Signaling Virtue: Charitable Behavior under Consumer Elective Pricing

Supplemental Materials

Supplementary Studies A and B and Supporting Materials

Study 1: The "bag law" and Consumer Behavior under SSR

We report our analyses and the potential impact of the Alameda County's Reusable Bag Ordinance, the "bag law", and its on purchase rates and prices paid below.

Purchase Likelihood

Purchase likelihood was higher in 2013, after the enactment of the bag law (2.3% vs. 2.9 %; χ^2 (1, N = 27,092) = 9.33, p = .002). The purchase likelihood after the enactment of the bag law, was significantly higher under PWYW (0% charitable contribution) than at 1% (χ^2 (1, N = 6,610) = 8.94, p = .002), 50% (χ^2 (1, N = 6,812) = 11.22, p < .001), 99% (χ^2 (1, N = 6,633) = 4.39, p = .038), or 100% (χ^2 (1, N = 6,742) = 6.06, p = .014). Purchase rates did not differ across the four SSR conditions before and after the bag law.

Purchase Price

In 2012, before the enactment of the bag law, payments reflected sensitivity to the level of charitable contribution. Consumers paid more when 1% went to charity ($M_{1\%}$= \$3.13 vs. $M_{No\ Charity}$ = \$1.26, t(101) = 3.69, p < .001), but not significantly, more with a 50% contribution ($M_{1\%}$ = \$3.13 vs. $M_{50\%}$ = \$4.59, t(85) = 1.42, p = .160), but not significantly, more again with a 99% contribution ($M_{50\%}$ = \$4.59 vs. $M_{99\%}$ = \$5.83), t(77) = .90, p = .373. Payments in the pure charity condition (100% to charity) were lower and quite similar to those in the 50% condition ($M_{100\%}$ = \$4.30). Payments did not differ significantly between the 50%, 99%, and 100% conditions (See Table S2).

Consumers paid substantially more before the bag law was introduced than after (M_{2012} = \$3.82 vs. M_{2013} = \$1.92), F(1, 704) = 38.80, p < .001. The pricing manipulation significantly influenced payments, F(4, 704) = 12.89, p < .001, but the upward trends in

payment amount observed in the period preceding the enactment of the law bag disappeared. In particular, the effect of pricing was qualified by a significant interaction between the enactment of the bag law and pricing manipulation, $F(4, 704) = 3.82$, $p = .004$. After the bag law, average payments in each SSR condition was higher than under PWYW (0% to charity), $3.88 < t\text{'}s < 5.69$. As can be seen in Figure S2, there were no differences between the SSR conditions.

The bag law requires consumers to pay for a paper bag should they require one, which resulted with an increased demand for the reusable fabric bags we were selling. The effect on payments were trickier to forecast, and as described above, somewhat difficult to interpret. Although the bag law did not change the direction or significance of our main results, it substantially influenced the magnitude of payments and purchase rates. Consumers were more likely to buy a bag but paid significantly less. When paper bags were no longer free, demand for our reusable bags increased. The resulting boost in purchase rate, however, came mainly from the PWYW (0%) and 99% charity conditions (see Figure S1), suggesting the bag law did not alter the level of discomfort consumers felt in purchasing a bag when their payment was linked to a charitable cause.

We can think of at least two reasonable explanations for the lower payments observed after the bag law was enacted. The first is that the bag law functionally shifted people from pricing in a social market (i.e., "what is the right price to pay for an environmentally conscious bag?" or "what is the right price to pay for someone who trusts me to do the right thing?") to pricing in a money market (i.e., "what is the right price to pay to get a good deal on bags in this market?" (see Fiske 1992; Gneezy and Rustichini 2000; Heyman and Ariely 2004). Second, it is possible that the $0.10 alternative cost have provided a stable reference price that guided

customers' payment decisions. Indeed, as can be seen in Tables S1 and S2, mean payments were lower after the bag law, and consistent with the reference price interpretations. Those payments also showed substantially less variance. In addition, the 2012 sales occurred during the holiday season, whereas the 2013 occurred after the holiday season, both of which might have influenced behavior. And clearly, it is quite possible that the effect is multiply determined by one or more relevant social and economic variables. This particular phenomenon is challenging to study in a randomized experiment using a real world setting (i.e., we opportunistically utilized a naturally occurring legislation change). Future research could separate some of the potential social forces influencing of environmental legislation on consumers' prosocial behavior.

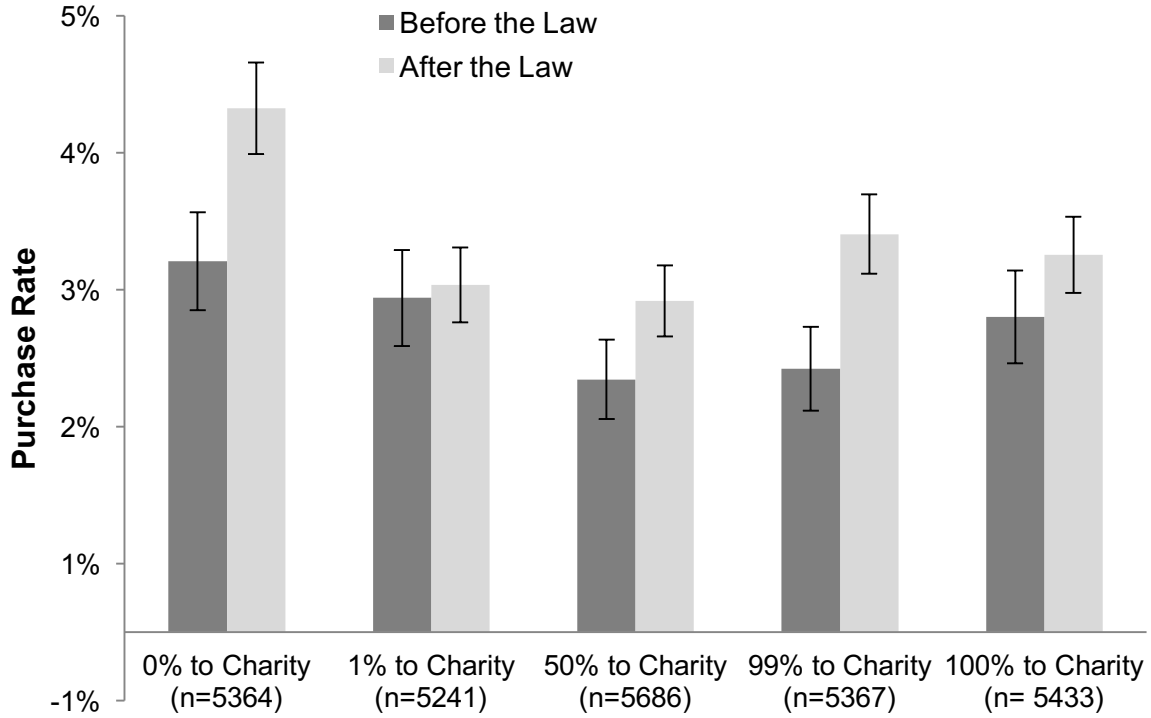

Figure S1*. Study 1. Purchase Rates by SSR Condition and Before and After the Alameda Country's Reusable Bag Ordinance (the "bag law").* Errors bars reflect (purchase rate X (1- purchase rate)/number of total passersby in each condition)^2

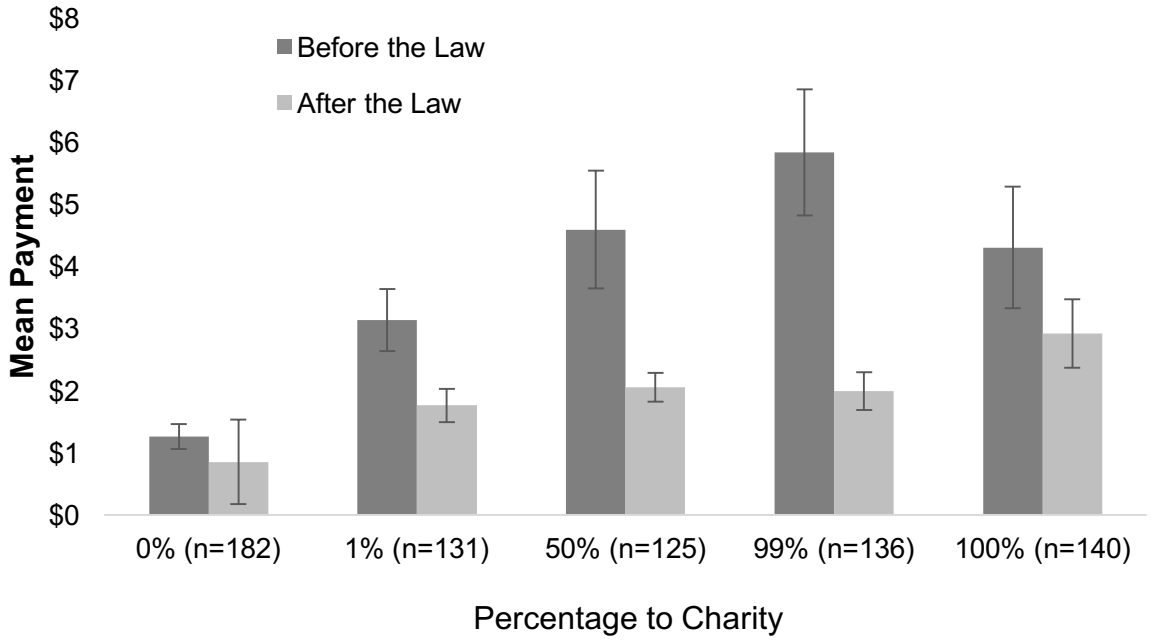

Figure S2. *Study 1: Mean Payment per Reusable Shopping Bag By Charity Condition and Before and After the Alameda Country's Reusable Bag Ordinance (the "bag law"). Error bars reflect ± SE of the means.*

Figure S3. *Study 1. Store Sign Examples (SSR 50% condition and control PWYW condition)*

Table S1

Study 1: Summary of the Results per Condition by Year (Before(in 2012) and After the Bag Law(2013))

Percentage to Charity	**0%**	**1%**	**50%**	**99%**	**100%**
Number of Bags sold in 2012	56	47	40	39	45
Number of Bags sold in 2013	126	84	85	97	95
Total Transactions	182	131	125	136	140
Total Passersby in 2012	2069	1926	2169	2029	1956
Total Passersby in 2013	3295	3315	3517	3338	3447
Total Passersby	5364	5241	5686	5367	5433
Average Payment in 2012 (St. Error)	$1.26 (0.20)	$3.13 (0.50)	$4.59 (0.95)	$5.83 (1.01)	$4.30 (0.98)
Standard Deviation of Mean in 2012	$1.49	$3.43	$6.00	$6.32	$6.55
Average Payment in 2013 (St. Error)	$0.85 (0.07)	$1.76 (0.27)	$2.05 (0.24)	$1.99 (0.30)	$2.92 (0.55)
Standard Deviation of Mean in 2013	$0.77	$2.46	$2.17	$2.97	$5.37
Average Purchase Rate 2012	2.7%	2.4%	1.8%	1.9%	2.3%
Average Purchase Rate 2013	3.8%	2.5%	2.4%	2.9%	2.8%

Table S2

Study 1: Mean Payment and Log_{10} (Mean Payment +1) Comparisons

	Purchase Price	t-test, p-value	Log_{10} (Purchase Price+1)	t-test, p-value
0% vs. 1%	\$0.98 vs. \$2.24	$t(311)=5.44$, $p < .001$	0.26 vs. 0.41	$t(311)=6.15$, $p < .001$
0% vs. 1% (2012)	\$1.26 vs. \$3.13	$t(101)=3.69$, $p < .001$	0.30 vs. 0.52	$t(101)=4.49$, $p < .001$
0% vs. 1% (2013)	\$0.85 vs. \$1.76	$t(208)=3.88$, $p < .001$	0.24 vs.0.35	$t(208)=4.18$, $p < .001$
0% vs. 50%	\$0.98 vs. \$2.86	$t(305)=6.07$, $p < .001$	0.26 vs. 0.45	$t(305)=7.11$, $p < .001$
0% vs. 50% (2012)	\$1.26 vs. \$4.59	$t(94)=3.99$, $p < .001$	0.30 vs. 0.55	$t(94)=3.95$, $p < .001$
0% vs. 50% (2013)	\$9.85 vs. \$2.05	$t(209)=5.69$, $p < .001$	0.24 vs. 0.41	$t(209)=6.25$, $p < .001$
0% vs. 99%	\$0.98 vs. \$3.09	$t(316)=6.09$, $p < .001$	0.26 vs. 0.47	$t(316)=7.97$, $p < .001$
0% vs. 99% (2012)	\$1.26 vs. \$5.83	$t(93)=5.22$, $p < .001$	0.30 vs. 0.67	$t(93)=6.06$, $p < .001$
0% vs. 99% (2013)	\$0.85 vs. \$5.83	$t(221)=4.15$, $p < .001$	0.24 vs. 0.39	$t(221)=6.11$, $p < .001$
0% vs. 100%	\$0.98 vs. \$3.36	$t(320)=5.45$, $p < .001$	0.26 vs. 0.46	$t(320)=6.81$, $p < .001$
0% vs. 100% (2012)	\$1.26 vs. \$4.30	$t(99)=3.37$, $p =.001$	0.30 vs. 0.51	$t(99)=3.46$, $p =.001$
0% vs. 100% (2013)	\$0.85 vs. \$2.92	$t(219)=4.27$, $p < .001$	0.24 vs. 0.43	$t(219)=6.00$, $p < .001$
1% vs. 50%	\$2.25 vs. \$2.86	$t(254)=1.40$, $p =.163$	0.41 vs. 0.45	$t(254)=1.16$, $p =.248$
1% vs. 50% (2012)	\$3.13 vs. \$4.59	$t(85)=1.12$, $p =.160$	0.52 vs. 0.55	$t(85)=.45$, $p =.655$
1% vs. 50% (2013)	\$1.76 vs. \$2.05	$t(167)=.80$, $p =.424$	0.35 vs. 0.41	$t(167)=1.49$, $p =.140$
1% vs. 99%	\$2.25 vs. \$3.09	$t(265)=1.80$, $p =.073$	0.41vs. 0.47	$t(265)=1.80$, $p =.073$
1% vs. 99% (2012)	\$3.13 vs. \$5.83	$t(84)=2.52$, $p =.014$	0.52 vs. 0.67	$t(84)=2.10$, $p =.039$
1% vs. 99% (2013)	\$1.76 vs. \$2.00	$t(179)=.572$, $p =.572$	0.35 vs. 0.39	$t(179)=1.18$, $p =.238$
1% vs. 100%	\$2.25 vs. \$3.36	$t(269)=1.98$, $p =.049$	0.41 vs. 0.46	$t(269)=1.24$, $p =.215$
1% vs. 100% (2012)	\$3.13 vs. \$4.30	$t(90)=1.08$, $p =.284$	0.52 vs. 0.51	$t(90)=.051$, $p =.959$
1% vs. 100% (2013)	\$1.76 vs. \$2.92	$t(177)=1.82$, $p =.071$	0.35 vs. 0.43	$t(177)=1.87$, $p =.063$

50% vs. 99%	$2.86 vs. $3.09	*t*(259)=.44, *p* =.660	0.45 vs. 0.47	*t*(259)=.51, *p* =.610
50% vs. 99% (2012)	$4.59 vs. $5.83	*t*(77)=.90, *p* =.373	0.55 vs. 0.67	*t*(77)=1.33, *p* =.19
50% vs. 99% (2013)	$2.05 vs. $1.99	*t*(180)=.14, *p* =.89	0.41 vs. 0.39	*t*(180)=.40, *p* =.69
50% vs. 100%	$2.86 vs. $3.36	*t*(263)=.81, *p* =.416	0.45 vs. 0.46	*t*(263)=.130, *p* =.897
50% vs. 100% (2012)	$4.59 vs. $4.30	*t*(83)=.21, *p* =.832	0.55 vs. 0.52	*t*(83)=.43, *p* =.672
50% vs. 100% (2013)	$2.05 vs. $2.92	*t*(178)=1.40, *p* =.163	0.41 vs. 0.43	*t*(178)=0.59, *p* =.555
99% vs. 100%	$3.09 vs. $3.36	*t*(274)=.43, *p* =.668	0.47 vs. 0.46	*t*(274)=.36, *p* =.720
99% vs. 100% (2012)	$5.83 vs. $4.30	*t*(82)=1.09, *p* =.280	0.67 vs. 0.51	*t*(82)=1.81, *p* =.074
99% vs. 100% (2013)	$1.99 vs. $2.92	*t*(190)=1.49, *p* =.139	0.39 vs. 0.43	*t*(190)=.978, *p* =.329

Table S3

Study 1: Mean Payment (Standard Deviation) Per Condition After Excluding Outliers (Standardized Residuals < 4)

	0%	**1%**	**50%**	**99%**	**100%**
2012	$1.26	$2.76	$2.88	$5.83	$2.52
	(1.49)	(2.36)	(3.15)	(6.32)	(3.00)
	n = 56	n= 46	n = 36	n = 39	n = 41
2013	$0.85	$1.76	$2.05	$1.62	$1.95
	(0.77)	(2.46)	(2.17)	(1.40)	(2.04)
	n = 126	n = 84	n = 85	n=95	n=91

Figure S4

Study 2. Store Sign Example

Table S4

Study 2: Mean Payment (Standard Deviation, Standard Error) and Sample Size

	PWYW	SSR with 10% Charity	SSR with 50% Charity
Anonymous Payment	$0.74 ($0.57, 0.12), n=65	$1.10 ($1.09, 0.11), n=74	$0.80 ($0.86, 0.11), n=73
Direct Payment	$0.67 ($0.72, 0.11), n=68	$1.10 ($0.97, 0.12), n=61	$1.13 ($1.24, 0.11), n=70

Table S5

Study 2: The Analysis of Variance

Dependent Variable: Average Payment Amount per Doughnut per Person	Dependent Variable: Log_{10}(Average Payment Amount per Doughnut per Person +1)
Main Effects: Pricing: $F(1, 405) = 6.10$, $p = .002$ Anonymity: $F(1, 405) = 0.89$, $p = .346$ Interaction Effect: $F(2, 405) = 1.76$, $p = .173$	Main Effects: Pricing: $F(1, 405) = 8.13$, $p < .001$ Anonymity: $F(1, 405) = 1.15$, $p = .284$ Interaction Effect: $F(2, 405) = 2.92$, $p = .055$

Table S6

Study 2: Alternate Analyses Assuming Those Who Opted Out to Purchase a Doughnut (n=40) Paying Zero Payment and the Median Purchase Price ($1)

Dependent Variable: Assuming Dropt-Out Pay Zero	Dependent Variable: Assuming Dropt-Out Pay The Median Purchase Price ($1)
Main Effects: Pricing: $F(1, 440) = 5.51$, $p = .004$ Anonymity: $F(1, 440) = 1.16$, $p = .281$ Interaction Effect: $F(2, 440) = 0.87$, $p = .421$	Main Effects: Pricing: $F(1, 440) = 6.19$, $p = .002$ Anonymity: $F(1, 440) = .80$, $p = .373$ Interaction Effect: $F(2, 440) = 1.79$, $p = .169$

Table S7.

Study 2: Mean Payment Comparisons Assuming Those Who Opted Out to Purchase a Doughnut (n=40) Paying Zero Payment and the Median Purchase Price ($1)

	Drop-outs paying zero	Drop-outs paying the median price ($1)
PWYW vs. 10% SSR	$t(287)=3.54$, $p<.001$	$t(287)=3.74$, $p<.001$
PWYW vs. 50% SSR	$t(300)=2.09$, $p=.038$	$t(300)=2.48$, $p=.014$
10% SSR vs. 50% SSR	$t(303)=1.23$, $p=.219$	$t(303)=1.06$, $p=.289$

Table S8

Study 1-2: Skewness of Payment Amount

	Payment Skewedness (St.Error)	Log_{10}(Payment +1) Skewedness (St.Error)
Study 1	4.12(.091)	1.274(.091)
Study 2	3.84(.120)	0.674 (.120)

Supplementary Studies A and B

We have conducted two additional field studies to test scope sensitivity and the effect of selection on consumer behavior under SSR. We report the two studies and their supporting materials below.

Study A: A Trivial Charitable Percentage Under SSR and a Public Signal of Generosity

In this study we varied the percentage allocated to charity (0%, 1%, and 50%) to identify which account best describes consumers' sensitivity toward the magnitude of their prosocial contribution in SSR. As we argued in this article, a purely selfish consumer will pay zero in all cases. The *Reciprocating, Equity-focused*, or *Impurely Altruistic Consumers* will pay more with any increase in charitable allocation. Notably, the *Impurely Altruistic* individual will pay substantially more at 1% than at 0%, but will increase her payment less than the *Reciprocating Consumer* would as contribution increases to 50%.

In addition to varying the size of charitable allocation, we also varied the external signal of generosity associated with the purchase. Prior research suggests that people may exhibit greater generosity when they can signal their prosocial identity to others (Glazer and Konrad 1996). This suggests that a selfish individual who wishes to signal others that she is prosocial, might be more likely to purchase and pay more for a product that allows her to do so. Interestingly, however, there is also evidence showing that an external prosocial signal could crowd out an intrinsic or self-signaling motivation (Bem 1972; Gneezy, Gneezy, Riener, and Nelson 2012). To better understand the role of an external prosocial signal on behavior under SSR, we varied the logo printed on our products to be either a commercial/not prosocial or charitable (prosocial) logo.

Method

In this field study we collaborated with an animal protection non-profit organization. And a grocery store that is a well-known San Francisco based organic vegan cooperative owned and operated by its workers. We sold reusable fabric shopping bags in front of the store for nine non-consecutive days (from 9am to 6pm) in June and July 2012. Shoppers (N = 12,394) who approaching the store saw store signs corresponding to one of four randomly assigned pricing conditions. In the PWYW pricing condition, the sign read, "Take a Bag, Pay What You Want". In the two SSR conditions, signs read, "Take a bag, Pay What You Want, [1% or 50%] of what you pay goes to [name of the charity]." (See Figure S8 for sign examples). We manipulated the public signal of generosity by varying the logo printed on the shopping bags to be either the store's or the charity's logo (see See Figure S9). Note that we did not sell shopping bags with the charitable logo in the PWYW condition in which zero percentage went to charity, as this might have raised complaints that the store was taking advantage of the charity.[1] Therefore, we had five experimental conditions in this study.

We set up tables in front of the two main entrances to the store. Shopping bags were displayed on the table next to the pricing sign. We randomized the five experimental conditions with every fifty shoppers entering the store. Research assistants followed the pre-randomized order of conditions throughout the experiment, which allowed us to control for time of day and day of week effects. We recorded the number of people who passed by our table, each transaction amount, the group size, the number of bags purchased per group, and easily

[1] All studies reported in this paper involved no deception. We donated to the charities identified according to the exact proportion stated in each condition.

observable demographic information (i.e., gender, ethnic background, and estimated age). In this and the following three studies, we predetermined the sample size and intermittently examined the data to ensure that the experiment was operating smoothly. We did not make any decision to continue or stop the experiment based on interim analyses.

Results and Discussion

For our analysis, we treated each individual bag sold as our unit of analysis, with average payment-per-person (per bag) as the dependent variable[2]. To derive purchase rates, we divided the number of transactions by the number of total passersby per condition. Controlling for the day of transaction did not significantly influence the direction or significance of our results. Therefore, we do not further discuss this variable.

Purchase Likelihood

Replicating Gneezy et al. (2012), purchase likelihood was lower under SSR versus PWYW conditions (χ^2(1, N=12,394) =18.24, $p < .001$). Notably, this was true even when only one percent of the payment went to charity; consumers were significantly less likely to buy when 1% of their payment went to charity than under PWYW (3.08% vs. 4.54%), χ^2(1, N = 7,354) = 10.13, $p = .001$. As shown in Figure S5, purchase rates between the 1% and 50% conditions did not differ (3.08% vs. 2.72%), χ^2(1, N=9,905) =1.17, $p = .279$.

These results are consistent with the *Impurely Altruistic Consumers* account; when deciding whether to purchase, consumers seem to be sensitive to the *presence* of charitable giving, but largely insensitive to the portion of their payment that is forwarded to the charity.

[2] There were 27 cases of an individual consumer purchasing more than one bag. We used an average payment per bag.

Our signaling manipulation did not affect purchase rates (3.08% for the store logo vs. 2.71% for the charity logo), $\chi^2(1, N = 9{,}905) = 1.19$, $p = .275$, suggesting that the social-signaling potential of one's generosity does not significantly influence purchase decisions.

Purchase Price

Thirty-five consumers asked to make a donation to the charity; that their contribution will be passed to the charity in its entirety. They declined taking a bag. We excluded these individuals from our analyses[3]. Pricing (PWYW, SSR with 1%, or SSR with 50%) significantly influenced average payments, $F(2, 397) = 21.34$, $p < .001$; customers paid more as the charitable contribution increased. They paid more when either 1% or 50% of their payment went to charity than zero percent went to charity in the PWYW condition ($M_{pwyw\%}$ = \$1.40 vs. $M_{Charity\%}$ = \$3.07), $t(398) = 4.55$, $p < .001$. As shown in Figure S6 consumers paid more even when only one percent of their payment went to charity than those in the PWYW condition in which zero percent went to charity (*Ms* =\$2.24 vs. \$1.40), $t(261) = 3.19$, $p = .002$. Consumers also paid more when 50% versus 1% of their payment went to charity (*Ms* =\$3.98 vs. \$2.24), $t(285) = 3.97$, $p < .001$). Consistent with the *Reciprocating* and *Equity-focused Consumers* accounts, consumers in this study paid more when charitable percentage increased.

Because we did not sell bags with a charity logo in the PWYW condition, we ran a 2 (pricing: SSR with 1% vs. SSR with 50%) × 2 (logo type: charitable logo vs. commercial logo) ANOVA. Pricing significantly affected average payments; people paid more when a higher than a low percentage went to charity ($M_{SSR\text{-}1\%}$= \$2.24 vs. $M_{SSR\text{-}50\%}$= \$3.98), $F(1, 283) = 16.22$, $p <$

[3] Of the thirty-five people who donated but did not take a bag, one was in PWYW, 16 were in SSR and 1% going to charity, 18 were in SSR and 50% going to charity. We included these pure donations in our analysis of charitable surplus and purchase rates.

.001). The main effect of the logo type ($M_{Store\ logo}$= \$3.07 vs. $M_{Charity\ Logo}$= \$3.11), F (1, 283) = .01, p = .924, and the interaction term of pricing and logo type were non-significant, F (1, 283) = 1.24, p = .266. These results suggest that customers were sensitive to the percentage allocated to charity, but that their payments are not affected by the signaling potential of their purchase to others.

Profit per Passerby

To account for the effect of selection, we analyzed the data with profit per passersby as our dependent measure. We first deducted the cost per reusable bag (\$1.35) from the average payment per bag and entered zero payments for pure donations. As shown in Figure S7, the 1% SSR condition was more profitable than the PWYW condition, (*Ms* =\$0.027 vs. \$0.003), t(7353) = 2.39, p =.017. The 50% SSR condition was marginally more profitable than the PWYW condition, (*Ms* = \$0.003 vs. \$0.017), t(7525) = 1.68, p =.093. Profitability in the 1% SSR and 50% SSR conditions did not differ, (*Ms* = \$0.027 vs. \$0.017), t(9,904) = 1.07, p =.284.

In our analysis of the charitable surplus per passersby, we included pure donations. Excluding them does not change the direction or significance of the results. Predictably, the charitable surplus per passersby increased substantially as the charitable portion increased, ($M_{1\%}$ = \$0.01 vs. $M_{50\%}$ =\$0.07), t(9904) = 6.41, p <.001.

In this study we investigated how customers respond to the magnitude of charitable giving under SSR. In particular, consistent with previous investigations of consumer elective pricing, people reliably paid more when part of the payment benefit a charity, suggesting that there are perceived costs associated with paying little when payment is linked to a social cause.

Importantly, consistent with the *Reciprocating* and *Equity-focused Consumers* accounts, consumers in this study paid more as the charitable portion under SSR increased.

Although prior research has shown that people behave more prosocially when their behavior is publicly observed allowing them to signal generosity (Harbaugh 1998), and that they are unlikely to give to charities anonymously (Glazer and Konrad 1996), purchase likelihood in this study was similar did not increase when the bag carried the charity's logo. In addition, conditional on buying, people did not pay more for a product that would publicly signal their generosity to others. These results suggest that the potential to reap reputational benefits doesn't impact the likelihood they would purchase the product as well as the amount they are willing to pay.[4]

Study B: Randomized Charitable Giving and Scope-Sensitivity

The results of Study A and Study 1 in the paper could be attributed to selection bias—SSR merely attracts a higher spending segment and/or those who wish to signal their generosity to others by purchasing a product that benefits a charitable cause. As in Study 2, we designed Study B to remove this potential bias by randomly assigning customers to price (SSR versus PWYW) only *after* they had indicated they wanted to purchase the product.

[4] It is plausible that shoppers were more familiar with the grocery store than the non-profit organization and/or had a particular preference for the store. To test their preference for a bag with a commercial or charitable logo, we conducted a subsequent study in which customers were presented with both bag types and chose one for free. Among those who took a bag (N = 142), 58.5% chose the store logo bag, 32.4% chose the charity logo and 7% stated they were indifferent. Although preference for the store logo bag was higher when offered for free (X^2 = 19.45, $p < .001$), purchase likelihood as well as payment amount for either bag in Study A were similar. It is possible that they were choosing more frequently and paying more for a bag with a public signal of charitable behavior than what they would have if they could have chosen a bag type. However, this possibility is merely speculative, as our study design does not offer conclusive evidence.

If higher payments under SSR are driven primarily by customers' signaling concerns, we should observe different behavior if customers are unaware of the opportunity to be prosocial when deciding to buy. Study B assesses whether selection bias can fully explain the different patterns of behavior between PWYW and SSR customers we observed in Study A and Study 1.

Similar in Study A and Study 1, we also varied the portion of payments allocated to charity, which allowed us to test whether the *Impurely Altruistic* or *Reciprocating Consumers* account best explain consumers' behavior in the absence of selection bias.

Lastly, we used coffee as our product in this study. It is plausible that a grocery bag that we used in Study A and Study 1 attracted a particular kind of consumers who cared about environmental issues. A souvenir photo such as the one used in Gneezy et al. (2010; 2012) is a personalized durable good, the value of which is restricted almost exclusively to the subject of the photo (and perhaps peculiarly devoted friends or family). Accordingly, it is plausible that such a personalized item activated a particular kind of altruism. Coffee, however, is far less likely to trigger any peculiar considerations and has a more generic, broader appeal.

Method

"Ola's Corner," a gourmet coffee vendor in the bay area, specializes in rare African coffee and tea. Among a few other locations, it also operates coffee stands at local farmer markets. We sold Ola's coffee at a farmers' market in Jack London Square in Oakland, California, using existing infrastructure (i.e., the tent, signs, and carafes) that Dr. Ola uses every weekend, but we replaced his entire staff with our research assistants. Customers (N = 157 groups) saw a sign advertising "Ola's Exotic African Coffees and Teas" and decided to buy coffee. To make sure that we had at least 50 transactions per condition, we used prior sales

records and determined that three weekends would be sufficient for obtaining the minimum sample size goal of 50 transactions per condition. We ran the study on three consecutive Sundays in April and May 2012 approximately from 8:30 am to 2:30 pm. Note that in this study we did not record the number of passersby because we assumed that customers' purchase likelihood will not differ across randomized conditions (i.e., presumably, people who wanted to coffee approached our shop in all conditions).

We told customers who approached the stand asking for a cup of coffee that the price of their coffee would be determined by chance. Each customer was instructed to draw a folded piece of paper out of a tall opaque box, which contained our pricing manipulation. For groups, one person from the group drew a piece of paper on behalf of the entire group. The price in the PWYW (0% to charity) condition said, "today you can pay any price you want for a cup of Ola's coffee." In the 10% SSR condition the paper read, "today you can pay any price you want for a cup of Ola's coffee. 10% of your payment will benefit the Berkeley East Bay Humane Society." The 50% SSR condition was identical except for the stated percentage.

We asked customers to read out loud what was written on the paper and show it to the cashier (a research assistant)[5]. We recorded each customer's payment amount, the time of the transaction, the group size, the number of cups purchased per group (where applicable), and immediately obvious demographic information as in previous studies.

Results and Discussion

[5] If customers preferred to not read it out loud to the cashier, the cashier read it to the customers to make sure the price manipulation was clearly delivered. Neither tea nor coffee price was displayed. If customers wanted tea, they were told that it was $3 for a cup.

Dr. Ola requested that we only sell coffee at pay-what-you-want prices but sell tea at fixed prices ($2 dollars for a small and $3 for a large). Therefore, customers who wanted tea were not exposed to our manipulation and tea sales were not recorded[6]. We conducted our analysis with each coffee cup sold as unit of analysis and the average payment per cup as a dependent variable[7]. Analyzing the data with group transaction as unit of analysis or controlling for the date variable did not change the direction or significance of the results.

As shown in Figure S10, customers paid more for coffee when 10% of their payment went to charity than when 0% went to charity (*M*s= $2.53 vs. $2.13, $t(124) = 2.25$, $p = .026$), and paid more when 50% went to charity than when 10% went to charity ($M_{50\%}$ = $3.49 vs. $M_{10\%}$ = $2.53, $t(131) = 3.18$, $p = .002$).

Even in the absence of selection, customers paid more when any portion of their payments went to charity than when no portion did, and paid more when a higher portion went to charity, consistent with the findings in Supplementary Study A.

Dr. Ola typically charges three dollars for a large cup of coffee. As shown in Figure S11, after deducting the fixed price from the average payment of each condition, none of the three PWYW or SSR pricing was as profitable as the regular fixed price.

These results suggest that selection bias cannot fully account for the higher payments observed under SSR versus PWYW. All customers selected into the study because they simply wanted coffee[8]. Presumably, customers expected a typical fixed price and differentially

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[6] Customers who wanted both tea and coffee were not exposed to our manipulation because we were concerned that their coffee payments would be influenced by the price for the tea.

[7] Coffee was sold only in large plain white cups.

[8] No customers refused to purchase coffee when they were told to draw a piece of paper that contained pricing information.

compensated the company as it gave a higher amount to charity. It is also possible, however, that such a response was due to the social pressure from having to interact with the cashier or caring about other shoppers who might be observing their payment. If such concerns are driving higher payments under SSR, then allowing customers to pay anonymously should reduce payments. In other words, customers, especially those who would have opted out had they known about the SSR pricing, might pay less if they were paying anonymously. This study tested people's behavior under PWYW and SSR pricing when their payments were observed versus anonymous in the absence of the selection effect.

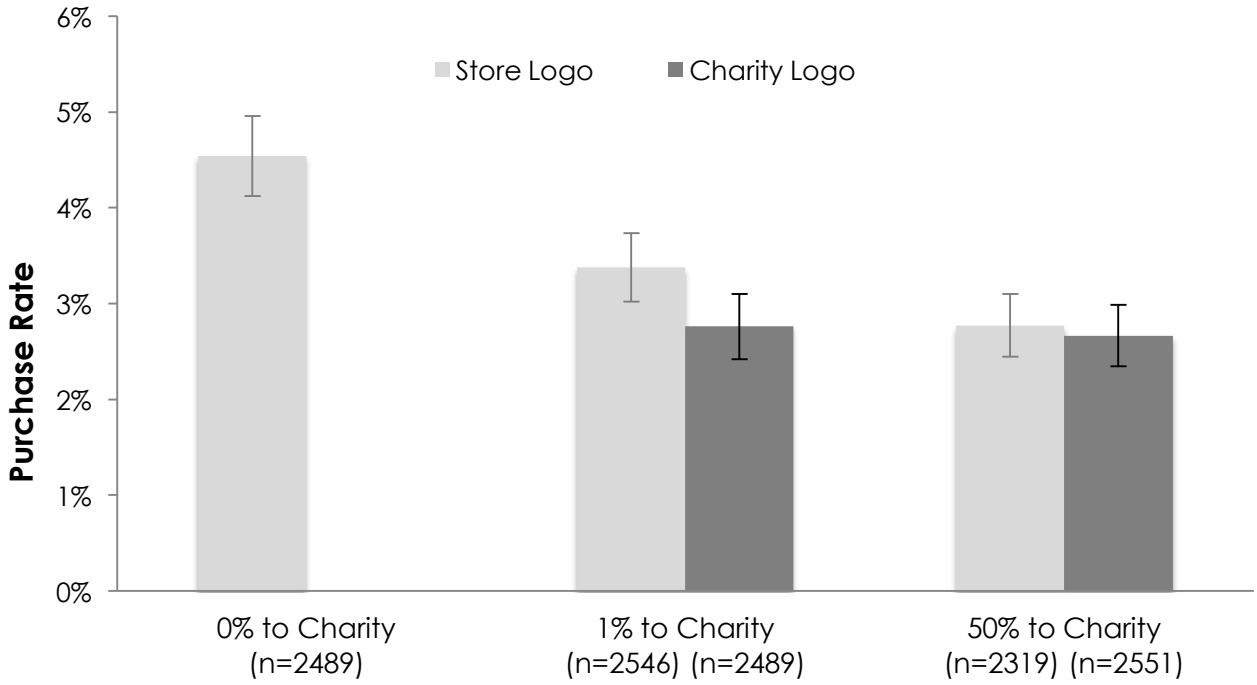

Figure S5. Study A: Purchase Rates. Errors bars reflect (purchase rate X (1- purchase rate)/number of total passersby in each condition)^2

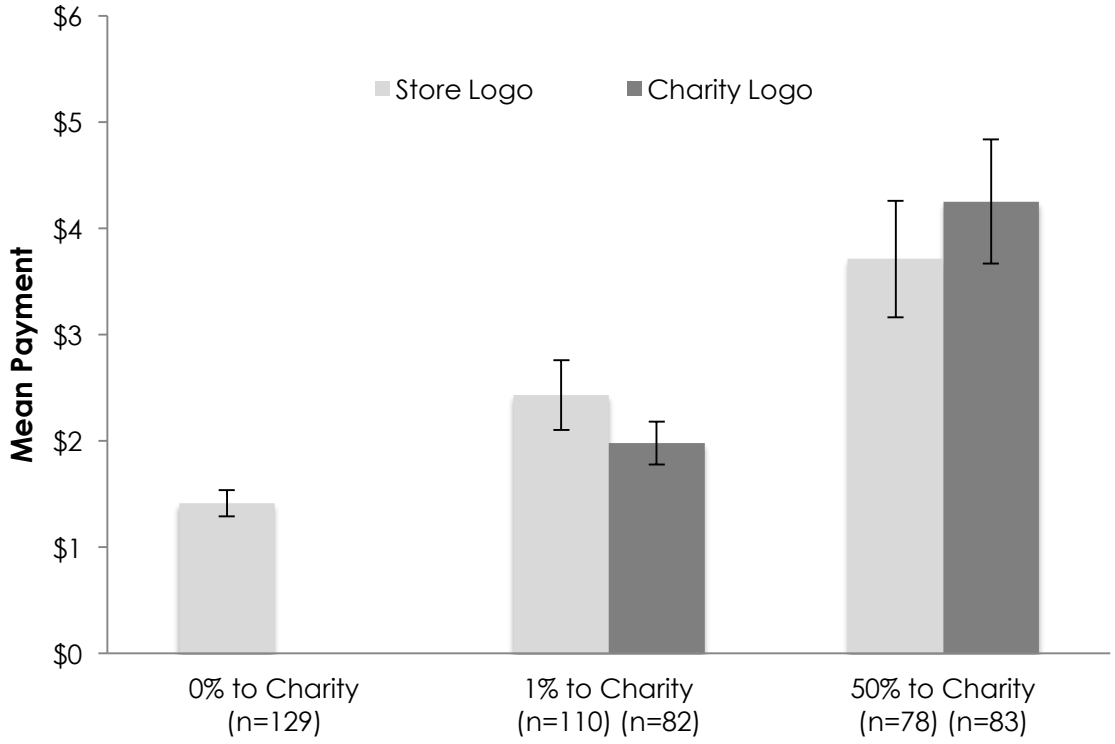

Figure S6. *Study A: Mean Payment per Reusable Shopping Bag in Study 1. Error bars reflect ± SE of the means.*

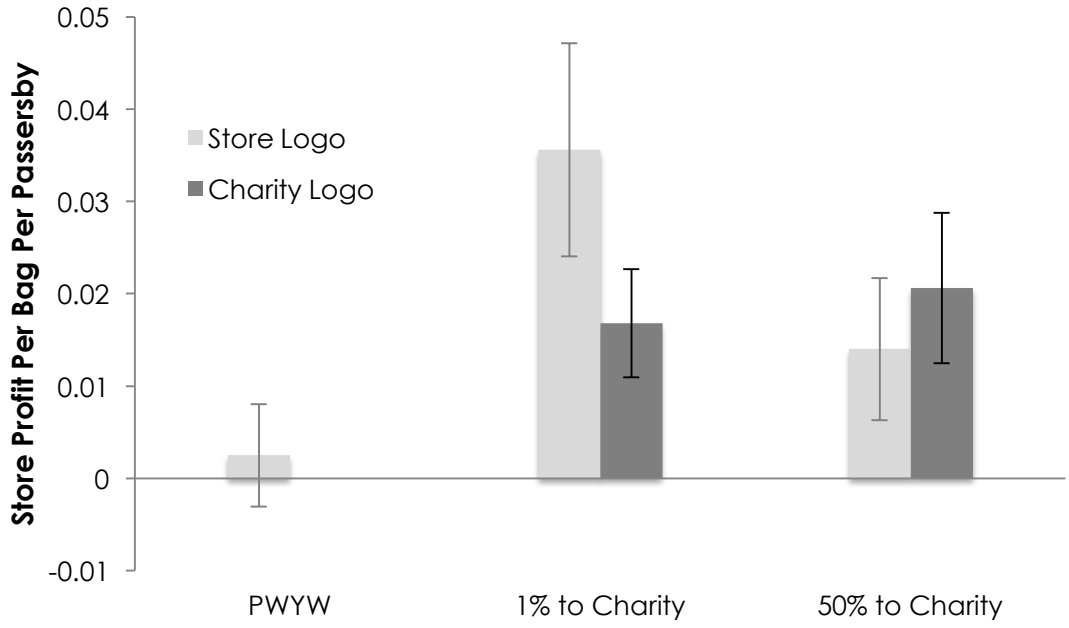

Figure S7. *Study A: Store Profit per Passersby by Condition. Error bars reflect ± SE of the means.*

Figure S8

Study A: Examples of Store Signs (Control and 1%-SSR conditions)

Figure S9

Study A: Reusable Grocery Bag with a Charity or Commercial Logo

Table S9

Study A: Summary of the Results per Condition

Logo Type and Pricing	Total Number of Passersby	Number of Customers	Purchase Rate	Average Payment Per Bag (Std. Error)	Standard Deviation	Median
Commercial logo Bag at PWYW	2489	113	4.94%	$1.41 (0.12)	$1.3	$1
Commercial logo Bag at SSR with 1% to charity	2546	86	3.65%	$2.43 (0.33)	$3.04	$1.98
Commercial logo Bag at SSR with 50% to charity	2489	69	2.81%	$3.71 (0.55)	$4.53	$2
Charity logo Bag at SSR with 1% to charity	2319	64	3.10%	$1.98 (0.20)	$1.61	$2
Charity logo Bag at SSR with 50% to charity	2551	68	2.90%	$4.25 (0.58)	$4.82	$3

Table S10

Study A: Mean Payment Comparisons (collapsed across the sign variable)

	Average Payment	t-test, p-value	Log (Average Payment+1)	t-test, p-value
0% vs. 1%	$1.40 vs. $2.24	$t(261) = 3.19$, $p = .002$	0.33 vs. 0.43	$t(261) = 3.29$, $p = .001$
0% vs. 50%	$1.40 vs. $3.98	$t(248) = 5.68$, $p < .001$	0.33 vs. 0.57	$t(248) = 6.26$, $p < .001$
1% vs. 50%	$2.24 vs. $3.98	$t(285) = 3.97$, $p < .001$	0.43 vs. 0.57	$t(285) = 3.72$, $p < .001$

Table S11

Study A: Mean Payment Comparisons

	Purchase Price	t-test, p-value	Log_{10} (Purchase Price+1)	t-test, p-value
Commercial Logo				
0% vs.1%	\$1.40 vs. \$2.43	$t(197) = 3.22$, $p = .002$	0.33 vs. 0.43	$t(197) = 3.00$, $p = .003$
0% vs. 50%	\$1.40 vs. \$3.71	$t(180) = 5.09$, $p < .001$	0.33 vs. 0.53	$t(180) = 5.02$, $p < .001$
1% vs. 50%	\$2.43 vs. \$3.71	$t(153) = 2.11$, $p = .046$	0.43 vs. 0.53	$t(153) = 2.01$, $p = .051$
Charity Logo				
0% (with the commercial logo) vs. 1%	\$1.40 vs. \$1.98	$t(175) = 2.59$, $p = .011$	0.33 vs. 0.42	$t(175) = 2.60$, $p = .010$
0% (with the commercial logo) vs. 50%	\$1.40 vs. \$4.25	$t(179) = 5.93$, $p < .001$	0.33 vs. 0.58	$t(179) = 6.17$, $p < .001$
1% vs. 50%	\$2.43 vs. \$4.25	$t(130) = 3.58$, $p < .001$	0.43 vs. 0.58	$t(130) = 3.28$, $p = .001$
1% to Charity				
Commercial Logo vs. Charity Logo	\$2.43 vs. \$1.98	$t(148) = 1.08$, $p = .284$	0.43 vs. 0.42	$t(148) = .38$, $p = .702$
50% to Charity				
Commercial Logo vs. Charity Logo	\$3.71 vs. \$4.25	$t(135) = .67$, $p = .506$	0.53 vs. 0.58	$t(135) = .87$, $p = .388$
0% vs. Charity Percentage Average	\$1.40 vs. \$3.80	$t(398) = 4.55$, $p < .001$	0.33 vs. 0.49	$t(398) = 5.13$, $p < .001$

Table S12

Study A: Purchase Rate Comparisons by Type of Logo

	Purchase Rates	Chi-Square, p-value
With the Commercial Logo		
0% vs.1%	4.54% vs. 3.38%	$\chi 2 = 4.48$, $p = .034$
0% vs. 50%	4.54% vs. 2.77%	$\chi 2 = 11.04$, $p < .001$
1% vs. 50%	3.38% vs. 2.77%	$\chi 2 = 1.55$, $p = .213$
With the Charity Logo		
0% (with the commercial logo) vs. 1%	4.54% vs.2.76%	$\chi 2 = 10.73$, $p = .001$
0% (with the commercial logo) vs. 50%	4.54% vs. 2.67%	$\chi 2 = 12.78$, $p < .001$
1% vs. 50%	3.38% vs. 2.77%	$\chi 2 = 0.04$, $p = .84$
1% to Charity		
Commercial Logo vs. Charity Logo	3.38% vs. 2.76%	$\chi 2 = 1.55$, $p = .213$
50% to Charity Commercial Logo vs. Charity Logo	2.76% vs. 2.67%	$\chi 2 = 0.05$, $p = .816$
0% vs. Charity Percentage Average	4.54% vs. 2.90%	$\chi 2 = 17.18$, $p < .001$

Table S13

Study A: Purchase Rate Comparisons

	Purchase Rates	Chi-Sqaure, p-value
0% vs. 1%	4.54% vs. 3.08%	$\chi 2 = 10.13$, $p = .001$
0% vs. 50%	4.54% vs. 2.72%	$\chi 2 = 17.22$, $p = .001$
1% vs. 50%	3.08% vs. 2.72%	$\chi 2 = 1.17$, $p = .279$

Table S14

Study A: Purchase Price Comparison (collapsed across charitable conditions)

	Average Payment	t-test, p-value	Log(Payment+1)	t-test, p-value
Commercial Logo (excluding 0%) vs. Charity Logo	\$3.00 vs. \$3.14	$t(285) = .326$, $p = .745$	0.48 (0.30) vs. 0.50 (0.30)	$t(285) = .684$, $p = .494$

Table S15

Study A: Purchase Rate Comparison

	Purchase Rates	Chi Square, p-value
Commercial Logo (excluding 0%) vs. Charity Logo	3.08% vs. 2.71%	$\chi 2 = 1.19$, $p = .275$

Table S16

Study B: Summary of the Results per Condition

Pricing	Number of Customers	Average Payment Per Bag (Std. Error)	Standard Deviation	Median
PWYW	60	$2.13 (0.12)	$0.95	$2
PWYW & 10% to charity	66	$2.53 (0.13)	$1.03	$2
PWYW & 50% to charity	67	$3.49 (0.27)	$2.22	$2.50

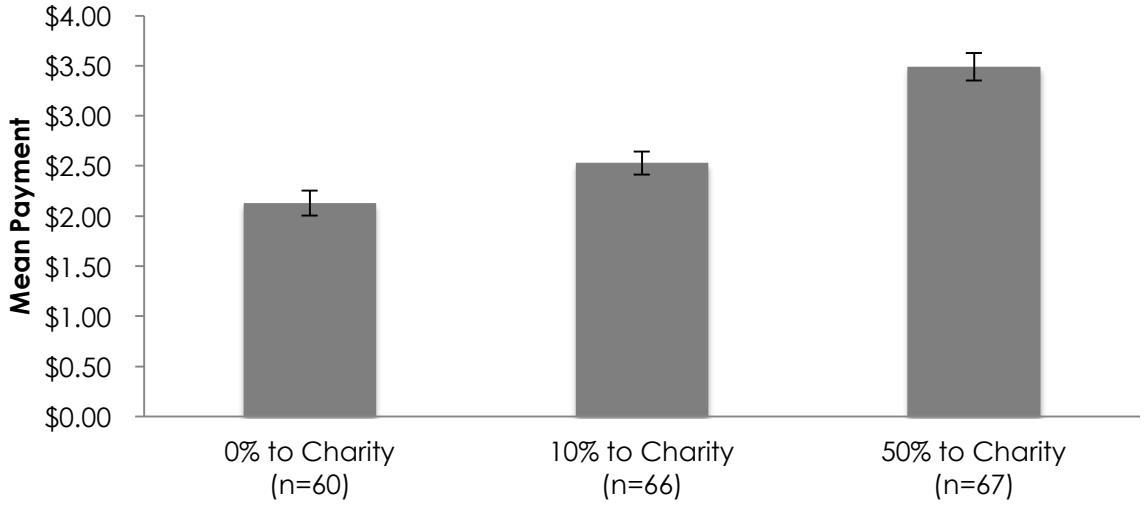

Figure S10. *Study B. Mean Payment per Cup of Coffee in Study 3. Error bars reflect ± SE of the means.*

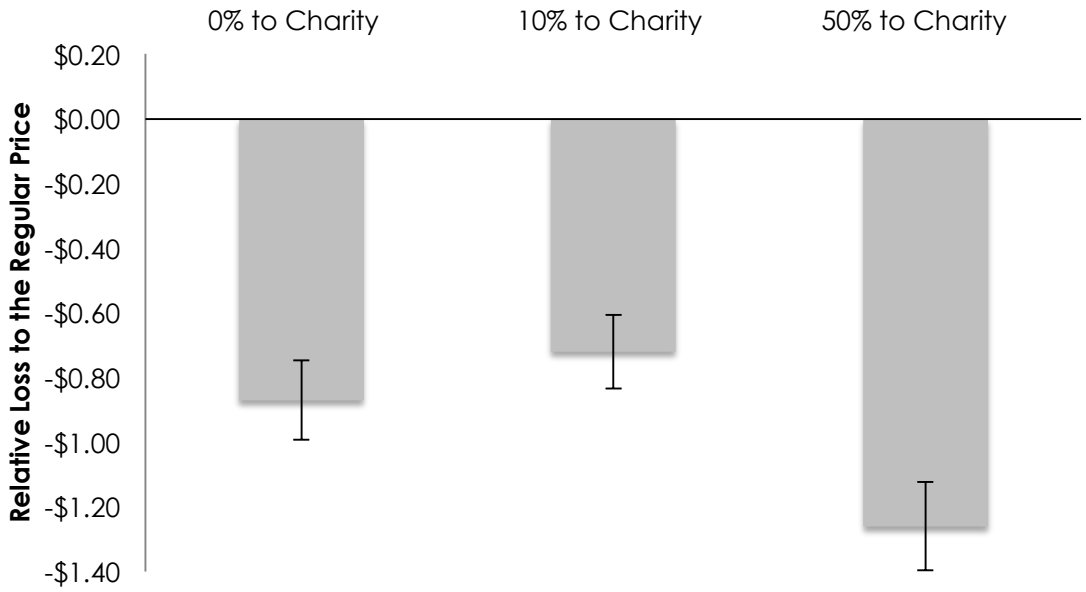

Figure S11. *Study B. Relative Loss to the Regular Fixed Price per Cup of Coffee ($3) Error bars reflect ± SE of the means. Note. The y-axis is the average payment per cup of coffee after deducting three dollars, the price the owner of the coffee shop was typically charging before the experiment.*

Table S17

Study B: One-Way ANOVA

Dependent Variable: Mean Payment Amount per Cup of Coffee sold per Person	Dependent Variable: Log_{10} (Mean Payment Amount per Cup of Coffee Sold per Person +1)
Pricing: $F(2, 190) = 13.24$, $p < .001$	Pricing: $F(2, 190) = 13.86$, $p < .001$

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