Appendix: Decomposing Desert and Tangibility Effects in a Charitable Giving Experiment

1. Protocol

Lab Setup

There must be two parts to the laboratory. One, the "Inside" is where the subjects sit at their desks/computers, and the other, the "Outside" is where we the experimenters, meet the subjects at the beginning and end. The Inside must not be viewable from the Outside, and this must be obvious. We set up subject computers, and the relevant handouts and numbers on desks Inside, but the server computer and the "N" z-leaf must be set up Outside. We need to have access to a printer Outside.

Set number of subjects in Background and Global. Sort clients and pre-fill envelopes with receipts and money and build three stacks.

Timing

1. Participants meet Outside
2. Give short description of what will happen [Briefing]
3. Ask for a volunteer. If there are more, select them by drawing balls from the Urn. Brief the volunteer
4. Participants draw a number from the box and are advised not to let us see it but to look at the number "Inside" the lab facility, and report to the desk with that number on it and follow the instructions. [Instructions performance]
5. [PERFORMANCE TREATMENTS ONLY] Start the WORK Stage
6. [CASH TREATMENT ONLY] Experimenter screen Prompts Subject number and payment. Look up subject number and computer number in subject table and put post it notes with subject number on the prepared envelopes [ENVELOPE]

(a) Take pre-filled envelopes and put in: If subject shock=1: 3 donation envelopes If subject shock=0: 2 donation envelopes (Brot and WWF) and put subject number on post-it on the big brown envelope Prompt the volunteer to come out. Hand over the box with envelopes and instruct the volunteer to distribute the envelopes to the tables 10.[on screen] Instruct subjects to open the envelopes, count the money and enter the amount

7. DONATION PHASE – Donation
8. [CASH TREATMENT ONLY] Screen that reports payments tells subjects to put the amount they promised to donate into the appropriate plain white envelopes.
9. After Questionnaire

   (a) [CASH TREATMENTS ONLY] Subjects are instructed to collect their belongings and get up from their desks. They put the SPENDEN [donation] envelopes into the SPENDEN [donations] box and the BELEG [document envelopes] into the BELEG [document] Box. Volunteer makes sure that all are ready the subjects are to come "Outside" to meet us. Volunteer opens the "SPENDEN" [Donations] box and adds the actual donations. Volunteer observes that experimenter donated the correct amount of money (online, using credit card) and signs to this effect. We pay volunteer, and volunteer signs receipt of this. Volunteer also signs Volunteer Witness Form saying that "I witnessed that experimenters made [AMOUNTS HERE]€ payments to charities. This payment equaled the total of the actual subject contributions."

   (b) [ENTITLEMENT TREATMENTS ONLY] Subjects are instructed to collect their belongings and get up from their desks. They put the BELEG [documents] into the BELEG [documents] Box. Volunteer makes sure that all are ready the subjects are to come "Outside" to meet us. Experimenters add up the donations recorded by ztree and show them to volunteer. Volunteer observes that experimenter donated the correct amount of money (online, using credit card) and signs

to this effect. We pay volunteer, and volunteer signs receipt of this. Volunteer also signs Volunteer Witness Form saying that "I witnessed that experimenters made [AMOUNTS HERE]€ payments to charities."

Records and book-keeping

Receipt forms (and Volunteer Witness Form) and records of donations (email response from charity, credit card record, letters from charity when they arrive) will be sent to the graduate school administrator at [Names of universities hidden]. Subjects are told that they can contact the administrator [name provided to the subjects] if they are still skeptical and want to verify the (total, per session) donations made.

2. Description of charities

Brot für die Welt (Bread for the World)

Brot für die Welt is a development organisation by the church founded in 1959 in Berlin. It is supported by all the country's Protestant and independent churches. The management of the organisation "Bread for the World" is located at the Diakonisches Werk der EKD eV, which is the legal entity of action. The annual fund-raising starts on the first Advent, the beginning of the liturgical year. Every action is under a particular theme, which will indicate specifically funded projects. Most development projects are assigned to various program topics. In 2007 "Brot für die Welt" mainly promoted measures to ensure food security and access to basic services such as education and health. Other supported areas are peacekeeping and democracy promotion, and the fight against HIV / AIDS. As of 2005, they have received over 1.6 billion Euro in donations for aid projects in Africa, Asia, Latin America and for several years in Eastern Europe. In 2006 Bread for the World received donations amounting to 51.5 million euros.

WWF

The WWF, the World Wide Fund For Nature, is one of the largest international nature conservancy organisation worldwide. It was founded in Switzerland in 1961 as World Wildlife Fund. The WWF wants to halt the worldwide destruction of nature and create a future where humanity lives in harmony with nature. The WWF stands up for: conserving ecological diversity, the sustainable use of natural resources, and the reduction of pollution and harmful consumer behavior. Over the years the areas of expertise have grown from pure species preservation: Now general topics of protecting the environemnt and climate change are on the agenda of the WWF.

Deutsches Rotes Kreuz (German Red Cross)

The German Red Cross is committed to life, health, welfare, protection, peaceful coexistence and the dignity of all people. All people in need have the same entitlement to

assistance, without regard to nationality, race, religion, sex, social status or political conviction. The DRC offers help solely on the degree of need and the urgency of the assistance. The voluntary assistance is used to restore the powers of self-help for people in need. The DRC will offer all services that are necessary to fulfill our mandate. They should meet the highest standards and quality requirements. In fulfillment of our own objectives , the DRC cooperates with all institutions and organizations in state and society that can be helpful and / or have similar objectives. However, we are preserving our independence. We respond to competition from others by improving the quality of our assistance, but also its economic viability.

3. Screenshots of experimental stages

Figure 1: The real effort task

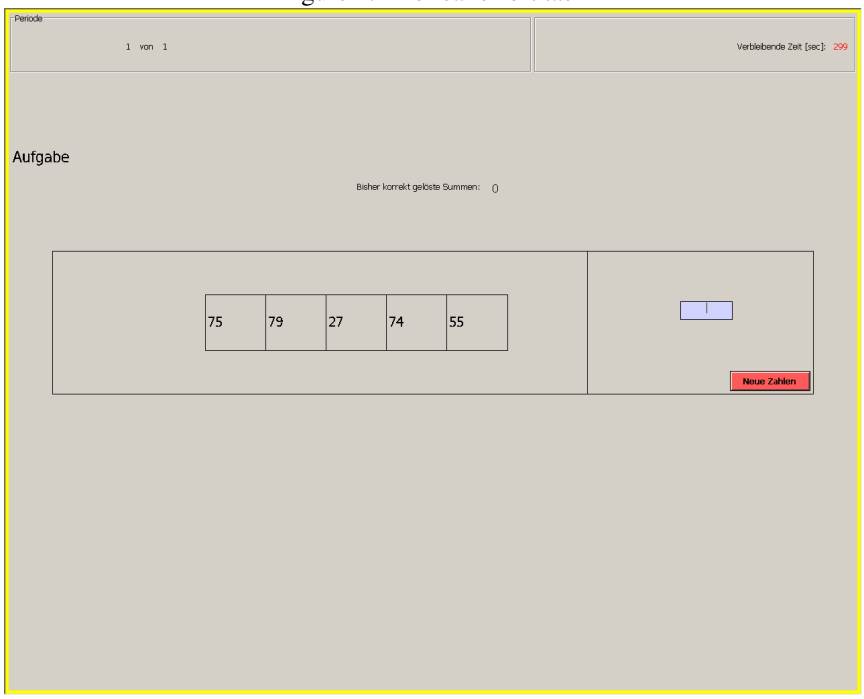

Figure 2: Promised Payments

You obtain 10.00€ for this experiment. Please press OK.

Figure 3: Cash Payments

You obtain 10.00€ for this experiment.
The volunteer will now go to the outer part of the lab to get the envelopes and distribute them.
Please remain seated in the meanwhile and do not talk to your neighbors.
As soon as you receive the money, please count it.
Press OK after you have counted the money and signed the receipt.

Figure 4: Donation Stage

Your earnings: €10.00

[Donation Decisions]

Your donation will be transferred under the supervision of the volunteer to the respective organizations.

Table 1: Extensive margin: Probit regressions of Positive Donation

	(1)	(2)	(3)	(4)	(5)	(6)
Pay cash	0.0037	-0.012	0.0084	-0.0013	0.0084	-0.016
	(0.061)	(0.10)	(0.060)	(0.10)	(0.059)	(0.099)
Pay by performance	-0.14*	-0.15	-0.14*	-0.15	-0.13*	-0.16+
	(0.061)	(0.096)	(0.059)	(0.091)	(0.059)	(0.088)
Cash $\times$ performance		0.033		0.020		0.049
		(0.11)		(0.11)		(0.095)
Third charity			-0.038	-0.038	-0.037	-0.036
			(0.087)	(0.087)	(0.077)	(0.076)
Stake: 7.5			-0.13	-0.13	-0.11	-0.11
			(0.080)	(0.080)	(0.073)	(0.072)
Stake: 10			-0.099	-0.098	-0.098	-0.095
			(0.095)	(0.095)	(0.096)	(0.095)
Female					0.16*	0.16*
					(0.067)	(0.065)
Observations	190	190	190	190	190	190
Pseudo R^2	0.014	0.014	0.026	0.026	0.045	0.046

Marginal effects, evaluated at Account Random, Female, Stake = 7.5, 2 charity choice set

Standard errors, clustered by session, in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Note: Linear probability models (available by request) yield nearly identical results.

4. Extensive margin regressions

Table 2: Ratio of income donated (Papke-Wooldridge estimator)

	(1) Base	(2) Exp. Controls	(3) Add. controls
Share of earnings donated (total)			
Pay cash	-0.81**	-0.75**	-0.81**
	(0.33)	(0.33)	(0.32)
Pay by performance	-0.57*	-0.50	-0.54
	(0.34)	(0.35)	(0.36)
Cash × performance	0.36	0.26	0.37
	(0.50)	(0.51)	(0.52)
Third charity		0.25	0.24
		(0.24)	(0.24)
Stake: 7.5		-0.67**	-0.62**
		(0.30)	(0.30)
Stake: 10		-0.79***	-0.81***
		(0.30)	(0.29)
Female			0.57**
			(0.26)
Constant	-0.98***	-0.74***	-1.05***
	(0.21)	(0.26)	(0.29)
Combined Coefficients			
Cash+perform+cash × perform	-1.02	-0.98	-0.98
	(0.34)	(0.33)	(0.33)
Observations	190	190	190

Standard errors in parentheses

* p<0.10, ** p<0.05, *** p<0.01

5. Robustness checks

Table 2 presents the results of the regression on the proportion of income donated, using Papke-Wooldridge estimator for fractional response variables. The coefficient on cash payments is still significant and negative, while the coefficient on performance pay loses significance when adding additional controls, but the coefficient itself does not change.

In table 3 we run the regressions from main text table 3 column 5 split by charity. We find a similar pattern for the cash treatments over all charities, although the coefficients on cash are are only significantly negative for WWF and DRK.

Table 3: Poisson regressions by charity

	(1) Brot f.d. Welt	(2) WWF	(3) DRK
main			
Pay cash	-0.44	-0.72**	-1.39*
	(0.27)	(0.28)	(0.59)
Pay by performance	-0.41	-0.24	-0.76
	(0.28)	(0.24)	(0.52)
Cash × performance	0.22	0.036	1.74*
	(0.44)	(0.43)	(0.83)
Third charity	-0.11	-0.049	
	(0.21)	(0.19)	
Stake: 7.5	-0.19	0.11	-0.63
	(0.26)	(0.23)	(0.55)
Stake: 10	0.088	-0.11	0.38
	(0.24)	(0.25)	(0.39)
Female	0.73**	0.12	0.62
	(0.23)	(0.20)	(0.41)
Constant	-0.77**	-0.24	-0.99*
	(0.27)	(0.23)	(0.50)
Combined Coefficients			
Cash+perform+cash × perform	-0.62	-0.93	-0.41
	(0.30)	(0.30)	(0.45)
Observations	190	190	94
R^2			
Pseudo R^2	0.050	0.039	0.105

Standard errors in parentheses

+ p<0.10, * p<0.05, ** p<0.01

Marginal effects reported. Constant dropped.

Session and time of day effects

As table 4 illustrates, our treatments are also not perfectly balanced over time:

Table 4: Schedule of sessions and treatments

Date (m/d/yr)	Time	Subjects in treatments			
		Account/Random	Cash/Random	Account/Performance	Cash/Performance
10/27/08	9:50	10			
	11:49	10			
10/28/08	9:51			10	
	11:43				9
02/25/09	9:30	18			
	11:56			15	
02/26/09	11:25		18		
03/02/09	10:42				18
	12:08		10		
10/30/09	10:11		18		
	11:33				18
	13:07	18			
	14:38			18	

To test for session-specific effects, we report regressions with standard errors clustered by session, and controls for time-of-day and time-of-year effects; our results are robust to all of these. We divide our session times into three categories: 9.30-10:30 am, 10:31-12 noon, and afternoon (12:01-14:38pm). The regressions below control for all of these "time dummies", and they are not jointly significant. We also divide our sessions into four "sets": those run in October of 2008, those run in February and March of 2009, and those run in October 2009. Again, these dummies are not jointly significant in any of the regressions below.

Table 5: Poisson and OLS regression on total donations

				Gender contr.
	(1)	(2)	(3)	(4)
	Psn.	OLS	Psn.	OLS
Pay cash	-0.78**	-0.84*	-0.82**	-0.89**
	(0.20)	(0.34)	(0.21)	(0.34)
Pay by performance	-0.53+	-0.54	-0.57*	-0.58+
	(0.32)	(0.35)	(0.28)	(0.35)
Cash × performance	0.42	0.44	0.55	0.56
	(0.58)	(0.50)	(0.59)	(0.50)
Third charity			0.41	0.26
			(0.4)	(0.25)
Stake: 7.5			-0.09	-0.084
			(0.52)	(0.30)
Stake: 10			0.16	0.100
			(0.45)	(0.30)
Female			0.66*	0.53*
			(0.29)	(0.25)
Time dummies <Chi-sq>/[F-test]	<0.23>	[0.12]	<0.54>	[0.26]
{P-value of test}	{0.89}	{0.89}	{0.76}	{0.77}
"Set" dummies <Chi-sq>/[F-test]	<0.85>	[0.48]	<1.41>	[0.59]
{P-value of test}	{0.65}	{0.63}	{0.50}	{0.57}
Observations	190	190	190	190
R^2		0.048		0.079
Pseudo R^2	0.034		0.057	

Standard errors in parentheses, reported clustered by session for OLS.

+ p<0.10, * p<0.05, ** p<0.01 for tests using standard errors clustered by session *for all columns.*

All regressors are dichotomous (0,1) variables, dy/dx for discrete change of dummy variable reported, Marginal effects evaluated at Account/Random, Female, Stake = 7.5, two charity choice set.

Selection on performance differences

It is conceivable that those who do better on the task earn more, and these people might be less generous on average. This "selection" might cause us to falsely attribute this to a desert effect – when we compare the high earners to those with high randomly-assigned endowments, the former would tend to give less. As evidence against this, we find the same effect across all stake sizes (results available by request). As payments when players get a tie score are randomly assigned, we can also control for the absolute level of performance (regression tables available by request). Adding a control for the "number of correctly solved sums" to the regressions in main text table 3 barely alters any of coefficients, and the coefficient on this control variable is tiny, insignificant, and tightly bounded around zero (e.g., if we add this variable to the first column of main text table 3 its coefficient has a 95% confidence interval of -0.08, 0.05) (table available by request).

This result supports Cherry et al. (2005), who write "the selection of high and low endowment dictators in the earned and windfall treatments differ (exam score versus random), which may raise questions of sample selection, but previous research using this selection method has found this is not a significant concern."

6. Statistics on subjects' charity preferences and attitudes toward charities

Table 6: Percentage of subjects who donated to specific charity.

Choice Set	BfdW	DRK	WWF
Two Charities	33.39%	-	30.69%
Three Charities	47.32%	41.67%	39.71%
Overall	39.68%	41.67%	34.65%

Table 7: Answer to the question: "I trust that the charity uses the money as they state" (percentages giving each response)

	WWF	BfdW	DRK
Don't agree at all	0.00	0.00	2.11
Don't agree	10.53	8.42	8.95
No opinion	11.58	14.21	12.63
Agree	59.47	56.84	52.11
Strongly agree	14.21	15.79	14.74
No comment	4.21	4.74	9.47

Table 8: Answer to the question: "What percentage of the money donated reaches the needy" (percentage giving each response)

	WWF	BfdW	DRK
less than 50%	26.32	24.74	26.84
50-75%	40.53	40.53	34.21
75-90%	27.37	30.53	31.05
90-100%	5.79	4.21	7.89

Table 9: Endowments by treatment (realized)

	Mean Allocation	Sd Allocation
Pay cash		
On screen (52%)	7.17	2.07
Cash (47%)	7.39	2.07
Total (100%)	7.28	2.07
Pay by performance		
Random (53%)	7.18	2.07
Performance (46%)	7.39	2.07
Total (100%)	7.28	2.07

7. Endowment sizes by treatment

Table 9 summarizes the endowments by treatment, giving the frequencies of each endowment, and the mean and standard deviation of the endowments. The imbalance resulted from "no-shows" in particular sessions. However, the regression analysis controls for (and finds no evidence of) a "stake size" effect on donations, and the nonparametric analysis involves a bootstrap that, in each repetition, balances the the endowments by treatment.

References

Cherry, T., S. Kroll, and J. Shogren (2005). The impact of endowment heterogeneity and origin on public good contributions: Evidence from the lab. *Journal of Economic Behavior and Organization 57*(3), 357–365.