Online Appendix for "Why People Vote: Estimating the Social Returns to Voting"

Alan S. Gerber
Yale University
Professor
Department of Political Science
Institution for Social and Policy Studies
77 Prospect Street, PO Box 208209
New Haven, CT 06520-8209
alan.gerber@yale.edu

Gregory A. Huber
Yale University
Professor
Department of Political Science
Institution for Social and Policy Studies
77 Prospect Street, PO Box 208209
New Haven, CT 06520-8209
gregory.huber@yale.edu

David Doherty
Loyola University Chicago
Assistant Professor
Department of Political Science
1032 W. Sheridan Road, Coffey Hall, 3rd Floor
Chicago, IL 60660
ddoherty@luc.edu

Conor M. Dowling
University of Mississippi
Assistant Professor
Department of Political Science
235 Deupree Hall
University, MS 38677-1848
cdowling@olemiss.edu

Online Appendix for

"Why People Vote: Estimating the Social Returns to Voting"

This document contains supporting information for the paper, "Why People Vote:

Estimating the Social Returns to Voting." The document consists of three sections:

Section 1 provides a detailed description of the multilevel regression with poststratification (MRP) procedure.

Section 2 provides detailed coding rules.

Section 3 contains a series of supplementary tables and figures.

Section 1: Detailed description of multilevel regression with post-stratification (MRP) procedure

To obtain more accurate estimates of county-level attitudes about norms, we use multilevel regression with post-stratification (MRP). In our case, we are interested in comparing the county-level opinions on social norms to county turnout. The National Annenberg Election Study (NAES) in 2000 sampled thousands of citizens by telephone, but even this large undertaking did not yield more than a single respondent in many counties. We use MRP to estimate social norms in every county in which at least one NAES respondent was interviewed and answered the social norm question.

We first estimate a hierarchical model of the survey response to the norm question as a function of each individual respondent's demographics and with county and state random effects. We use two demographic indicators. The first is four indicators for age category (20-29, 30-44, 45-64, 65+), and the second is twenty-four indicators for three categories of race (black, Hispanic, rest) crossed with gender (male, female) and crossed with the four age categories. Our individual models therefore estimate the relationship of these 30 explanatory variables (one indicator for each category) with the survey response to the social norm item. The models also estimate state and county random effects. We transform the ordered response into a 0-1 scale and use a linear model. The estimation allows us to predict the average response for any respondent in any county with survey coverage, given the estimated coefficients on the demographic predictors and the estimated state and county random effects.

We then use the model to predict the responses for every demographic category in every county. These predictions are collapsed with weighting information available from the distributions of each demographic category in each county from the 2000 United States Census. For example, the Census tells us that in Los Angeles County there were 75,751 black females aged 20-29, 63,583 black males aged 20-29, and 277,797 white males aged 20-29. For each of these categories we use the model results to predict each group's average response to the social norms item, and then we calculate the county-level weighted average response, weighted by the number of citizens in that demographic group (i.e., in Los Angeles the white male aged 20-29 estimate would have four times the weight of the black male aged 20-29 estimate because of the Census population counts). We use this procedure to estimate opinion for each county with at least one NAES respondent answering the social norm question.

Section 2: Detailed coding rules

Note: See Table A1 of this document for summary statistics.

<u>Race</u> (2009 CCES and MTurk Sample): "What racial or ethnic group or groups best describes you?" Response options: White; Black; Hispanic; Asian; Native American; Mixed; Other.

Age (2009 CCES and MTurk Sample): "What is the year of your birth?"

<u>Gender</u> (2009 CCES and MTurk Sample): "What is your gender?" Response options: female; male.

<u>Education</u> (2009 CCES and MTurk Sample): "What is the highest level of education you have achieved?" Response options: no high school diploma; high school graduate; some college, no degree; 2-year college degree; 4-year college degree; post-graduate degree.

<u>Income</u> (2009 CCES): "Thinking back over the last year, what was your family's annual income?" Response options: less than \$10,000; \$10,000 - \$14,999; \$15,000 - \$19,999; \$20,000 - \$24,999; \$25,000 - \$29,999 ; \$30,000 - \$39,999; \$40,000 - \$49,999; \$50,000 - \$59,999; \$60,000 - \$69,999; \$70,000 - \$79,999 ; \$80,000 - \$99,999; \$100,000 - \$119,999; \$120,000 - \$149,999; \$150,000 or more; Prefer not to say.

Party ID (2009 CCES and MTurk Sample): "Generally speaking, do you usually think of yourself as a Democrat, a Republican, an Independent, or what?" If Democrat: "Would you call yourself a strong Democrat or not a very strong Democrat?" If Republican: "Would you call yourself a strong Republican or not a very strong Republican?" If Independent/something else: "Do you think of yourself as closer to the Democratic party, closer to the Republican party, or equally close to both parties?"

<u>Ideology</u> (2009 CCES): "Thinking about politics these days, how would you describe your own political viewpoint?" Response options: very liberal; liberal; moderate; conservative; very conservative.

<u>Religious attendance</u> (2009 CCES): "Aside from weddings and funerals, how often do you attend religious services?" Response options: more than once a week; once a week; once or twice a month; a few times a year; seldom; never.

<u>Political Interest</u> (2009 CCES): "Some people seem to follow what's going on in government and public affairs most of the time, whether there's an election going on or not. Others aren't that interested. Would you say you follow what's going on in government and public affairs ...?" Response options: most of the time; some of the time; only now and then; hardly at all.

<u>Trust Government?</u> (2009 CCES): "Thinking about the federal government in Washington, how much of the time do you think you can trust the federal government to do what is right?" Response options: always; most of the time; some of the time; never.

Section 3: Supplementary tables and figures

Table A1: Demographic Characteristics of CCES and MTurk Samples

Table A2. Social Evaluations Analysis, Vignette Experiments (Full Results)

Table A3. Social Evaluations Analysis, Vignette Experiments (Unweighted Analysis and Analysis without Control Variables)

Figure A1. Average Rankings of Different Characteristics

Table A1. Demographic Characteristics of CCES and MTurk Samples

Variable	2009 CCES	Mechanical Turk Sample
White = 1	0.763	0.835
	[.4253]	[.372]
Black = 1	0.106	0.069
	[.3074]	[.2533]
Hispanic = 1	0.082	0.038
	[.2739]	[.1918]
Other race=1	0.050	0.104
	[.2171]	[.3061]
Age (in years)	46.789	34.907
	[17.0556]	[12.6079]
Female=1	0.517	0.596
	[.5001]	[.4914]
Education (1=No HS; 6=post-grad)	3.147	4.041
	[1.528]	[1.3659]
Income (1=<\$10k; 14=>150k; 15=RF)	8.139	
	[4.0574]	
Income Missing	0.107	
	[.3099]	
Party ID (-3=S. Dem; 3=S. Rep)	-0.343	-0.445
	[2.1039]	[1.9969]
Ideology (-2=V. Lib; 2=V. Cons)	0.104	
	[.9778]	
Religious Attendance (1 never; 6 more than 1/week)	3.166	
	[1.6888]	
Political Interest (1 hardly at all; 4 most of the time)	3.356	
	[.8459]	
Trust Government? (0=never; 3=always)	0.903	
	[.6933]	
Observations	731	393

Note: Cell entries are sample means; standard deviations in brackets.

Table A2. Social Evaluations Analysis, Vignette Experiments (Full Results)

		(1)		
Order (1=Always)				
Cote (1=Usually)	Vote (1=Always)			
[0.030] [0.024] -0.122 -0.185 [0.028]** [0.030]** 0.245 [0.028]** 0.245 [0.028]** 0.245 [0.028]** 0.245 [0.028]** 0.021]** 0.030]** 0.245 [0.021]** 0.037 [0.021]** 0.037 [0.021]** 0.037 [0.021]** 0.180 0.021]** 0.180 0.021]** 0.180 0.021]** 0.180 0.021]** 0.180 0.021]** 0.180 0.021]** 0.180 0.021]** 0.029 0.019]** 0.129 0.019]** 0.129 0.019]** 0.028 0.032 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.035 0.042 0.044 0.035 0.042 0.044 0.035 0.042 0.044 0.035 0.040 0.066 0.004 0.066 0.004 0.066 0.004 0.006 0.006 0.004 0.006 0.	Voto (1. Hough)			
Cote (1=Never)	vote (1=Osually)			
Pays Taxes (1=On time; 0=Late) (245	Vote (1=Never)			
Pays Taxes (1=On time; 0=Late) 0.245 [0.021]*				
Courtent Events (1=Stays informed; 0=Does not stay informed) Courtent Events (1=Stays; 0=no) Courtent (1=Stays; 0=no	Pays Taxes (1=On time; 0=Late)		, ,	
0.021 0.180		[0.021]**		
Durrent Events (1=Stays informed; 0=Does not stay informed) 0.180 (0.019)** 0.129 (0.019)** 0.129 (0.019)** 0.129 (0.019)** 0.129 (0.019)** 0.032 (0.032) (0.032) (0.032) (0.032) (0.032) (0.032) (0.032) (0.032) (0.032) (0.032) (0.037) (0.041) (0.037) (0.061) (0.0	Education (1=College degree; 0=HS diploma)			
Recycles (1=yes; 0=no) Recycl	Oursell French (4. Olever informed) O. Born and also informed)	[0.021]	0.400	
Recycles (1=yes; 0=no) 0.129	Current Events (1=Stays informed; 0=Does not stay informed)			
	Recycles (1=ves: 0=no)			
Black = 1	1.665/6.66 (1. /66, 6. 1.6/			
dispanic = 1	Black = 1	0.042		
Dither race=1		[0.028]	[0.032]	
Deterrace=1	Hispanic = 1			
Age (in years) Age squared/100 -0.006 -0.004 -0.007 -0.007 -0.004 -0.007 -0.006 -0.006 -0.006 -0.007 -0.007 -0.006 -0.007 -0.007 -0.008 -0.015 -0.007 -0.009 -0.001 -0.007 -0.001 -0.007 -0.001 -0.007 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.001 -0.007 -0.001 -0.007 -0.001 -0.007 -0.001 -0.007 -0.003 -0.007 -0.006 -0.008 -0.008 -0.008 -0.008 -0.009 -0.008 -0.009 -0.008 -0.009 -0.008 -0.009 -0.00				
Age (in years) 0.006	Other race=1			
(0.005 (0.004 -0.007 -0.004 -0.007 -0.004 -0.007 -0.004 -0.007 -0.004 -0.007 -0.004 -0.007 -0.004 -0.005 -0.005 -0.005 -0.005 -0.005 -0.005 -0.005 -0.005 -0.005 -0.015 -0.003 -0.005 -0.005 -0.005 -0.005 -0.005 -0.005 -0.005 -0.005 -0.005 -0.005 -0.016 -0.007 -0.007 -0.007 -0.007 -0.007 -0.007 -0.007 -0.007 -0.007 -0.007 -0.007 -0.007 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.008 -0.021 -0.022 -0.022 -0.023 -0.023 -0.023 -0.023 -0.023 -0.023 -0.023 -0.023 -0.023 -0.028 -0.027 -0.028 -0.027 -0.028 -0.028 -0.028 -0.027 -0.028 -0.028 -0.028 -0.028 -0.028 -0.028 -0.028 -0.058 -0.052 -0.058 -0.052 -0.058 -0.052 -0.053 -0.033 -0.0	Ago (in voors)			
Age-squared/100 -0.007 -0.004	Age (III years)			
[0.005] [0.004]	Age-squared/100			
Company Comp	Age-squared/100			
Religious Attendance (1 never;6 more than 1/week) Religious Attendance (1 never;6 more than 1/week) Political Interest (1 hardly at all; 4 most of the time) Political Interest (1 hardly at all; 4 most of the time) Reducation (1=No HS; 6=post-grad) Political Interest (1 hardly at all; 4 most of the time) Reducation (1=No HS; 6=post-grad) Political Interest (1 hardly at all; 4 most of the time) Reducation (1=No HS; 6=post-grad) Political Interest (1 hardly at all; 4 most of the time) Reducation (1=No HS; 6=post-grad) Political Interest (1 hardly at all; 4 most of the time) Reducation (1=No HS; 6=post-grad) Reducation (1=No HS;	Female=1			
Religious Attendance (1 never;6 more than 1/week) Political Interest (1 hardly at all; 4 most of the time) Political Interest (1 hour) Political Interest (1 h				
Colitical Interest (1 hardly at all; 4 most of the time)	Religious Attendance (1 never;6 more than 1/week)			
[0.015] [0.015] [0.015] [0.015] [0.015] [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.0023 0.042 [0.018] [0.018]* [0.018]* [0.018]* [0.018]* [0.018]* [0.006] [0.003] [0.003] [0.003]* [0.003] [0.003]* [0.006] [0.006] [0.006] [0.006] [0.006] [0.006] [0.006] [0.006] [0.006] [0.006] [0.006] [0.006] [0.006] [0.006] [0.007		[0.007]	[0.005]	
Countries Coun	Political Interest (1 hardly at all; 4 most of the time)	0.020	-0.010	
[0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.007]* [0.018] [0.018] [0.018] [0.018]* [0.018] [0.018]* [0.018] [0.003] [0.003]* [0.003] [0.003]* [0.003]* [0.003]* [0.003]* [0.003]* [0.003]* [0.003]* [0.003]* [0.003]* [0.0040] [0.036] [0.040] [0.036] [0.040] [0.036] [0.047] [0.042] [0.047] [0.042] [0.047] [0.042] [0.028] [0.030] [0.028] [0.030] [0.028] [0.030] [0.028] [0.030] [0.028] [0.033] [0.032] [0.032] [0.033] [0.032] [0.032] [0.041] [0.041] [0.041] [0.041] [0.041] [0.041] [0.041] [0.041] [0.041] [0.041] [0.031] [0.041] [0.037] [0.040] [0.037] [0.047] [0.0		[0.015]	[0.015]	
Trust Government? (0=never; 3=always) 0.023	Education (1=No HS; 6=post-grad)			
[0.018] [0.018]*	T (0 0 10 10 10 10 10 10 10 10 10 10 10 10			
Description	Trust Government? (0=never; 3=always)			
[0.003] [0.003]*	Incomo (1 - «\$10k: 14 -> 150k: 15-DE)			
Description	11100111e (1-C\$10K, 14->130K, 13-K1)			
[0.040] [0.036] deology = Very Liberal -0.062 0.068 [0.047] [0.042] deology = Liberal -0.021 0.028 [0.030] [0.028] deology = Conservative -0.039 -0.019 deology = Very Conservative -0.058 -0.052 deology = Very Conservative -0.039 -0.019 deology = Very Conservative -0.039 -0.019 deology = Very Conservative -0.039 -0.019 deology = Very Conservative -0.058 -0.052 deology = Very Conservative -0.039 -0.019 deology = Very Conservative -0.041 -0.020 deology = Very Conservative -0.058 -0.052 deology = Very Conservative -0.058 -0.052 deology = Very Conservation -0.051 -0.052	Income Missina			
Decology = Very Liberal Co.062 Co.068 Co.047 Co.042 Co.042 Co.047 Co.042 Co.042 Co.028 Co.030 Co.028 Co.030 Co.030 Co.030 Co.030 Co.030 Co.030 Co.030 Co.031 Co.032 Co.033 Co.032 Co.032 Co.047 Co.041 Co.041 Co.041 Co.041 Co.041 Co.041 Co.041 Co.041 Co.040 Co.041 Co.041 Co.040 Co.041 Co	3			
Color Colo	Ideology = Very Liberal			
[0.030] [0.028]		[0.047]	[0.042]	
Color Colo	Ideology = Liberal	-0.021		
[0.033] [0.032]		= =		
Color Colo	Ideology = Conservative			
[0.047] [0.041] [0.041] [0.041] [0.041] [0.040] [0.031] [0.040] [0.031] [0.040] [0.037] [0.040] [0.037] [0.040] [0.037] [0.040] [0.037] [0.047] [0.047] [0.047] [0.047] [0.047] [0.037] [0.047] [0.037] [0.047] [0.037] [0.047] [0.037] [0.047] [0.037] [0.047] [0.037] [0.040] [0.039] [0.040] [0.039] [0.040] [0.039] [0.040] [0.037] [0.043] [0.037] [0.037] [0.043] [0.037] [0.037] [0.043] [0.037] [0.037] [0.043] [0.037] [0.037] [0.043] [0.037] [0.037] [0.037] [0.043] [0.037] [0.0	Idealogy - Vary Concernative			
Party ID = Strong Democrat Party ID = Weak Democrat Party ID = Weak Democrat Party ID = Weak Democrat Party ID = Lean Democrat Party ID = Lean Democrat Party ID = Lean Republican Party ID = Lean Republican Party ID = Weak Republican Party ID = Weak Republican Party ID = Weak Republican Party ID = Strong Republican Party ID	ideology = very conservative			
[0.040] [0.031] [0.040] [0.031] [0.040] [0.037] [0.040] [0.037] [0.040] [0.037] [0.040] [0.047] [0.047] [0.047] [0.047] [0.047] [0.037] [0.047] [0.037] [0.047] [0.037] [0.047] [0.037] [0.040] [0.040] [0.039]* [0.040] [0.039]* [0.040] [0.037]** [0.043] [0.037]** [0.043] [0.037]** [0.043] [0.037]** [0.043] [0.037]** [0.043] [0.037]** [0.043] [0.037]** [0.089]**	Party ID = Strong Democrat			
Party ID = Weak Democrat Party ID = Lean Democrat Party ID = Lean Democrat Party ID = Lean Republican Party ID = Lean Republican Party ID = Weak Republican Party ID = Weak Republican Party ID = Weak Republican Party ID = Strong Republican Party ID = Weak Republic	,			
[0.040] [0.037]	Party ID = Weak Democrat			
[0.049] [0.047] [0.047] [0.047] [0.030 [0.047] [0.037] [0.047] [0.037] [0.047] [0.037] [0.047] [0.053 [0.040] [0.039]* [0.040] [0.039]* [0.040] [0.039]* [0.043] [0.043] [0.037]** [0.043] [0.037]** [0.043]		[0.040]	[0.037]	
Party ID = Lean Republican 0.030 0.039 Party ID = Weak Republican 0.053 0.079 Party ID = Strong Republican 0.079 0.112 Ponstant 0.043] [0.037]** Constant 0.355 0.438 [0.124]** [0.089]** Observations 731 731	Party ID = Lean Democrat	0.009		
[0.047] [0.037] [0.037] [0.047] [0.037] [0.040] [0.039]* [0.040] [0.039]* [0.040] [0.043] [0.043] [0.037]** [0.043] [0.037]** [0.043]		= =		
Party ID = Weak Republican 0.053 0.079 [0.040] [0.039]* Party ID = Strong Republican 0.079 0.112 [0.043] [0.037]** Constant 0.355 0.438 [0.124]** [0.089]** Observations 731 731	Party ID = Lean Republican			
[0.040] [0.039]*	Porty ID - Wook Populioss			
Party ID = Strong Republican 0.079 0.112 [0.043] [0.037]** Constant 0.355 0.438 [0.124]** [0.089]** Observations 731 731	rany ib = vveak Republican			
[0.043] [0.037]** Constant 0.355 0.438 (0.124]** (0.089]** (0.089)** (0.089)** (0.089)** (0.089)	Party ID – Strong Republican	= =		
Constant 0.355 0.438 [0.124]** [0.089]** Observations 731 731	rany ib – onong nepublican			
[0.124]** [0.089]** Dbservations 731 731	Constant			
Observations 731 731				
R-squared 0.346 0.363	Observations			
late: Begulte from OLS regression models (weighted). Behuet standard errors in brookets. For the voting behavior	R-squared			

Note: Results from OLS regression models (weighted). Robust standard errors in brackets. For the voting behavior indicators the excluded category is no mention of this behavior. * significant at 5%; ** significant at 1% (two-tailed tests). Source - 2009 CCES.

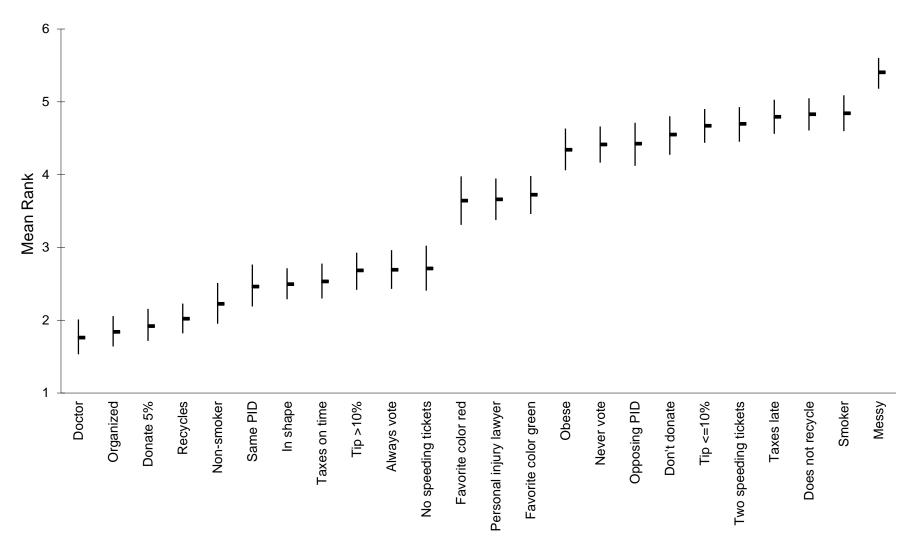
Table A3. Social Evaluations Analysis, Vignette Experiments (Unweighted Analysis and Analysis without Control Variables)

	(1)	(2)	(3)	(4)	(5)	(6)		
	Social Evaluation (0 [unfavorable] to 1 [favorable])							
	Unweighted .	Analysis with	Weighted Analysis without		Unweighted Analysis without			
	Controls		Controls		Controls			
Vote (1=Always)	0.061	0.033	0.058	0.003	0.056	0.023		
	[0.021]**	[0.022]	[0.025]*	[0.027]	[0.021]**	[0.022]		
Vote (1=Never)	-0.117	-0.159	-0.134	-0.213	-0.124	-0.174		
	[0.023]**	[0.026]**	[0.031]**	[0.036]**	[0.022]**	[0.026]**		
Vote (1=Usually)	0.021	0.033	-0.003	-0.016	0.014	0.026		
	[0.022]	[0.023]	[0.032]	[0.025]	[0.022]	[0.022]		
Pays Taxes (1=On time; 0=Late)	0.257		0.247		0.253			
	[0.016]**		[0.022]**		[0.016]**			
Education (1=College degree; 0=HS diploma)	-0.060		-0.033		-0.060			
	[0.016]**		[0.022]		[0.016]**			
Current Events (1=Stays informed; 0=Does not stay informed)		0.205		0.165		0.195		
		[0.016]**		[0.022]**		[0.017]**		
Recycles (1=yes; 0=no)		0.120		0.132		0.125		
		[0.017]**		[0.021]**		[0.017]**		
Constant	0.466	0.402	0.488	0.455	0.494	0.416		
	[0.089]**	[0.085]**	[0.025]**	[0.025]**	[0.019]**	[0.021]**		
Observations	731	731	731	731	731	731		
R-squared	0.353	0.326	0.311	0.282	0.326	0.280		

Note: Results from OLS regression models. Robust standard errors in brackets. For the voting behavior indicators the excluded category is no mention of this behavior.

* significant at 5%; ** significant at 1% (two-tailed tests). Source - 2009 CCES.

Figure A1. Average Rankings of Different Characteristics



Note: Traits are ranked from 1 (best) to 6 (worst). Bars are bootstrapped 95% confidence intervals. Source - MTurk Behavior Ranking Experiments.