to answer our third research question.

RQ3: Do the effects of repeated immaterial and monetary gifts change over time?

We find that both immaterial gifts (compliments) and material gifts (tips)—given in advance—induce positive reciprocity, i.e., salespersons provide more product weight. While monetary gifts trigger a larger level effect, only the "compliment-effect" increases significantly over repeated interactions.

With our approach we extend the literature along four dimensions. First, we explore reactions to immaterial and material gifts in the same two settings (ice cream and doner), making them comparable. Second, we investigate both approaches in natural consumer-salesperson interactions in everyday life situations. Third, we use a repeated setting to analyze how monetary and immaterial gifts work over time. Fourth, we analyze the robustness of our findings

by investigating whether results replicate from the first to the second setting.

2 Ice Cream Setting

2.1 Experimental Procedure – Ice Cream

In our first experimental setting, ICECREAM, the experimenters ordered ice cream in restaurants of an internationally operating fast food chain. The restaurant clerk takes the client's order in a face-to-face interaction, accepts payment, fills the ice cream into a cone and hands it over to the customer. Since the salesperson only has to press and release a button to start and end the filling process, it is easy for her to vary the amount of ice cream per cone. See Figure 1 for a sample photo of two ice cream cones purchased during the experiment.

Figure 1: Sample photo of two ice cream cones.

In treatment NORMAL the experimenter ordered using the standardized wording (translated from German) : "One vanilla cone without topping, to take away please." This standardization ensured that the products were comparable and extra benefit provided by the salesperson could be clearly measured and quantified. The only way in which the salesperson could provide such extra benefit in the interaction (apart from, e.g., being particularly friendly,

or gifting the consumer with complimentary goods) was to increase the amount of ice cream. We consciously refrained from ordering toppings, because they might have added noise. The experimenters also did not start conversations with the salespeople. In case they were asked questions, they answered naturally but succinctly.

Treatment COMPLIMENT was identical to NORMAL, but the experimenter made a compliment about the product, prior to the product's preparation. The standardized wording was: "One vanilla cone without topping, to take away please. You have the best ice cream in town." Treatment TIP was identical to treatment NORMAL except that the experimenter gave a tip to the salesperson. As a percentage of price, tips varied between 10.0% and 14.3%, with a mean of 13.1%. This was due to the requirement of total payment amounts being multiples of €0.10 in order to remain inconspicuous. The experimenter took great care to ensure that the tip was recognized by the salesperson at the time the order was placed. The experimenter put the product price plus the tip on the counter and simultaneously augmented the order by adding "The rest is for you," to the standardized wording. The experimenter also chose the coins handed over to the salesperson such that the latter could see that the tipping was intentional and not caused by, e.g., rounding to the nearest integer amount.[4]

We conducted our experiment in different outlets of the fast food chain. All observations were collected by three male experimenters aged 23-25 years. We randomized experimenter roles and arrival orders to control for experimenter fixed effects. Specifically, each experimenter ordered 12 times each using the procedures for treatments NORMAL, COMPLIMENT and TIP. We also randomized the order in which experimenters entered restaurants, such that each experimenter was the first to enter a restaurant 12 times, was second 12 times and was last 12 times. Finally, we randomized the order in which the experimenter playing a specific role entered a restaurant, such that the experimenter in treatment NORMAL was the first to enter a restaurant 12 times, was second 12 times and was last 12 times (and the same for treatments COMPLIMENT and TIP). Importantly, all three experimenters always interacted with the same salesperson in a given restaurant and they were never present in the restaurant at the same time. We selected 36 salespeople in 13 different outlets of the fast food chain in

[4]If, for example, the price was €0.90 and the experimenter tipped €0.10, he would not hand over a single 1 Euro coin but would instead hand over one 50 Cent coin, two 20 Cent coins and one 10 Cent coin.

Innsbruck, Austria, and Munich, Germany, for a total of 108 observations (see the Appendix for details on the experimental procedure).

After conclusion of each transaction, the experimenter stepped outside the restaurant to a place where he was not visible from inside and immediately weighed the ice cream cone on small letter scales which he carried in a backpack. He noted the weight and usually gave the ice cream to a passerby. The experimenter then filled in a form recording details about the transaction. These were the restaurant ID, product price, and tip amount (if any), as well as salesperson characteristics like gender and the estimated age and ethnicity. The experimenters furthermore noted any special occurrences.

2.2 Results – Ice Cream

As outlined in Table 1 average ice cream cone weights differ between salespeople and treatments. Across treatments this weight varies from 70 g to 167 g, with a mean of 117 g. It is evident that raw ice cream weight is on average highest in treatment TIP and lowest in treatment NORMAL.

Table 1: Descriptive statistics: mean, median, standard deviation, minimum, and maximum of raw ice cream cone weights across treatments.

Treatment	Observations	Mean	Median	Std.dev.	Min	Max
NORMAL	36	106.03	103.50	18.78	69.60	153.15
COMPLIMENT	36	117.20	113.18	20.55	77.20	163.25
TIP	36	126.62	125.40	19.41	85.20	166.80
Total	108	116.62	117.60	21.17	69.60	166.80

In order to account for salesperson fixed effects, we calculate an index of normalized ice cream weight. We divide each cone weight by the weight of the cone bought from the same salesperson in treatment NORMAL and multiply by 100, such that any deviation from 100 can be interpreted as a percentage difference relative to NORMAL. Figure 2 depicts treatment means of normalized ice cream weight (see Figure A1 in the Appendix for a robustness check using medians). We find that a compliment increases mean cone weight by 11.32 percent (two-tailed, pairwise t-test of raw weights, COMPLIMENT vs. NORMAL: $t(35) = 4.9802$, $p = 0.0000$) and a tip in advance of approximately 10 percent by 21.89 percent (TIP vs.

NORMAL: $t(35) = 6.3761$, $p = 0.0000$; TIP vs. COMPLIMENT: $t(35) = 3.0996$, $p = 0.0038$). In our OLS regression model in Table 2 we find both differences to the baseline to be highly significant even when accounting for various control variables like gender and age of the salespeople and experimenter dummy variables.[5] Note that the net benefit to the customer, after accounting for the cost of the tip, equals more than 10 percent in treatment TIP.

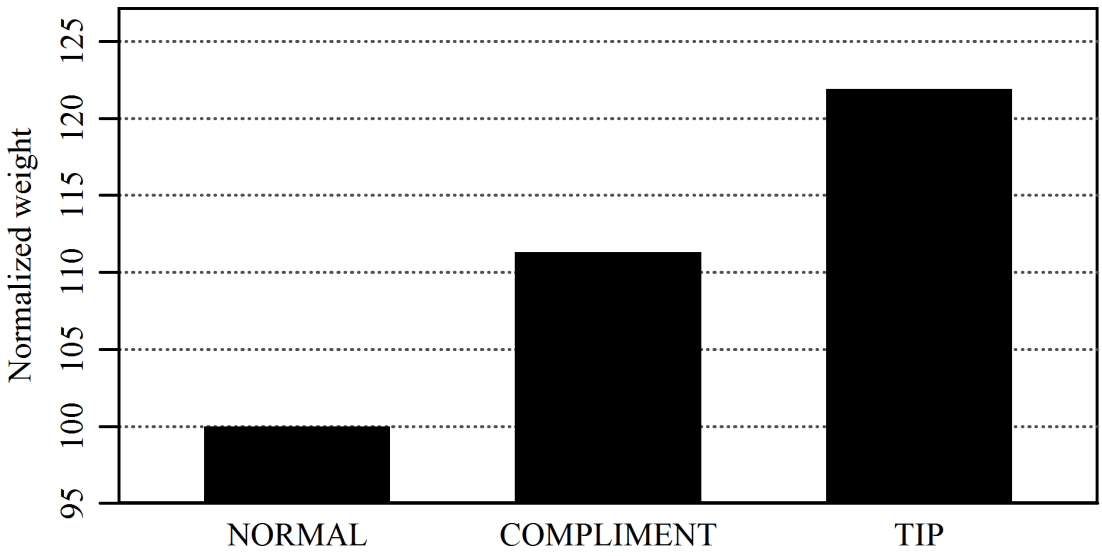

Figure 2: Mean normalized ice cream weight across treatments NORMAL, COMPLIMENT and TIP.

3 Doner Setting

We conduct a second experiment to investigate (1) how reciprocity in response to both immaterial and material gifts develops over time, and (2) whether the effects we observe are robust to moving to a setting where providing extra food requires greater effort by the salesperson.[6]

In experiment DONER, the experimenters ordered durum doner in restaurants and snack bars. A durum doner, pictured in Figure 3, is a dish of Turkish origin, made of meat roasted on a vertical spit, and served in a wrap. Remember that providing extra food in the ice

[5] Age was estimated by each experimenter independently and the median was taken for the regressions.

[6] Note that observing reciprocity over time in the ice cream setting is impossible because of unsystematic working hours, job rotation, and a large share of part-time workforce in the branches of the fast food chain.

Table 2: OLS regressions of normalized ice cream cone weight across treatments.

Regressors	Model 1	Model 2
COMPLIMENT	11.318	11.318
	(2.241)***	(2.303)***
TIP	21.891	21.891
	(4.163)***	(4.211)***
Experimenter Dummies		yes
FEMALE		−0.651
		(3.897)
AGE		−0.098
		(0.227)
Constant	100.000	103.359
	(0.000)	(8.361)***
R^2	0.24	0.24
adj. R^2	0.22	0.20
N	108	108

The dependent variable is normalized ice cream cone weight: All product weights are normalized by dividing by the weight of the observation from the same salesperson in treatment NORMAL. Hence, treatment NORMAL is normalized to 100.
Standard errors, clustered at the salesperson level, are provided in parentheses.
*, ** and *** represent the 10%, 5% and 1% significance levels of a two-sided test.

cream setting only requires the salesperson to press the ice cream machine's button just a few fractions of a second longer. In the doner setting, the salesperson has to deliberately transfer additional amounts of food to the wrap using tongs. Furthermore, the wrap's capacity usually binds more tightly (in percentage terms) than the ice cream cones'. We thus consider this second setting to be a challenging robustness check for the findings from the first setting.

Experimenters bought durum doner from the same salesperson on five consecutive days. There is limited prior evidence on how reciprocity develops within one working day (Gneezy and List, 2006) and none on the development across repeated (immaterial or material) gift-exchange transactions. An individual experimenter's role (i.e., treatments NORMAL, COMPLIMENT, TIP) was fixed for each salesperson and we again randomized the experiment (see the Appendix for procedural details). The experimenters visited restaurants independently from each other.

Figure 3: Sample photos of a durum doner: wrapped in foil (left), wrapped without foil (middle) and unwrapped (right).

3.1 Experimental Procedure – Doner

We conducted the experiment in Graz (GRZ) and Innsbruck (IBK), Austria, and in Munich (MUC), Germany. In each of three cities, three experimenters visited the same 18 restaurants, yielding a total of 54 restaurants and 801 individual observations[7] Table 3 shows the number of observations per treatment and visit. In some restaurants, salespeople changed during the observation period, such that we obtained more observations for early than for late visits with a particular salesperson.[8]

All selected restaurants are organized in a way that the salesperson takes the client's order personally, collects the money, prepares the doner in front of the client and hands over the finished product. Thus, the entire service process is executed by one and the same salesperson. We employed eight male experimenters of similar age (22-26 years), but only three of them collected data in a particular town. One experimenter was active in two towns. Each experimenter ordered *one durum doner* from a given salesperson on each of *five consecutive days*. An individual experimenter's role (i.e., treatments NORMAL, COMPLIMENT or TIP) was fixed for each salesperson. We furthermore strove to ensure that all experimenters always

[7] 9 observations were lost due to technical problems and for 4 observations we are unable to calculate the normalized doner weight since we do not have a corresponding NORMAL observation. The calculation of normalized doner weight is outlined below.

[8] In 14 of the 54 restaurants the salesperson changed at least once during the elicitation period. We still visited each restaurant 15 times, but recorded the observations as stemming from different salespersons and controlled for this in our analysis.

Table 3: Number of observations for each visit and treatment.

	Number of observations			
Visit	NORMAL	COMPLIMENT	TIP	Sum
1	69	69	69	207
2	58	57	58	173
3	53	52	54	159
4	48	44	47	139
5	42	40	41	123
Sum	270	262	269	801

interacted with one and the same salesperson in a given restaurant. We thus designed the experiment to obtain 15 observations per salesperson (three treatments/experimenters, and five observations each). To control for experimenter fixed effects we randomized the experiment. We applied each of the six possible assignments of treatments to experimenters (NORMAL-TIP-COMPLIMENT or NTC, NCT, TNC, TCN, CNT, CTN) three times to cover the 18 restaurants in each town. Thus, each experimenter played each role six times (for five visits each) in each town. Again, the experimenters entered each restaurant independently from each other and were never present in the restaurant at the same time.[9]

After exiting the restaurant, the experimenter weighted the doner as is, i.e., including the tin foil the doner was wrapped in (the weight is negligible in comparison to the product weight and does not vary systematically across treatments). The experimenter noted the weight and put the doner into his backpack for later hand-over to a charitable agency.[10] The experimenter then recorded the date, time, restaurant, product price, and tip amount (if any), as well as the same salesperson characteristics as in ICECREAM. The final experimenter to interact with any salesperson also inquired whether the salesperson was the owner or an employee of the restaurant. The experimenters furthermore noted any special occurrences and took pictures of all durum doner during the weighing procedure (data available upon request).

[9]Experimenter arrivals at the different shops were not randomized systematically, since the experimenters operated independently after the first visit (during the first visit, they entered each restaurant separated by short time intervals, such that they could discuss the salesperson's appearance to make sure each experimenter interacted with the same salesperson throughout). One experimenter was active in two cities and thus visited 12 restaurants.

[10]Conditional on the experimenter's caloric requirements, in some cases the product was also consumed directly by the experimenter himself (after the weighing procedure).

In treatment NORMAL the experimenter used the standardized wording (translated from German) : "One durum doner without sauce, to take away please." The only way in which the salesperson could provide extra benefit in the interaction (apart from, e.g., being particularly friendly, or gifting the consumer with complimentary goods) was to increase the amount of meat or other ingredients, since the durum wraps are standardized. We consciously refrained from ordering sauce, because sauce has high relative density and might add noise. One could argue that getting more doner weight may not be considered beneficial by every customer. However, getting something extra is a typical act of kindness from a salesperson in the service industry (e.g., receiving an additional drink, or a free starter in restaurants).

The five standardized wordings in treatment COMPLIMENT were:

1. "One durum doner without sauce, to take away please. You have the best durum doner in town.";
2. "[...] It tastes best at your place.";
3. "[...] By the way, your durum doner tastes great.";
4. "[...] I never had a better durum doner than at your place.";
5. "[...] There is no place where the durum doner tastes better."

These five wordings were used in randomized order.

Treatment TIP was conducted analogously to the corresponding treatment in ICECREAM. As a percentage of price, tips varied between 8.1% and 10.3%, with a mean of 9.2%.

3.2 Results – Doner

Table 4 presents descriptive statistics of raw doner weight. Across treatments this weight varies from 242 g to 802 g, with a mean of 422 g. It is evident that raw doner weight is on average highest in treatment TIP, and increases substantially over time in treatment COMPLIMENT.

Analogously to setting ICECREAM we control for idiosyncratic salesperson characteristics by calculating an index of normalized doner weight as follows:

$$\text{NORMWEIGHT}_{i,t}^{\theta} = \frac{W_{i,t}^{\theta}}{W_{i,1}^{\text{NORMAL}}} \cdot 100. \quad (1)$$

Table 4: Descriptive statistics: mean, median, standard deviation, minimum, and maximum of raw doner weights across treatments and over time.

Treatment	Visit	Mean	Median	Std.dev.	Min	Max
NORMAL	1	413.35	409.05	60.14	295.15	681.55
	2	406.49	409.23	64.24	257.20	626.90
	3	409.88	398.60	58.64	314.45	646.25
	4	419.33	411.13	58.22	323.30	664.40
	5	416.15	410.73	71.89	244.90	698.45
COMPLIMENT	1	416.12	409.65	56.23	304.55	635.85
	2	418.94	416.30	60.69	241.65	649.15
	3	422.27	415.65	55.43	284.50	622.75
	4	422.35	419.45	57.59	276.90	589.10
	5	439.88	421.35	71.16	351.75	693.50
TIP	1	430.77	424.70	62.09	285.85	650.40
	2	435.67	427.10	61.24	293.70	633.65
	3	430.60	425.60	60.14	308.70	633.95
	4	427.68	414.38	65.13	325.55	643.50
	5	433.42	421.25	80.94	329.65	802.35

Here, $W_{i,t}^{\theta}$ stands for doner weight in treatment $\theta \in \{\text{NORMAL}, \text{COMPLIMENT}, \text{TIP}\}$, purchased from salesperson i in visit t. To arrive at NORMWEIGHT we thus divide each doner's weight $W_{i,t}^{\theta}$ by the weight of the first doner bought from the same salesperson in treatment NORMAL. This normalization eliminates salesperson and restaurant idiosyncratic effects and allows us to focus on treatment differences over time. For convenience, we multiply by 100, such that any deviation of NORMWEIGHT from 100 can be interpreted as a percentage difference relative to the NORMAL observation in the first visit.

Figure 4 presents treatment means (see Figure A2 in the Appendix for a robustness check using medians). In NORMAL, normalized weight remains stable over time. In COMPLIMENT, normalized weight is about 1 percentage point higher in visit 1 and increases substantially over time, to a surplus of more than 7 percentage points in visit 5. In TIP, normalized weight is 6 percentage points higher initially but decreases slightly over time to a surplus of around 4 percentage points in visit 5.[11]

[11] A critique of the weight variable specifically in the DONER setting could be that ingredients have different economic values which are not perfectly linearly related to their prices. However, it is unrealistic to assume that a salesperson wishing to reciprocate a perceived kindness would only add one or two cheaper ingredients, thereby deviating from the 'optimal' input composition, making the product less tasty. Furthermore, the one ingredient whose weight is fixed, the bread wrapper, is relatively cheap, especially compared to the main ingredient, meat. This implies that any extra food amount provided is made up of relatively more expensive

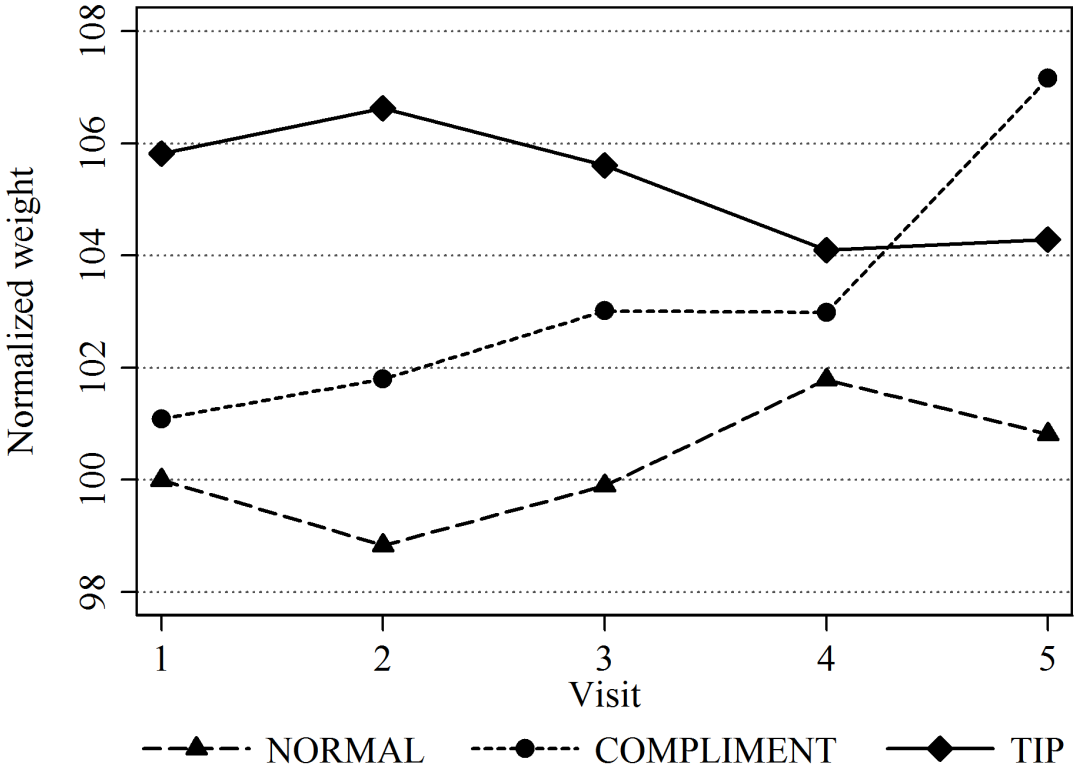

Figure 4: Mean normalized doner weight as a function of time (visit number) across treatments NORMAL, COMPLIMENT and TIP.

The differences between treatments over time are summarized in more detail in Table 5.[12] It reports the results of paired t-tests for treatment differences between normalized weight variables for each visit. We find a general, positive effect of treatment TIP. Mean normalized product weight is significantly higher in treatment TIP than in treatment NORMAL in 4 out of 5 visits. Comparing the effects of monetary and immaterial gifts is less clear. During the first two visits the difference is significantly positive, but it declines monotonically and reverses (although insignificantly) for the last visit.

Table 6 reports OLS regression results. NORMWEIGHT serves as the dependent variable and we use binary treatment dummies for COMPLIMENT and TIP as independent variables

ingredients.

[12]Minor differences between Table 5 and Figure 4 stem from cases where it is not possible to calculate treatment differences for a specific salesperson i, because, as noted in footnote 8, we do not have observations from all treatments for all salespersons.

Table 5: Percentage point differences in normalized doner weight. Paired t-tests are run to test for differences between treatments.

Visit	NORMAL vs. COMPLIMENT	NORMAL vs. TIP	TIP vs. COMPLIMENT
1	−1.09	−5.82	4.33
	(1.61)	(1.74)***	(1.44)***
2	−3.57	−7.58	3.74
	(2.10)*	(1.87)***	(1.87)**
3	−2.89	−3.98	1.76
	(1.49)*	(1.41)***	(1.62)
4	−0.17	−1.83	1.29
	(1.53)	(1.82)	(1.70)
5	−5.82	−4.00	−2.52
	(2.15)***	(1.70)**	(2.02)

Standard errors in parentheses. For instance, the value of –1.09 in the first cell of the treatment comparison NORMAL vs. COMPLIMENT (first column) is calculated as normalized doner weight in NORMAL minus COMPLIMENT, indicating a higher weight of 1.09 percentage points in COMPLIMENT in visit 1.
*, ** and *** represent the 10%, 5% and 1% significance levels of two-sided, paired t-tests.

(Model 3). In Model 4 we add time trends (TIME $\in \{1, 2, 3, 4, 5\}$) for each treatment to analyze whether the effects of immaterial and monetary gifts change over repeated visits. We also add experimenter and location dummy variables as well as variables AGE and FEMALE for salesperson age and gender.[13] Standard errors are clustered at the salesperson level. To test for robustness we run fixed and random effects panel regressions with the salespersons serving as the cross-section. These regressions yield qualitatively unchanged results (see Table A1 in Appendix section 6.2 for details).

We find a significantly positive overall effect of both interventions compared to treatment NORMAL. The difference between treatments COMPLIMENT and TIP in Model 3 is highly significant as well (Wald coefficient test, $F(1,68) = 7.63$, $p = 0.0074$). With regard to developments over time, we find that the time trend of treatment COMPLIMENT is significantly positive, with an average weight increase of 1.29 percentage points per visit. The other treatments' time trends are insignificant by themselves. We do however observe a difference in time trends between treatments NORMAL (with a positive and insignificant coefficient) and TIP

[13]Since one experimenter was active in two towns, we need to include the location dummy TOWN1 in addition to the experimenter dummies to control for restaurant location.

(with a negative and insignificant coefficient). This difference is weakly significant (Wald coefficient test, $F(1,68) = 3.25$, $p = 0.0761$), while the trend difference between COMPLIMENT and TIP is highly significant (Wald coefficient test, $F(1,68) = 9.89$, $p = 0.0025$).

Table 6: OLS regressions of normalized doner weight (NORMWEIGHT) across treatments and over time.

Regressors	Model 3	Model 4
COMPLIMENT	2.724	0.509
	(1.037)**	(1.699)
TIP	5.253	7.901
	(1.041)***	(2.090)***
NORMAL × TIME		0.481
		(0.446)
COMPLIMENT × TIME		1.285
		(0.393)***
TIP × TIME		−0.465
		(0.449)
Experimenter Dummies		yes
TOWN1		−1.377
		(3.236)
FEMALE		−0.211
		(3.241)
AGE		−0.065
		(0.132)
Constant	100.173	102.983
	(0.975)***	(4.888)***
R^2	0.03	0.06
adj. R^2	0.03	0.04
N	797	797

The dependent variable is normalized doner weight NORMWEIGHT: All product weights are normalized by dividing by the weight of the first observation from the same salesperson in treatment NORMAL. Hence, treatment NORMAL is normalized to 100 in visit 1.
Standard errors, clustered at the salesperson level, are provided in parentheses.
*, ** and *** represent the 10%, 5% and 1% significance levels of a two-sided test.

The findings from both settings allow us to answer all research questions with results using the same numbering scheme we used for the questions themselves.

Result 1: Paying respect by providing an immaterial gift prior to the product's preparation induces positive reciprocity by the salesperson.

Result 2: A monetary gift, given prior to the product's preparation, induces positive reciprocity as well. On the aggregate, the effect is more pronounced than following an immaterial gift (before cost).

Result 3: Immaterial gifts by the consumer lead to increasingly reciprocal behavior over time. Thus, compliments to the salesperson yield positive time effects compared to (1) reciprocity induced monetarily by tipping first, and compared to (2) normal orders.

4 Discussion

4.1 Choice of Settings

Both settings of this study (ICECREAM and DONER) were carefully selected to fulfill the following five requirements, ensuring a high degree of experimental control:

First, the entire consumer-salesperson interaction, including accepting the order, preparing the product, and accepting the payment is attended to by a single salesperson. Many comparable settings are characterized by a division of labor on the salesperson side. For instance, a waiter in a restaurant has to rely on the barkeeper and on the kitchen staff when aiming to provide high quality drinks and food in minimum time. Such a setting would have added unwarranted noise to our results.

Second, the amount of additional food provided is measurable. One might get better treatment with tipping or complimenting in advance in many service settings, yet this better treatment may not be measurable. For instance, a concierge may provide better service by being more friendly, and a hairdresser may be more careful and invest greater effort, but their additional effort and higher quality of service do not lend themselves to easy quantification.

Third, the salesperson has the discretion to choose a higher than normal amount of food. Many services are standardized with no possibility for the salesperson to intervene by adding any additional benefit. For example, beverages are frequently filled to the brim, with no chance to add any extra. Other products might already be standardized ex ante with hardly

any chance for the salesperson to have an impact (e.g., pizza slices in snack bars, pieces of cake in cafés).

Fourth, the experimental treatments are not likely to arouse in the salesperson the suspicion that they may be part of a test or experiment. It is not very unusual in the restaurants we visited to give a tip or make a compliment about the product. We would, however, expect our effects to dissipate if complimenting or tipping were to become the social norm.

Finally, the consumer-salesperson interaction reflects an everyday life situation. Going to snack bars or restaurants to order ice cream or durum doner is a common occurrence, even when done on five consecutive days.

4.2 Discussion of Results

The joint results of our two experimental settings imply that, from a customer perspective, immaterial gifts are cost-efficient means of obtaining better treatment. Conversely, our study yields ambiguous evidence for monetary gifts. The increase in product weight does not necessarily suffice to compensate the customer for the additional amount spent.

Note that our analyses measure only a lower bound of the extra service provided in treatments COMPLIMENT and TIP. The experimenters frequently received additional benefits which could not enter our analysis. In treatment COMPLIMENT the experimenters received 16 rebate cards, free servings of tea, soft drinks, almond juice and prawn crackers, in one instance two rebate marks instead of one, and a return compliment. In treatment TIP the experimenters received a total of 9 rebate cards, a serving of special meat for a tasting, and repeated free servings of tea and prawn crackers. In treatment NORMAL the experimenters received only 12 rebate cards and, once, two rebate marks.

Comparing the two settings ICECREAM and DONER, we find similar qualitative patterns (i.e., higher food weight overall in COMPLIMENT and TIP), but substantial quantitative differences. We attribute this discrepancy to the different mechanics of food preparation. As discussed before, in ICECREAM it is easy for the salesperson to fill more ice cream into a cone. All she needs to do is hold down the machine's button for a few extra fractions of a second. In DONER, every ingredient has to be manually transferred to the wrap using tongs, implying

greater effort for extra product provision. Furthermore, the capacity constraint of the doner wrap binds more tightly (in percentage terms) than that of the ice cream cone. Generous portioning thus is easier in setting ICECREAM. This accounts for the level differences in effects, while leaving the qualitative patterns intact across experimental settings.

We believe that immaterial gifts may trigger reciprocation also in other situations in day-to-day (economic) life. This would support the notion that reciprocal behavior in response to immaterial gifts is fundamental to human behavior. At the same time, the increasingly reciprocal behavior upon repeated provision of immaterial gifts is a novel finding and adds to the literature which heretofore has focused only on a single workday, and on situations with a single exchange of a monetary gift (Gneezy and List, 2006). While the (initially higher) effects of material gifts decrease moderately over time, the effects of immaterial gifts get stronger with repeated interactions. This observation suggests that immaterial forms of expressing approval may have stronger performance-reinforcing effects than money in the long run. This is remarkable, given that monetary incentives have become very important in almost all aspects of life in recent decades.

It is furthermore important to note that other factors could have contributed to the effects found in treatment COMPLIMENT. First, making a compliment may have the effect of reducing social distance, i.e., "the emotional proximity induced by the situation" (Charness and Gneezy, 2008, 30). Such a reduction has been found to induce increased kindness (see for example Hoffman et al., 1996, and Charness and Gneezy, 2008). However, this effect would presumably also play a role in treatments NORMAL and TIP, thus limiting its impact on between-treatment comparisons. Second, as suggested in the discussion of the principal-agent perspective, a compliment may also be a signal of the consumer's willingness to play a repeated game. However, visiting a salesperson several times in a row in treatment NORMAL or giving an extra tip in treatment TIP provides a similar signal, again reducing the impact of this explanation on between-treatment comparisons. Third, part of the effects could be driven by guilt aversion (Charness and Dufwenberg, 2006; Battigalli and Dufwenberg, 2007; Ellingsen et al., 2010). Guilt aversion postulates that people feel guilty (and so incur a utility loss) whenever their behavior does not live up to their beliefs about the expectations of others.

In our experiment, part of salespeople's behavior could be motivated by guilt aversion in the face of customers' kind acts of tipping and complimenting. If a salesperson is guilt averse she does not want to let the customer down and thus reciprocates with kindness, i.e., higher doner weight. As Ellingsen et al. (2010) point out, measuring guilt aversion is difficult even in a lab environment. Hence, we cannot state the exact impact (if any) of guilt aversion. However, neither of the three explanations fully accounts for the effects found in treatment COMPLIMENT. They either cannot be measured or they would be expected to have a similar impact in the other treatments as well.

Another interesting insight is that monetary gift exchange in repeated settings may work better than previous studies have indicated. While Gneezy and List (2006) report that reciprocation is temporary, we find that this need not be the case. In our study reciprocal behavior declines slightly over time in treatment TIP, but nonetheless is substantial even after five days. At the same time, reciprocation increases markedly when induced by immaterial gifts. We need to emphasize, however, that the approach of Gneezy and List (2006) is very different to ours. While Gneezy and List (2006) use a data entry task for a library and a door-to-door fund-raising environment, we analyze a typical, everyday consumption interaction. Furthermore, they investigate behavior over one working day following *one* initial gift exchange. We provide immaterial or monetary gifts repeatedly before *each* interaction with a salesperson, making ours a clean test of the effect's stability over time. In summary these considerations show that more research is warranted on the stability of gift exchange in various natural environments.

In the DONER experiment, we can also discuss the implications of our study from a principal-agent perspective. The exchange of complimentary food for immaterial or monetary gifts may increase the utilities of the consumer and of the salesperson. Yet it is the principal (i.e., the owner of the restaurant) who pays the cost of the increased goods and material employed. At the same time, the principal may profit most from a satisfied customer, because the latter will be more likely to return and to spread the word among friends, thereby increasing the restaurant's future sales. In the case where the owner herself serves as salesperson, she presumably derives the same direct utility as an employee salesperson from

being tipped or complimented. Thus, the effect sizes in COMPLIMENT and TIP could differ for employee salespeople and owner salespeople, even though the direction of this difference is hard to predict (Akerlof, 1982).[14] Fortunately, doner are frequently prepared not by employee salespersons, but by the restaurant owners themselves (the same is not true for the ICECREAM experiment). This allows us to study differential effects between employee and owner salespersons. As noted in section 3.1, the final experimenter to interact with any particular salesperson inquired whether the salesperson was the owner of the restaurant. Since some salespeople changed during the experiment, we were able to obtain this information for approximately 90% of our observations. Including interactions between a dummy variable for owner salespeople and the treatment dummy variables in our regressions, we find no evidence that any of our findings differ significantly between owner and employee salespeople (detailed results available upon request).

Finally, it is important to emphasize that our results hold in a situation where the behavior exhibited in our treatments—while not entirely out of the ordinary—is not a general norm among consumers. We would expect our treatment effects to diminish with increasing frequency of tipping and complimenting, respectively, in the general consumer population. In the extreme case that tipping or complimenting were to become a social norm, we would expect negative reciprocity for consumers not providing an immaterial or a monetary gift. In other words, we conjecture that consumers might be punished by the salesperson if no tip or compliment were given in advance when it is the norm to tip or compliment.

[14]Note that the issue is in fact more complex than suggested here. Assume that only the employee serves customers in a given restaurant. Even in this case, both the owner and the employee may profit from reciprocation. Leaving a positive impression with the customer by reciprocating his kind gesture (tip or compliment) may increase the likelihood of the customer returning to the restaurant or spreading the word among her friends and relations. This in turn increases the likelihood for the salesperson to obtain future tips or compliments from the customer or her friends, and for the owner of reaping the benefits of increased future revenue. Thus if the salesperson in this situation decides to reciprocate and the owner considers the expected impact on future revenues to outweigh her cost for the increased goods and materials employed, there is no agency conflict. Similarly, if the owner considers the extra costs to outweigh the benefits from reciprocating, and the salesperson decides to refrain from reciprocating for fear of hurting the restaurant owner, there is no agency conflict. Agency conflicts arise whenever the salesperson chooses to reciprocate even though the owner would not want her to, or if the salesperson does not reciprocate if the owner would want her to. It is even possible that the owner would not want the employee salesperson to reciprocate while the owner herself, in the same situation, reciprocates. This is because, when the owner is serving the customer herself, she herself experiences the 'warm glow' (Andreoni, 1989) from having been kind to the customer, which may outweigh extra costs which are not compensated by sufficient positive future benefits.

5 Conclusion

Reciprocation of monetary gifts is well-understood in economics. In contrast, there is little research on reciprocal behavior following immaterial gifts like compliments. We close this gap and investigate how employees reciprocate after receiving immaterial and monetary gifts. Moreover, we investigate the stability of immaterial and monetary gifts over time with repeated gift exchange transactions.

We find that (1) immaterial gifts in the form of compliments significantly increase salespeople's reciprocal behavior. Salespeople prepare ice cream and durum doner weighing more than ones obtained without intervention. We also find that (2) monetary gifts (tips) induce positive reciprocity which is on average stronger than that from immaterial gifts. However, the increase in product weight does not necessarily suffice to compensate the customer for the increased cost. Finally, we find that (3) only reciprocation to immaterial gifts grows significantly over repeated interactions, increasing by around 6 percentage points over the course of five visits. Reciprocal behavior conditional on monetary gifts, in contrast, does not vary significantly over time.

With our study we extend literature along four dimensions. First, we explore reactions to immaterial and material gifts in the same two settings (ice cream and doner), making them comparable. Second, we investigate both approaches in natural consumer-salesperson interactions in everyday life situations. Third, we use a repeated setting to analyze how monetary and immaterial gifts work over time. Fourth, we investigate the robustness of our findings by investigating whether our results replicate from the first to the second setting.

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6 Appendix

6.1 Additional Figures

Figures A1 and A2 present the same information as figures 2 and 4, yet aggregating normalized weight using the median instead of the mean.

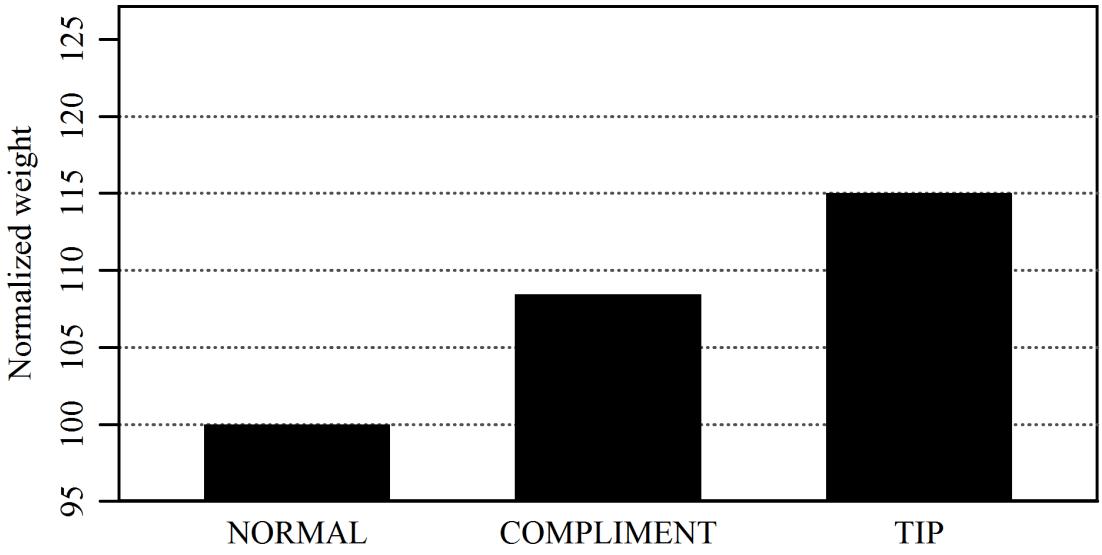

Figure A1: Median normalized ice cream weight across treatments NORMAL, COMPLIMENT and TIP.

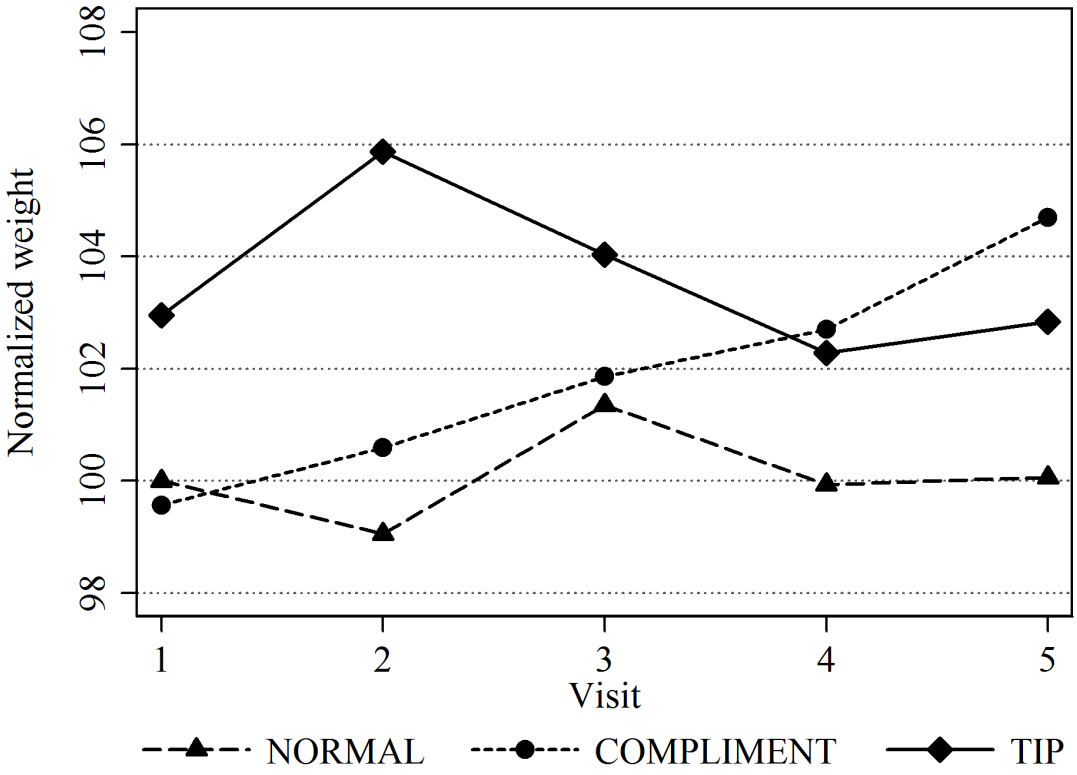

Figure A2: Median normalized doner weight as a function of time (visit number) across treatments NORMAL, COMPLIMENT and TIP.

6.2 Robustness Check – Regression Results

We run panel regressions with the data used in Table 6 to test the robustness of our results. For our panel data set, salespersons serve as the cross-section. Normalized doner weight NORMWEIGHT is the dependent variable. As independent variables we use binary treatment dummies for COMPLIMENT and TIP, time trends TIME for each treatment, and all control variables employed in Model 4 of Table 6 (i.e., experimenter and location dummies as well as a gender dummy and an age variable for the salespeople). In models 5a and 6a we control for cross-section fixed effects and in models 5b and 6b we run random effects specifications. Standard errors are clustered at the salesperson level. Table A1 shows that the results from the panel regressions are practically identical to the ones obtained from the OLS regressions reported in the paper. In particular, normalized doner weight is significantly higher when customers provide ex-ante compliments about the product (COMPLIMENT) and when they provide ex-ante tips (TIP) than in treatment NORMAL.

Table A1: Robustness check: Panel-regressions for differences in normalized doner weight across treatments and over time.

Regressors	Model 5a (fe)	Model 5b (re)	Model 6a (fe)	Model 6b (re)
COMPLIMENT	2.661	2.650	0.897	0.834
	(0.988)***	(0.990)***	(1.638)	(1.644)
TIP	4.988	5.019	7.682	7.706
	(0.973)***	(0.978)***	(2.044)***	(2.056)***
NORMAL × TIME			0.576	0.559
			(0.388)	(0.392)
COMPLIMENT × TIME			1.215	1.219
			(0.367)***	(0.366)***
TIP × TIME			−0.391	−0.404
			(0.393)	(0.395)
Experimenter Dummies			yes	yes
MUNICH				−1.256
				(2.976)
FEMALE				−1.537
				(3.410)
AGE_SALESPERSON				−0.094
				(0.138)
Constant	100.281	100.351	98.160	104.322
	(0.577)***	(0.930)***	(1.405)***	(5.228)***
R^2	0.05	.	0.08	.
adj. R2	0.05	.	0.06	.
R2 within	0.05	0.05	0.08	0.08
R2 between	0.01	0.01	0.00	0.04
R2 overall	0.03	0.03	0.03	0.05
N	797	797	797	797

Panel regressions with normalized doner weight as dependent variable and treatment dummies as major independent variables. Models 5a and 6a are run as cross-section fixed effects panel regressions and models 5b and 6b use random effects specifications. Standard errors clustered at the salesperson level (in parentheses).
*, ** and *** represent the 10%, 5% and 1% significance levels of a two-sided test.

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Michael Kirchler, Stefan Palan

Immaterial and monetary gifts in economic transactions. Evidence from the field

Abstract
Reciprocation of monetary gifts is well-understood in economics. In contrast, there is little research on reciprocal behavior following immaterial gifts like compliments. We close this gap and investigate how employees reciprocate after receiving immaterial and material gifts. We purchase (1) ice cream from fast food restaurants, and (2) durum doner, a common lunch snack, from independent vendors. Prior to the food's preparation, we either compliment or tip the salesperson. Salespersons reciprocate compliments with higher product weight than in a control treatment. This reciprocal behavior grows over repeated transactions. Tips have a stronger level effect which marginally decreases over time.

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