ONLINE APPENDIX

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"More Giving or More Givers? The Effects of Tax Incentives on Charitable Donations in the UK"

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A Additional Results

A.1 Donations by High-Income Donors

In Table A.1, we report the share of gross income donated by high-income donors for each year. Donors in the top 10% of the income distribution donate about 0.45-0.60% of their gross income every year, with an upward trend. As expected, the proportion of income donated rises for the very top income group, the top 0.01%, where donations reach up to 3.3% of income in some years. It is worth noting that the share of income donated for this group varies substantially across years, and it is as low as 0.84% in 2010, just after the financial crisis.

A.2 OLS Specifications

Tables A.2 and A.3 report results of the standard log-log specification estimated with OLS. As discussed in the main text, these specifications are likely biased upward because of the mechanical correlation between donations and the price of giving. As expected, the estimated elasticities are significantly more positive than in the IV estimations reported in Tables 2 and 3 in the paper.

A.3 Heterogeneous Elasticities by Gender and Age

We present here the analysis of heterogeneous elasticities by gender and age. For these estimates, we use the restricted dataset with only high-bracket taxpayers. Table A.4 reports the results. The intensive margin elasticity is estimated using our preferred first-difference estimator. Looking first at gender, we see that the intensive-margin price elasticity is somewhat larger for men (-0.17) than for women (-0.13), while the income elasticity is almost the same. The extensive-margin price and income elasticities on the other hand, seem the same for men and women. As regards age, the intensive-margin price elasticity is highest for those aged over 65 years. The extensive-margin price elasticities decline with age. Adding the intensive and extensive margin price elasticities together, we see that the total price elasticity is somewhat greater for men than women, and that the total price elasticity is U-shaped in age, being smallest for the 40-65 age group.

A.4 Robustness Checks: Dynamic Effects and Bunching

Second, our baseline specification does not control directly for potential dynamic effects of changes in price and income on donations. In the existing life-cycle models of charitable

giving (Randolph, 1995; Auten, Sieg and Clotfelter, 2002), it is argued that transitory and permanent changes in the price of giving (and income) could have different effects (although the predictions are somewhat different). Bakija and Heim (2011) propose using leads and lags of changes in price and income to account for transitory effects and obtain elasticities with respect to permanent shocks. We do not take their approach in our first-differenced regressions because our strategy for instrumenting current pre-tax income with lagged income relies on the exclusion restriction that lagged income (or anything that depends on lagged income, such as the lagged tax price) does not affect donations directly. Specifically, we modify equation (2) to estimate:

$$\begin{aligned}\ln g_{it} = {} & \varepsilon_{INT} \ln p_{it} + \eta_{INT} \ln y_{it} + \delta X_{it} + \alpha_i + \alpha_t \\ & + \gamma_1 \Delta \ln p_{it} + \gamma_2 \Delta \ln p_{it+1} + \gamma_3 \Delta \ln y_{it} + \gamma_4 \Delta \ln y_{it+1} + u_{it},\end{aligned} \tag{A.11}$$

and we make analogous changes to equation (3) for the extensive margin.

Third, as with any progressive income tax schedule, some taxpayers may bunch at the kink points. The relevant thresholds in our setting are at $z =$ £100,000 and $z =$£150,000, and also around the kink between the basic and higher tax rates (located at $z \approx$ £45,000, with some variation across years). We investigate whether bunching in taxable income around kink points of the tax schedule has an effect on the estimated price elasticities by re-estimating regressions (2) and (3) excluding individuals in an interval of ±£2,000 around each kink point.

The results for the latter two robustness exercises are reported in Tables A.5 (intensive margin) and A.6 (extensive margin) in the Appendix. Table A.5 re-estimates (2) using p_{it}^f as an instrument for p_{it}. In columns (1)-(4), we exclude individuals around kink points. We find that the intensive-margin price elasticity slightly increases in absolute value: from −0.58 and −0.34 in columns (4) and (8) of Table 2 to −0.65 and −0.38 in columns (2) and (4) of Table A.5, respectively. For the extensive-margin case, columns (1)-(4) of Table A.6 re-estimate (3), again using the IV specification and excluding potential bunchers. The estimates of the extensive-margin price elasticity also increase a little in absolute value: from −0.91 and −0.79 in columns (4) and (8) of Table 3 to −0.99 and −0.86 in columns (2) and (4) of Table A.6, respectively. Given that the changes in both intensive and extensive-margin elasticities are modest, these results are consistent with bunchers not changing their donations much in response to a change in the tax price of giving.

In columns (5)-(8) of Tables A.5 and A.6, we report the results for the dynamic specifications. The coefficients on the lagged and future changes $(\gamma_1, ..., \gamma_4)$ are statistically significant in most cases, but they are small in size compared to the estimates of the persistent price and income elasticities $(\varepsilon_{INT}, \varepsilon_{EXT})$. The permanent intensive-margin

elasticity is −0.42 (column 8 of Table A.5), which is a bit larger in absolute value than the equivalent estimate without the lagged and future changes (−0.34; column 8 of Table 2). The same applies to the permanent intensive-margin income elasticity (0.18 vs. 0.12). These results are consistent with those obtained in the differenced regressions with one vs. three lags.

A.5 Regression Results Correcting for Selection Bias

A potential problem with the baseline results is that they do not allow for correlation in the error terms u_{it}, v_{it} in equations (2), (3). If there is correlation, then the key coefficients $\varepsilon_{INT}, \eta_{INT}$ in (2) could be biased when ignoring selection bias. As a robustness check, we estimate (2) controlling for selection into giving, following the procedure proposed by (Wooldridge, 1995) specifically to correct for selection bias in panels, which is in three steps.

1. For each t separately, estimate the equation

$$Pr(D_{it} = 1 \,|Z_{i1}, ...Z_{iT}) = \Phi(\delta_{t0} + Z_{i1}\delta_{t1} + ...Z_{iT}\delta_{tT}) \tag{A.12}$$

where Z_{it} is a vector of variables that determines the decision to give. In our estimation, these are log of the first-pound price of giving, the log of real disposable income (setting donations to zero, as in the main regressions), and a dummy variable indicating whether the taxpayer used a tax advisor in preparing the tax return.

2. Construct the inverse Mills ratio variable

$$\lambda_{it}(\hat{\delta}_{t0} + Z_{i1}\hat{\delta}_{t1} + ...Z_{iT}\hat{\delta}_{tT}) = \frac{\phi(\hat{\delta}_{t0} + Z_{i1}\hat{\delta}_{t1} + ...Z_{iT}\hat{\delta}_{tT})}{\Phi(\hat{\delta}_{t0} + Z_{i1}\hat{\delta}_{t1} + ...Z_{iT}\hat{\delta}_{tT})} \tag{A.13}$$

3. Estimate the following equation by pooled OLS:

$$\ln D_{it} = \varepsilon \ln P_{it} + \eta \ln Y_{it} + \theta' X_{it} + \alpha_t + Z_{i1}\psi_1 + ...Z_{iT}\psi_T + \gamma_t\lambda_{it} + e_{it} \tag{A.14}$$

By construction, e_{it} has mean zero. Then, the estimates of ε, η, in equation (A.14) will be consistent.

We hypothesize that the tax advisor dummy will affect the decision to give but not how much to give, and so we exclude it from the X_{it} in equation (A.14). Thus, X_{it} comprises only the log of the first-pound price and income. The tax advisor dummy helps in the identification of the ψ_t coefficients.

We first report report the estimates of the coefficients δ_{ti} in the selection equation

(A.13) in Table A.7. We consider two different specifications. The first is similar to the Wooldridge procedure, but treats the panel as a pooled times-series cross-section. That is, the Probit (A.12) is estimated on the entire sample. In this case, we impose $\delta_{ti} = \delta_i, i = 1, ..., T.$. The result of this are shown in column (1) of Table A.7. It is clear that both current and lagged values of the first-pound price and disposable income are important in determining D_{it}. The second estimates reported in the remaining columns of Table A.7 report the estimates of δ_{ti} when δ can vary with i. Again, is clear that both current and lagged values of the first-pound price and disposable income are important in determining D_{it}.

We now turn to steps 2 and 3. Clearly, the two ways of estimating the selection equation give us two different inverse Mills ratios, which we refer to as *pooled* and *annual* respectively. In turn, for each of these two, we can estimate (A.14) in two ways. First, we can impose the restriction that the coefficient on the inverse Mill ratio is not time-varying i.e $\gamma_t = \gamma$, and second, we can allow γ_t to be time-varying. We refer to these as the *one effect* and *diff effects* specifications respectively.

This gives us four possible specifications for (A.14). In Table A.8, we report the coefficient estimates $\varepsilon_{INT}, \eta_{INT}$ which are also the intensive-margin price and income elasticities for each of these four specifications. We see that these estimates are quite stable across the four specifications. Also, they are not too different from our preferred elasticity estimates from the first-difference specification reported in Table 4 in the paper. Finally, we report an F-test for the joint significance of the $\lambda_{it} + e_{it}$ in (A.14). These are always highly significant.

Appendix Tables

Table A.1: Donations as a Share of Gross Income for Top Income Groups

Year	p90-p100	p90-p99	p99-p99.99	p99.99-p100
2005	0.46%	0.33%	0.49%	2.36%
2006	0.50%	0.35%	0.62%	1.61%
2007	0.57%	0.37%	0.66%	2.27%
2008	0.63%	0.38%	0.61%	3.27%
2009	0.48%	0.37%	0.54%	1.34%
2010	0.51%	0.43%	0.54%	0.84%
2011	0.67%	0.45%	0.85%	2.36%
2012	0.63%	0.42%	0.74%	2.76%
2013	0.67%	0.42%	0.81%	3.31%

Note: this table reports the ratio of donations (net of Gift Aid payments) over total gross income (excluding capital gains) for different income groups. The percentiles are calculated from the distribution of gross income among self-assessment taxpayers in each year. We denote fiscal year 2004/05 as 2005.

Table A.2: Intensive-Margin Elasticity, OLS specification

	Dependent Variable: Log Donations ($\ln g_{it}$)					
	(1)	(2)	(3)	(4)	(5)	(6)
Log Price of Giving	-0.618***	-0.035***	-0.005	-0.557***	0.004	0.025***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Log Disposable Income				0.263***	0.209***	0.199***
				(0.003)	(0.003)	(0.003)
Individual FE	y	y	y	y	y	y
Year FE	n	y	y	n	y	y
Other controls	n	n	y	n	n	y
Observations	2,093,152	2,093,152	2,082,867	2,093,152	2,093,152	2,082,867
R-squared	0.008	0.053	0.055	0.018	0.059	0.060
Unique IDs	472,481	472,481	468,812	472,481	472,481	468,812

Note: standard errors in parentheses, clustered at the individual level. The estimated equation is

$$\ln g_{it} = \varepsilon \ln p_{it} + \eta \ln y_{it} + \alpha_i + \alpha_t + \delta' X_{it} + u_{it}$$

where $\ln g_{it}$ denotes log donations; $\ln p_{it}$ denotes the log of the last-pound price of giving; $\ln y_{it}$ is the log of disposable income setting $g = 0$; X_{it} is a vector of control variables including $(age/100)^2$, a female dummy and a tax advisor dummy; and α_i, α_t are individual and year fixed effects, respectively. Statistical significance: ***=1%, **=5%, *=10%.

Table A.3: Extensive-Margin Elasticity (OLS specification)

	Dependent Variable: Donor Dummy, $D_{it} \equiv (g_{it} > 0)$					
	(1)	(2)	(3)	(4)	(5)	(6)
Log Price of Giving	-0.204***	-0.032***	-0.021***	-0.186***	-0.025***	-0.017***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Log Disposable Income				0.048***	0.026***	0.020***
				(0.001)	(0.001)	(0.001)
Implied Price Elasticity, ε_{EXT}	-0.670***	-0.105***	-0.068***	-0.611***	-0.083***	-0.054***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Implied Income Elasticity, η_{EXT}				0.158***	0.086***	0.066***
				(0.002)	(0.002)	(0.002)
Individual FE	y	y	y	y	y	y
Year FE	n	y	y	n	y	y
Other controls	n	n	y	n	n	y
Observations	6,869,602	6,869,602	6,787,973	6,869,602	6,869,602	6,787,973
Unique IDs	1,341,324	1,341,324	1,310,284	1,341,324	1,341,324	1,310,284
R-squared	0.007	0.034	0.037	0.010	0.035	0.037

Note: standard errors in parentheses, clustered at the individual level. The estimated equation is

$$D_{it} = \varepsilon \ln p_{it} + \eta \ln y_{it} + \delta^{'} X_{it} + \alpha_i + \alpha_t + u_{it}$$

where $D_{it} \equiv 1(g_{it} > 0)$ is a dummy variable that takes value one for positive donations and zero otherwise; $\ln p_{it}$ denotes the log of the last-pound price of giving; $\ln y_{it}$ is the log of disposable income setting $g = 0$; X_{it} is a vector of control variables including $(age/100)^2$, a female dummy and a tax advisor dummy; and α_i, α_t are individual and year fixed effects, respectively. Since the dependent variable is binary, the coefficients on $\ln p_{it}$ and $\ln y_{it}$ represent semi-elasticities. To obtain the implied price and income elasticities, we divide by the proportion of donors and evaluate at the means of all the explanatory variables. Statistical significance: ***=1%, **=5%, *=10%.

Table A.4: Heterogeneous Elasticities by Age and Gender

	Dep. Var.: Change in Log Donations ($\ln g_{it}/\ln g_{i,t-k}$)				
Intensive Margin	Men (1)	Women (2)	Age <40 (3)	Age $40-65$ (4)	Age >65 (5)
Change in Log First-Pound Price	-0.170***	-0.132***	-0.155***	-0.142***	-0.184***
	(0.009)	(0.018)	(0.022)	(0.010)	(0.022)
Change in Log Disposable Income	0.196***	0.192***	0.277***	0.176***	0.182***
	(0.004)	(0.008)	(0.009)	(0.004)	(0.009)
Individual FE	y	y	y	y	y
Year FE	y	y	y	y	y
Other controls	y	y	y	y	y
Observations	1,576,733	390,233	293,051	1,225,235	411,327
R-squared	0.059	0.064	0.081	0.051	0.040

	Dependent Variable: Donor Dummy I($g_{it}>0$)				
Extensive Margin	Men (1)	Women (2)	Age <40 (3)	Age $40-65$ (4)	Age >65 (5)
Log Price of Giving	-0.030***	-0.031***	-0.038***	-0.024***	-0.023***
	(0.001)	(0.003)	(0.003)	(0.001)	(0.004)
Log Disposable Income	0.020***	0.020***	0.032***	0.016***	0.013***
	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)
Implied Price Elasticity, ε_{EXT}	-0.101***	-0.094***	-0.174***	-0.079***	-0.046***
	(0.004)	(0.009)	(0.014)	(0.005)	(0.007)
Implied Income Elasticity, η_{EXT}	0.066***	0.061***	0.145***	0.054***	0.026***
	(0.001)	(0.003)	(0.004)	(0.001)	(0.002)
Individual FE	y	y	y	y	y
Year FE	y	y	y	y	y
Other controls	y	y	y	y	y
Observations	5,621,250	1,247,409	1,593,786	4,438,534	836,339
Unique IDs	1,079,304	256,750	512,543	931,479	151,643
R-squared	0.0273	0.0123	0.00735	0.000216	0.00291

Notes: the **top panel** reports the intensive-margin elasticities by gender and age. All intensive-margin elasticities are estimated using the differenced specification with $k=1$ year. The estimation equation is

$$\Delta \ln g_{it} = \varepsilon_{INT} \Delta \ln p^f_{it} + \eta_{INT} \Delta \ln y_{it} + \delta' \Delta X_{it} + \alpha_i + \alpha_t + v_{it}$$

where all variables are defined as in the note to Table 4. The **bottom panel** reports extensive-margin elasticities estimated using a linear probability model. The estimation equation is

$$D_{it} = \varepsilon \ln p_{it} + \eta \ln y_{it} + \delta' X_{it} + \alpha_i + \alpha_t + u_{it}$$

where the first-pound price $\ln p_{it}$ is instrumented by the first-pound price $\ln p^f_{it}$, and the other variables are defined as in the note to Tables A.3 and 3 above. The implied price and income elasticities are evaluated at the means of all the explanatory variables. Statistical significance: ***=1%, **=5%, *=10%.

Table A.5: Intensive-Margin Elasticity: Robustness Checks

	Dependent Variable: Log Donations ($\ln g_{it}$)							
	Excluding Intervals Around Kinks				*Adding Lead/Lags of Changes in p, y*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log Price of Giving	-0.226***	-0.177***	-0.175***	-0.139***	-0.309***	-0.228***	-0.278***	-0.222***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.019)	(0.020)	(0.019)	(0.020)
Log Disposable Income			0.210***	0.199***			0.284***	0.272***
			(0.003)	(0.003)			(0.006)	(0.006)
$\ln p_{it} - \ln p_{it-1}$					0.035***	0.014	0.044***	0.029***
					(0.011)	(0.011)	(0.011)	(0.011)
$\ln p_{it+1} - \ln p_{it}$					-0.055***	-0.032***	-0.031***	-0.015**
					(0.007)	(0.007)	(0.007)	(0.007)
$\ln y_{it} - \ln y_{it-1}$					0.001	0.005*	-0.098***	-0.091***
					(0.003)	(0.003)	(0.003)	(0.003)
$\ln y_{it+1} - \ln y_{it}$					-0.054***	-0.050***	0.050***	0.049***
					(0.003)	(0.003)	(0.003)	(0.003)
Individual FE	y	y	y	y	y	y	y	y
Year FE	y	y	y	y	y	y	y	y
Other controls	n	y	n	y	n	y	n	y
Observations	1,853,526	1,845,726	1,853,526	1,845,726	1,333,436	1,328,131	1,333,436	1,328,131
R-squared	0.053	0.055	0.059	0.060	0.043	0.044	0.049	0.050
Unique IDs	333,989	332,335	333,989	332,335	264,523	263,422	264,523	263,422

Note: standard errors in parentheses, clustered at the individual level. The estimated equation is

$$\ln g_{it} = \varepsilon \ln p_{it} + \eta \ln y_{it} + \delta' X_{it} + \alpha_i + \alpha_t + u_{it}$$

where $\ln g_{it}$ denotes log donations, $\ln p_{it}$ denotes the log price of giving, which is instrumented by the log first-pound price, $\ln p^f_{it}$; $\ln y_{it}$ is the log of net disposable income (setting $g_{it} = 0$); X_{it} is a vector of control variables including $(age/100)^2$, a female dummy and a tax advisor dummy; and α_i, α_t are individual and year fixed effects, respectively. In columns (1-4), we exclude observations where the taxable income is within £2,000 of each kink point in the tax schedule, to avoid potential biases due to bunching behavior. In columns (5-8), we add leads and lags of changes in price and income to account for transitory effects and obtain elasticities with respect to permanent shocks. In those specifications, the coefficient on log price can be interpreted as the effect on long-run giving of a permanent change in the tax price that remains in place for at least three years. Statistical significance: ***=1%, **=5%, *=10%.

Table A.6: Extensive-Margin Elasticity: Robustness Checks

	Dependent Variable: Donor Dummy, $D_{it} \equiv (g_{it} > 0)$							
	Excluding Intervals Around Kinks				*Adding Lead/Lags of Changes in P,Y*			
	-0.250***	-0.032***	-0.039***	-0.027***	-0.092***	-0.066***	-0.085***	-0.063***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.003)	(0.003)	(0.003)
Log Disposable Income			0.026***	0.020***			0.032***	0.024***
			(0.000)	(0.000)			(0.001)	(0.001)
$\ln p_{it} - \ln p_{it-1}$					0.029***	0.021***	0.029***	0.022***
					(0.002)	(0.002)	(0.002)	(0.002)
$\ln p_{it+1} - \ln p_{it}$					-0.018***	-0.010***	-0.014***	-0.008***
					(0.001)	(0.001)	(0.001)	(0.001)
$\ln y_{it} - \ln y_{it-1}$					0.001*	0.002***	-0.010***	-0.007***
					(0.000)	(0.000)	(0.000)	(0.000)
$\ln y_{it+1} - \ln y_{it}$					-0.004***	-0.003***	0.007***	0.006***
					(0.000)	(0.000)	(0.000)	(0.000)
Implied Price Elasticity (ε_{EXT})	-0.832***	-0.106***	-0.128***	-0.088***	-0.282***	-0.203***	-0.261***	-0.193***
	(0.004)	(0.005)	(0.005)	(0.005)	(0.008)	(0.008)	(0.008)	(0.008)
Implied Income Elasticity (η_{EXT})			0.086***	0.066***			0.097***	0.074***
			(0.001)	(0.001)			(0.002)	(0.002)
Individual FE	y	y	y	y	y	y	y	y
Year FE	y	y	y	y	y	y	y	y
Other controls	n	y	n	y	n	y	n	y
Observations	6,597,261	6,517,565	6,597,261	6,517,565	4,316,287	4,279,200	4,316,287	4,279,200
Unique IDs	1,346,697	1,315,294	1,346,697	1,315,294	849,926	841,752	849,926	841,752
R-squared	0.000387	0.0260	0.00628	0.0246	0.00313	0.0254	0.00356	0.0241

Note: standard errors in parentheses, clustered at the individual level. The estimated equation is

$$D_{it} = \varepsilon \ln p_{it}^{f} + \eta \ln y_{it} + \alpha_i + \alpha_t + \beta X_{it} + u_{it}$$

where $D_{it} \equiv 1(g_{it} > 0)$ is a dummy variable that takes value one for positive donations and zero otherwise$\ln p_{it}$ denotes the log price of giving, which is instrumented by the log first-pound price, $\ln p_{it}^{f}$; $\ln y_{it}$ is the log of net disposable income (setting $g_{it} = 0$); X_{it} is a vector of control variables including $(age/100)^2$, a female dummy and a tax advisor dummy; and α_i, α_t are individual and year fixed effects, respectively. The implied extensive-margin elasticities are evaluated at the sample mean of all covariates. In columns (1-4), we exclude observations where the taxable income is within £2,000 of each kink point in the tax schedule, to avoid potential biases due to bunching behavior. In columns (5-8), we add leads and lags of changes in price and income to account for transitory effects and obtain elasticities with respect to permanent shocks. In those specifications, the coefficient on log price can be interpreted as the effect on long-run donation behavior of a permanent change in the tax price that remains in place for at least three years. Statistical significance: ***=1%, **=5%, *=10%.

Table A.7: Two-Step Model: Selection Equation

VARIABLES	(1) Pooled Probit	(2) Probit 2005	(3) Probit 2006	(4) Probit 2007	(5) Probit 2008	(6) Probit 2009	(7) Probit 2010	(8) Probit 2011	(9) Probit 2012	(10) Probit 2013
lnpf_2005	-0.226***	-0.417***	-0.300***	-0.255***	-0.212***	-0.192***	-0.194***	-0.168***	-0.157***	-0.162***
	(0.009)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
lnpf_2006	-0.152***	-0.138***	-0.274***	-0.199***	-0.169***	-0.151***	-0.124***	-0.122***	-0.114***	-0.107***
	(0.009)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)
lnpf_2007	-0.107***	-0.085***	-0.106***	-0.241***	-0.144***	-0.123***	-0.092***	-0.067***	-0.072***	-0.056***
	(0.009)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)
lnpf_2008	-0.144***	-0.106***	-0.112***	-0.128***	-0.253***	-0.175***	-0.150***	-0.137***	-0.124***	-0.114***
	(0.009)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
lnpf_2009	-0.318***	-0.254***	-0.242***	-0.263***	-0.283***	-0.424***	-0.365***	-0.353***	-0.330***	-0.331***
	(0.008)	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
lnpf_2010	-0.335***	-0.272***	-0.287***	-0.279***	-0.279***	-0.308***	-0.458***	-0.388***	-0.375***	-0.358***
	(0.008)	(0.010)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
lnpf_2011	0.046***	0.084***	0.093***	0.100***	0.077***	0.064***	0.056***	-0.063***	0.014*	0.033***
	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
lnpf_2012	-0.040***	0.005	0.008	0.005	-0.010	-0.010	-0.009	-0.037***	-0.166***	-0.094***
	(0.007)	(0.009)	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
lnpf_2013	-0.176***	-0.145***	-0.142***	-0.137***	-0.149***	-0.144***	-0.151***	-0.149***	-0.184***	-0.337***
	(0.006)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.007)	(0.007)	(0.007)
lnyd_2005	0.094***	0.193***	0.139***	0.115***	0.093***	0.081***	0.074***	0.072***	0.068***	0.062***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
lnyd_2006	0.042***	0.043***	0.088***	0.062***	0.046***	0.037***	0.034***	0.027***	0.028***	0.026***
	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
lnyd_2007	0.014***	-0.001	0.007***	0.044***	0.025***	0.015***	0.009***	0.011***	0.004*	0.004**
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
lnyd_2008	-0.003*	-0.022***	-0.020***	-0.009***	0.030***	0.005**	-0.002	-0.005**	-0.008***	-0.009***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
lnyd_2009	0.028***	0.015***	0.015***	0.016***	0.027***	0.065***	0.042***	0.028***	0.021***	0.015***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
lnyd_2010	-0.020***	-0.029***	-0.030***	-0.030***	-0.029***	-0.022***	0.015***	-0.011***	-0.021***	-0.025***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
lnyd_2011	0.044***	0.027***	0.029***	0.033***	0.032***	0.031***	0.045***	0.086***	0.061***	0.048***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
lnyd_2012	0.023***	0.011***	0.014***	0.011***	0.010***	0.012***	0.012***	0.023***	0.069***	0.041***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
lnyd_2013	0.063***	0.052***	0.048***	0.049***	0.047***	0.050***	0.051***	0.058***	0.075***	0.139***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
adv_2005	0.009	0.008	0.042***	0.044***	0.018**	0.008	0.010	-0.002	-0.010	-0.018**
	(0.006)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
adv_2006	-0.057***	-0.072***	-0.094***	-0.065***	-0.038***	-0.046***	-0.059***	-0.053***	-0.049***	-0.051***
	(0.009)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)
adv_2007	-0.017*	-0.015	-0.020*	-0.049***	-0.033***	-0.006	-0.012	-0.011	-0.011	-0.004
	(0.009)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)
adv_2008	-0.072***	-0.060***	-0.069***	-0.071***	-0.138***	-0.091***	-0.051***	-0.056***	-0.058***	-0.053***
	(0.010)	(0.013)	(0.013)	(0.013)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
adv_2009	-0.027**	-0.024	-0.019	-0.024	-0.036**	-0.093***	-0.038***	-0.011	0.002	0.002
	(0.012)	(0.015)	(0.015)	(0.015)	(0.014)	(0.014)	(0.015)	(0.014)	(0.014)	(0.014)
adv_2010	-0.054***	-0.036**	-0.044***	-0.037**	-0.040***	-0.044***	-0.118***	-0.063***	-0.049***	-0.052***
	(0.013)	(0.016)	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
adv_2011	-0.033**	-0.020	-0.034**	-0.047***	-0.019	-0.022	-0.038**	-0.085***	-0.039**	0.006
	(0.013)	(0.016)	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
adv_2012	-0.099***	-0.081***	-0.088***	-0.073***	-0.093***	-0.098***	-0.090***	-0.109***	-0.169***	-0.085***
	(0.013)	(0.017)	(0.016)	(0.016)	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.016)
adv_2013	-0.189***	-0.179***	-0.157***	-0.168***	-0.165***	-0.163***	-0.168***	-0.182***	-0.195***	-0.326***
	(0.009)	(0.012)	(0.012)	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Constant	-3.994***	-4.180***	-4.191***	-4.193***	-3.972***	-3.886***	-3.907***	-3.982***	-4.034***	-4.071***
	(0.015)	(0.018)	(0.018)	(0.018)	(0.018)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
Observations	34,850,763	3,872,307	3,872,307	3,872,307	3,872,307	3,872,307	3,872,307	3,872,307	3,872,307	3,872,307

Note: standard errors clustered at the individual level. This table reports the results from the selection equation in the two-step selection model described in Appendix A.5. Column (1) reports the results for a pooled probit estimated on the entire period 2005-2013. Columns (2-10) report the results for annual probits conducted on the data for each individual year, from 2004/05 through 2012/13. Statistical significance: ***=1%, **=5%, *=10%.

Table A.8: Two-Step Model: Intensive-Margin Elasticities

Inverse Mills Ratio (IMR):	(1) Pooled One effect	(2) Pooled Diff effects	(3) Annual One effect	(4) Annual Diff effects
Price Elasticity of Giving	-0.201***	-0.213***	-0.229***	-0.260***
	(0.006)	(0.006)	(0.006)	(0.006)
Income Elasticity of Giving	0.145***	0.142***	0.160***	0.157***
	(0.002)	(0.002)	(0.002)	(0.002)
P-value on IMR terms	0.000	0.000	0.000	0.000
Observations	4,963,034	4,963,034	4,963,034	4,963,034
R-squared	0.101	0.101	0.100	0.101

Note: this table reports the results from the main equation of the two-step selection model described in Appendix A.5, using a balanced panel of taxpayers for the period 2004/05-2012/13. The regressions are estimated only on the subsample of donors (i.e., observations with $g_{it} > 0$, including the estimated inverse Mills ratios (IMR) as controls. Hence, the coefficients can be interpreted as intensive-margin elasticities of price and income. Column (1) includes the IMR obtained from the pooled probit regression. Column (2) includes the IMR obtained from the pooled probit regression, interacted with year dummies to allow the effect of selection to vary by year. Column (3) includes the IMRs obtained from the annual probit regressions, restricting the coefficient to be the same across years. Column (4) includes the IMRs obtained from the annual probit regressions, allowing the coefficients vary across years. The latter is our preferred specification, and it is the baseline model derived by Wooldridge (1995). Standard errors clustered at the individual level. Statistical significance: ***=1%, **=5%, *=10%.