

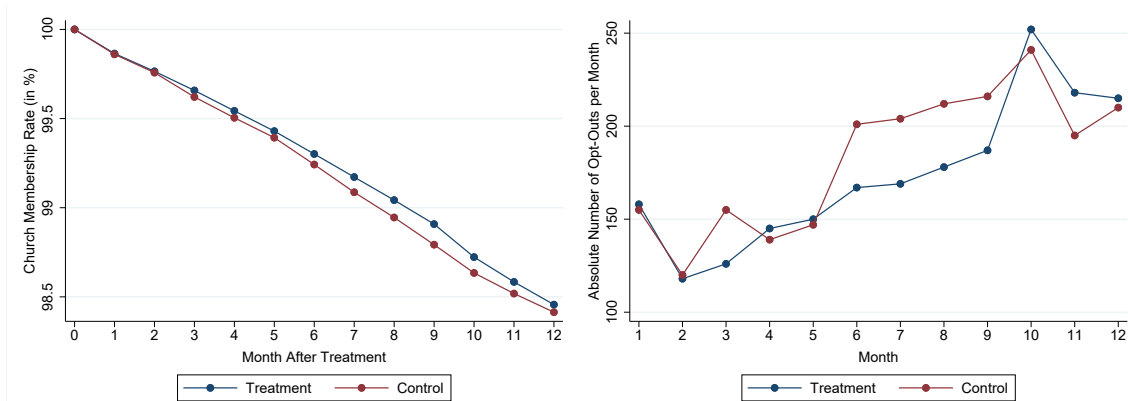
Online Appendix:
Water the Flowers You Want to Grow?
Evidence on Private Recognition
and Donor Loyalty

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November 27, 2020

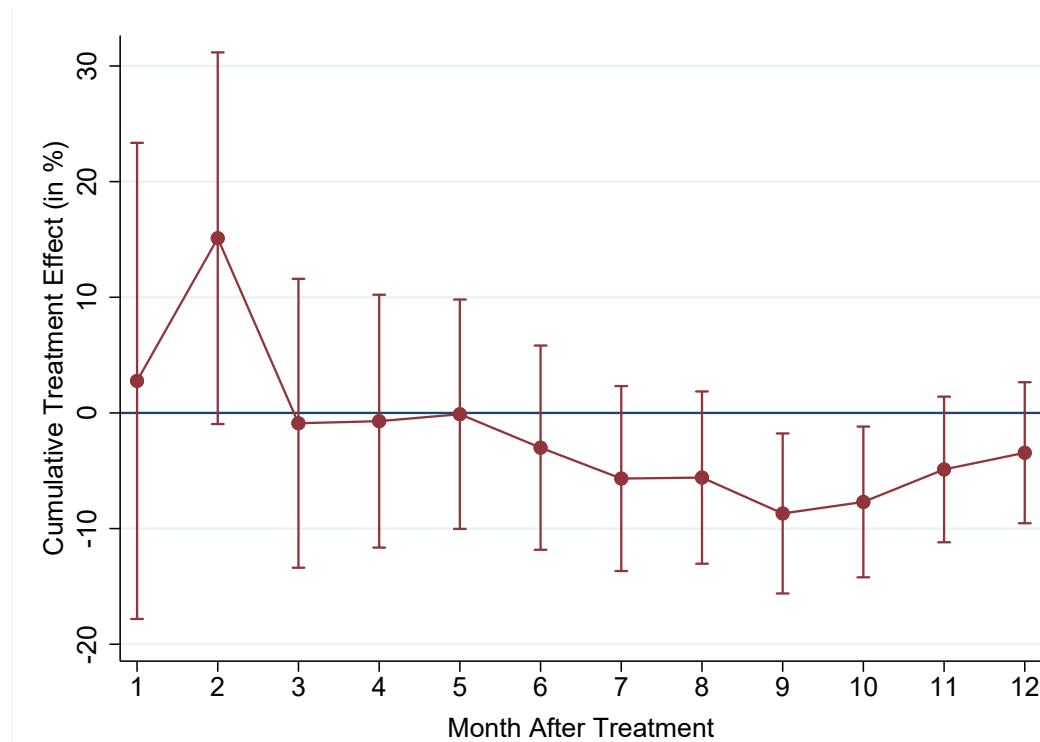
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Figure OA1: Church Membership Rate and Opt-Outs



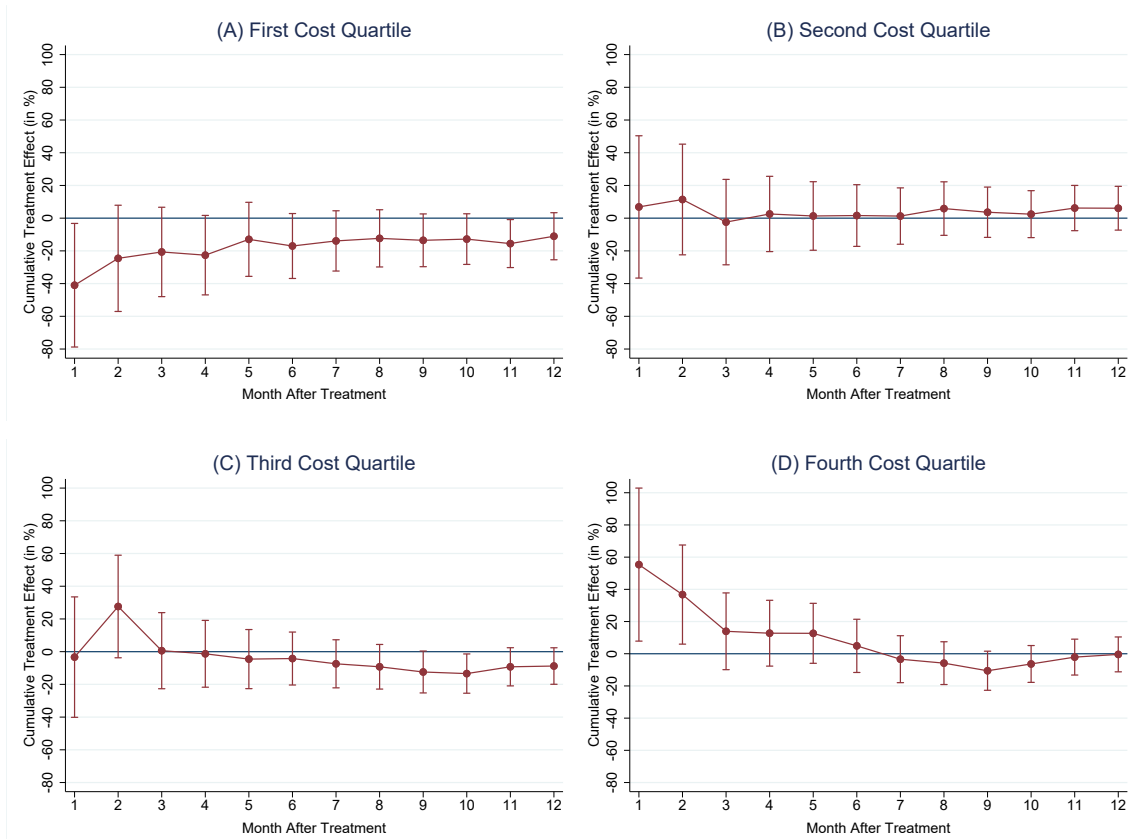
Notes: Panel A shows the raw membership rate for the treatment and control groups over time. Panel B displays the number of opt-outs in the treatment and control groups for all members sampled.

Figure OA2: Effect of Longer Letter on Cumulative Opt-Outs



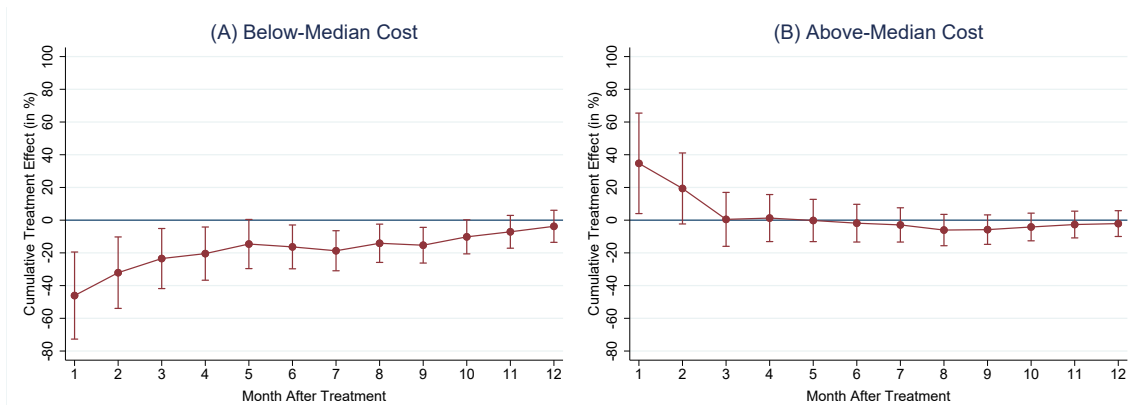
Notes: This figure shows cumulative monthly effects of the longer letter on the opt-out rate relative to the month-specific cumulative opt-out rate in the control group. The whiskers indicate 90% confidence intervals accounting for clusters at the level of the tax unit (individual or married couple). The sample consists of $N \times T = 200,731 \times 12 = 2,408,772$ observations.

Figure OA3: Longer Letter, Heterogeneity by Cost of Membership



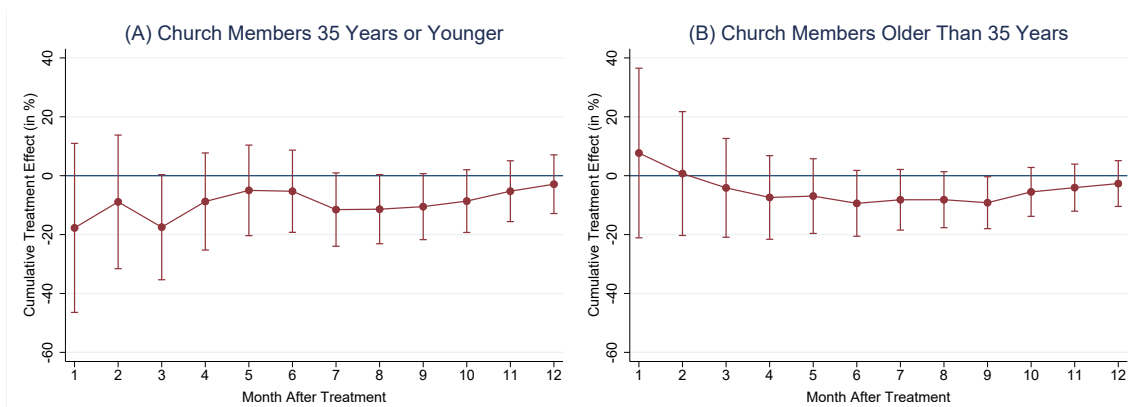
Notes: The figure depicts the heterogeneity of treatment effects by cost of membership for the longer letter. All panels depict relative cumulative treatment effects by month. Panel A shows the lowest cost quartile. Panel B reports the effects for the second, Panel C for the third, and Panel D for the top cost quartile. The cost of membership is equal to the annual church tax payment and for the baseline year 2013. The whiskers indicate 90% confidence intervals accounting for clusters at the level of the tax unit (individual or married couple).

Figure OA4: Heterogeneity by Cost of Membership (Below/Above Median)



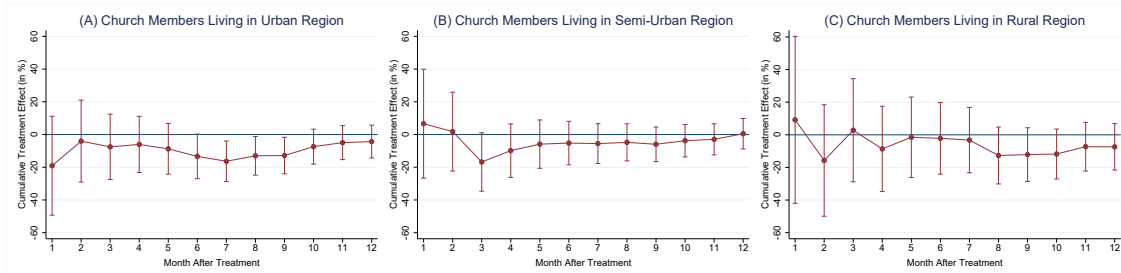
Notes: The figure depicts the heterogeneity of treatment effects by the cost of membership (below vs. above median). Both panels depict relative cumulative treatment effects by month. Panel A shows the effects on church members with a cost of membership below the median, panel B the effects on church members with a cost of membership above the median. The whiskers indicate 90% confidence intervals accounting for clusters at the level of the tax unit (individual or married couple).

Figure OA5: Heterogeneity by Age



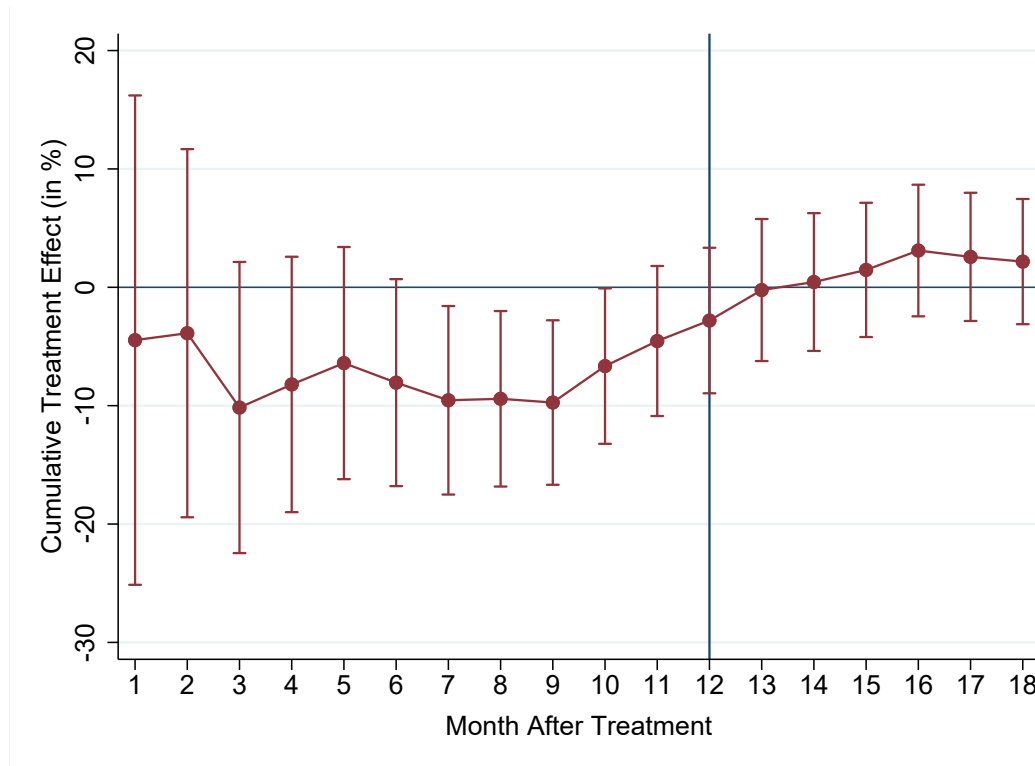
Notes: The figure depicts the heterogeneity of treatment effects by age groups. Both panels depict relative cumulative treatment effects by month. Panel A shows the effects on church members 35 years or younger, panel B the effects on members older than 35 years of age. The whiskers indicate 90% confidence intervals accounting for clusters at the level of the tax unit (individual or married couple).

Figure OA6: Heterogeneity by Urbanization at Place of Living



Notes: The figure depicts the heterogeneity of treatment effects by urbanization at place of living. All panels depict relative cumulative treatment effects by month. Panel A shows the effects on church members living in urban regions, panel B the effects on members living in semi-urban regions, and Panel C the effects on members living in rural regions. The whiskers indicate 90% confidence intervals accounting for clusters at the level of the tax unit (individual or married couple).

Figure OA7: Effect of Repeated Intervention on Cumulative Opt-Outs



Notes: This figure shows cumulative monthly effects on the opt-out rate relative to the month-specific cumulative opt-out rate in the control group. The whiskers indicate 90% confidence intervals accounting for clusters at the level of the tax unit (individual or married couple). The vertical line indicates the repeated intervention with an identical recognition letter. The sample consists of $N \times T = 200,784 \times 18 = 3,614,112$ observations.

Figure OA8: Letter Treatment Expressing Private Recognition

Lutheran Church in Bavaria
Church Tax Office [name of office]

Recipient's address

Contact details of the Church Tax Office:
phone and telefax number, email address

Date

Tax ID printed here

Your church tax payment

Dear <salutation and name>,

As a member of the Lutheran Church in Bavaria you pay the church tax. On behalf of the Lutheran Church in Bavaria, with this letter I would like to thank you cordially for your church tax payment in the past year.

The amount of church tax that you pay depends directly on the income tax. With your taxes you make an important contribution to our community.

Yours sincerely,
Chair

Signature of the chair

Address of the Church Tax Office

Bank details of the Church Tax Office

Figure OA9: Questionnaire for Post-Treatment Survey

	Fully agree	Rather agree	Un- decided	Rather disagree	Fully disagree
1. I am willing to pay church tax because the church provides important services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I am willing to pay church tax because I benefit from church services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Church tax aside: I am willing to pay the state taxes because I thereby contribute to the funding of important public services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Overall, I consider my personal church tax burden to be appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. My church tax payments are appropriately acknowledged by the Church.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Apart from the church tax: My state tax payments are appropriately acknowledged by the state.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. My relation to the Protestant Church is close.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Clearly improved	Rather improved	Not changed	Rather worsened	Clearly worsened
8. My relationship with the Protestant Church has recently improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 Thank you very much!					
 Evaluation field – Please do not label!					

Table OA1: Descriptives and Balancing Checks

	Treatment (1)	Control (2)	<i>p</i> -value (3)
A: Randomized Field Experiment (Individuals)			
Taxable Income in 2013 (in €)	48,960	48,834	0.33
In First (Bottom) Income Quartile in 2013	0.177	0.180	0.08
In Second Income Quartile in 2013	0.202	0.201	0.35
In Third Income Quartile in 2013	0.313	0.315	0.19
In Fourth (Top) Income Quartile in 2013	0.309	0.304	0.05
Payment for Church Membership in 2013 (in €)	478	477	0.72
Age (in years)	45.1	45.2	0.63
Female, no Spouse	0.175	0.177	0.42
Male, no Spouse	0.180	0.177	0.15
Female, Spouse not a Protestant	0.133	0.135	0.32
Male, Spouse not a Protestant	0.148	0.146	0.19
Female, Spouse is a Protestant	0.182	0.183	0.63
Male, Spouse is a Protestant	0.182	0.183	0.63
Lives in Urban Region	0.285	0.284	0.81
Lives in Semi-Urban Region	0.434	0.436	0.39
Lives in Rural Region	0.281	0.280	0.48
Number of Individuals	100,478	100,306	
B: Survey Respondents (Tax Units)			
In First (Bottom) Income Quartile in 2013	0.159	0.156	0.87
In Second Income Quartile in 2013	0.139	0.135	0.88
In Third Income Quartile in 2013	0.277	0.297	0.48
In Fourth (Top) Income Quartile in 2013	0.425	0.412	0.68
Age \geq 35 years	0.808	0.836	0.24
Female, no Spouse	0.213	0.176	0.14
Male, no Spouse	0.178	0.198	0.42
Couple	0.609	0.626	0.57
Lives in Urban Region	0.304	0.317	0.64
Lives in Semi-Urban Region	0.450	0.402	0.12
Lives in Rural Region	0.247	0.281	0.22
Number of Tax Units	527	495	

Notes: This table shows descriptives and balancing checks. Columns (1) and (2) report means, and Column (3) shows *p*-values of *t*-tests for differences in means between treatment and control. Panel A displays balancing checks for the field experiment. The sample consists of all individual church members in the experiment for whom we observe church tax payments in 2013 and 2014 and who were not invited to take part in the survey. The indicators showing interactions between gender and spouse characteristics reflect information from tax returns. We code an individual as having a spouse if both individuals file a joint tax return. For couples where only one spouse is member of the Protestant Church, we consider this individual's personal income and payment for church membership, respectively. For couples where both spouses are members of the Protestant Church, the tax records contain only the couple's joint income and joint church tax payment. In these cases, we individualize income and payment information by dividing the respective values for the couple by two. Panel B refers to the sample of survey respondents. Here, the unit of observation is the tax unit (individual or couple). Again, the indicators showing interactions between gender and single vs. couple reflect information from tax returns. For jointly filing couples, the indicator Age \geq 35 is based on the average age of both spouses. The response rates were 26.6 percent (treatment) and 25.0 percent (control), respectively. The difference is not statistically different from zero (*p*-value 0.257).

Table OA2: Descriptives and Balancing Checks for Bottom and Top Cost Quartiles

	Treatment (1)	Control (2)	<i>p</i> -value (3)
A: Bottom Quartile of Payments			
Taxable Income in 2013 (in €)	30,050	30,095	0.74
Payment for Church Membership in 2013 (in €)	75.6	75.7	0.88
Age (in years)	46.6	46.7	0.23
Female, no Spouse	0.157	0.155	0.63
Male, no Spouse	0.098	0.094	0.12
Female, Spouse not a Protestant	0.186	0.188	0.82
Male, Spouse not a Protestant	0.120	0.115	0.09
Female, Spouse is a Protestant	0.220	0.225	0.19
Male, Spouse is a Protestant	0.220	0.225	0.19
Lives in Urban Region	0.258	0.256	0.70
Lives in Semi-Urban Region	0.415	0.418	0.46
Lives in Rural Region	0.327	0.325	0.68
Number of Individuals	25,006	25,195	
B: Top Quartile of Payments			
Taxable Income in 2013 (in €)	78,318	78,502	0.56
Payment for Church Membership in 2013 (in €)	1142	1152	0.12
Age (in years)	45.5	45.4	0.26
Female, no Spouse	0.159	0.156	0.40
Male, no Spouse	0.228	0.226	0.76
Female, Spouse not a Protestant	0.106	0.108	0.54
Male, Spouse not a Protestant	0.220	0.226	0.11
Female, Spouse is a Protestant	0.143	0.142	0.55
Male, Spouse is a Protestant	0.143	0.142	0.55
Lives in Urban Region	0.358	0.356	0.63
Lives in Semi-Urban Region	0.434	0.440	0.24
Lives in Rural Region	0.208	0.2004	0.37
Number of Individuals	25,306	24,881	

Notes: This table shows descriptives and balancing checks for individual church members in the bottom (Panel A) and top (Panel B) quartile of baseline payments. Columns (1) and (2) report means, and column (3) shows *p*-values of *t*-tests for differences in means between treatment and control. The indicators showing interactions between gender and spouse characteristics reflect information from tax returns. We code an individual as having a spouse if both individuals file a joint tax return.

Table OA3: Manipulation Checks: Perceived Recognition and Loyalty Towards the Church, Results from Ordered Probit

Treatment Effect on	Church Tax					State Taxes		
	Payments Appropriately Acknowledged (1)	Willing to Pay for Church Services (2)	Willing to Pay for Own Benefits (3)	Church Tax Burden is Appropriate (4)	Relation to Church is Close (5)	Relation to Church Improved (6)	Payments Appropriately Acknowledged (7)	Willing to Pay for Public Services (8)
Prob($Y_i = \text{"Fully Agree"}$)	0.065*** (0.011)	0.041* (0.024)	0.034** (0.015)	0.021 (0.020)	0.033** (0.015)	0.003 (0.002)	0.003 (0.005)	0.006 (0.025)
Prob($Y_i = \text{"Agree"}$)	0.068*** (0.011)	-0.001 (0.001)	0.020** (0.009)	0.007 (0.006)	0.021** (0.010)	0.017 (0.011)	0.006 (0.009)	-0.001 (0.005)
Prob($Y_i = \text{"Undetermined"}$)	0.023*** (0.006)	-0.013* (0.008)	0.005** (0.003)	-0.005 (0.005)	-0.006** (0.003)	0.007 (0.005)	0.008 (0.013)	-0.002 (0.009)
Prob($Y_i = \text{"Disagree"}$)	-0.052*** (0.009)	-0.014* (0.008)	-0.018** (0.008)	-0.012 (0.011)	-0.026** (0.012)	-0.016 (0.010)	-0.004 (0.006)	-0.002 (0.008)
Prob($Y_i = \text{"Fully Disagree"}$)	-0.104*** (0.017)	-0.013* (0.008)	-0.043** (0.018)	-0.011 (0.010)	-0.023** (0.011)	-0.011 (0.007)	-0.013 (0.020)	-0.001 (0.003)
N	1002	1016	1011	1017	1015	1018	1002	1013

Notes: This table provides manipulation checks for the randomized field experiment. It is based on survey responses using a 5-point Likert scale. All columns report average marginal effects from ordered probit regressions of eq. (??). The different columns refer to survey responses to the following statements: Column (1): "My church tax payments are appropriately acknowledged by the church". Column (2): "I am willing to pay church tax because the church provides important services". Column (3): "I am willing to pay church tax because I benefit from church services". Column (4): "Overall, I consider my personal church tax burden to be appropriate". Column (5): "My relation to the Protestant Church is close". Column (6): "My relation to the Protestant Church has recently improved". Column (7): "My state tax payments are appropriately acknowledged by the state". Column (8): "I am willing to pay the state taxes because I thereby contribute to the funding of important public services". All regressions include indicators for single vs. joint filing, respondent age above 35, income quartiles, and place of living in (semi-)urban areas. Robust standard errors in parentheses. ***, ** and * denote significance level at 1, 5 and 10 percent levels, respectively.

Table OA4: Effects of Private Recognition on Church Opt-Outs: Regressions Without Strata Controls

Dependent Variable: Indicator for Church Opt-Out						
	Estimation Sample	Estimation Sample, 1 st Cost Quartile	Estimation Sample, 2 nd Cost Quartile	Estimation Sample, 3 rd Cost Quartile	Estimation Sample, 4 th Cost Quartile	All Members Sampled
	(1)	(2)	(3)	(4)	(5)	(6)
Month 1	0.00140*** (0.00012)	0.00135*** (0.00024)	0.00128*** (0.00023)	0.00167*** (0.00027)	0.00129*** (0.00023)	0.00133*** (0.00011)
Month 2	0.00242*** (0.00016)	0.00210*** (0.00031)	0.00216*** (0.00030)	0.00258*** (0.00033)	0.00285*** (0.00035)	0.00233*** (0.00015)
Month 3	0.00379*** (0.00020)	0.00310*** (0.00039)	0.00339*** (0.00037)	0.00441*** (0.00045)	0.00426*** (0.00042)	0.00363*** (0.00019)
Month 4	0.00495*** (0.00023)	0.00389*** (0.00043)	0.00451*** (0.00043)	0.00568*** (0.00051)	0.00575*** (0.00049)	0.00471*** (0.00021)
Month 5	0.00607*** (0.00026)	0.00472*** (0.00048)	0.00539*** (0.00048)	0.00727*** (0.00058)	0.00691*** (0.00054)	0.00576*** (0.00024)
Month 6	0.00758*** (0.00029)	0.00599*** (0.00053)	0.00667*** (0.00054)	0.00910*** (0.00066)	0.00856*** (0.00061)	0.00719*** (0.00026)
Month 7	0.00913*** (0.00032)	0.00706*** (0.00058)	0.00802*** (0.00059)	0.01080*** (0.00070)	0.01065*** (0.00069)	0.00866*** (0.00029)
Month 8	0.01055*** (0.00035)	0.00798*** (0.00062)	0.00914*** (0.00064)	0.01235*** (0.00075)	0.01274*** (0.00075)	0.00999*** (0.00031)
Month 9	0.01207*** (0.00037)	0.00937*** (0.00068)	0.01030*** (0.00068)	0.01386*** (0.00080)	0.01479*** (0.00080)	0.01146*** (0.00033)
Month 10	0.01366*** (0.00039)	0.01032*** (0.00072)	0.01174*** (0.00072)	0.01565*** (0.00085)	0.01696*** (0.00086)	0.01302*** (0.00036)
Month 11	0.01481*** (0.00041)	0.01135*** (0.00076)	0.01289*** (0.00076)	0.01680*** (0.00087)	0.01825*** (0.00089)	0.01417*** (0.00037)
Month 12	0.01586*** (0.00042)	0.01199*** (0.00078)	0.01373*** (0.00078)	0.01835*** (0.00091)	0.01941*** (0.00092)	0.01519*** (0.00038)

Table OA4 Continued: Effects of Private Recognition on Church Opt-Outs: Regressions Without Strata Controls

	Estimation Sample (1)	Estimation Sample, 1 st Cost Quartile (2)	Estimation Sample, 2 nd Cost Quartile (3)	Estimation Sample, 3 rd Cost Quartile (4)	Estimation Sample, 4 th Cost Quartile (5)	All Members Sampled (6)
Treatment×Month 1	-0.0004 (0.00017)	-0.00071** (0.00030)	-0.00044 (0.00030)	0.00033 (0.00041)	0.00065* (0.00037)	0.00003 (0.00016)
Treatment×Month 2	-0.00007 (0.00023)	-0.00094** (0.00039)	-0.00037 (0.00041)	0.00054 (0.00050)	0.00047 (0.00051)	-0.00001 (0.00021)
Treatment×Month 3	-0.00036 (0.00028)	-0.00114** (0.00049)	-0.00033 (0.00053)	-0.00017 (0.00062)	0.00017 (0.00060)	-0.00029 (0.00026)
Treatment×Month 4	-0.00039 (0.00032)	-0.00125** (0.00056)	-0.00041 (0.00061)	-0.00013 (0.00071)	0.00022 (0.00070)	-0.00028 (0.00029)
Treatment×Month 5	-0.00037 (0.00036)	-0.00100 (0.00063)	-0.00042 (0.00067)	-0.00044 (0.00080)	0.00036 (0.00078)	-0.00025 (0.00033)
Treatment×Month 6	-0.00059 (0.00040)	-0.00139** (0.00071)	-0.00062 (0.00075)	-0.00050 (0.00089)	0.00013 (0.00086)	-0.00047 (0.00036)
Treatment×Month 7	-0.00085* (0.00044)	-0.00171** (0.00077)	-0.00106 (0.00082)	-0.00049 (0.00098)	-0.00018 (0.00096)	-0.00068* (0.00040)
Treatment×Month 8	-0.00097** (0.00048)	-0.00166** (0.00083)	-0.00071 (0.00090)	-0.00068 (0.00104)	-0.00089 (0.00103)	-0.00079* (0.00043)
Treatment×Month 9	-0.00116** (0.00051)	-0.00205** (0.00089)	-0.00091 (0.00095)	-0.00084 (0.00111)	-0.00088 (0.00111)	-0.00096** (0.00046)
Treatment×Month 10	-0.00089 (0.00055)	-0.00164* (0.00095)	-0.00056 (0.00102)	-0.00074 (0.00118)	-0.00068 (0.00119)	-0.00077 (0.00049)
Treatment×Month 11	-0.00065 (0.00057)	-0.00147 (0.00101)	-0.00020 (0.00108)	-0.00078 (0.00122)	-0.00023 (0.00125)	-0.00056 (0.00052)
Treatment×Month 12	-0.00043 (0.00060)	-0.00131 (0.00104)	0.00039 (0.00113)	-0.00069 (0.00127)	-0.00017 (0.00129)	-0.00038 (0.00054)
Number of indiv. (N)	200,784	50,201	50,191	50,205	50,187	233,539
Number of obs. ($N \times 12$)	2,409,408	602,412	602,292	602,460	602,244	2,802,468

Notes: This table shows OLS panel regressions for the effect of the private recognition treatment on the probability of opting out of church membership. Columns (1) to (5) are based on regressions with all church members in the experiment for whom we observe church payments in 2013 and 2014 and who were not invited to take part in the survey (estimation sample). Column (1) shows the total effect. Columns (2), (3), (4), and (5), respectively, report results for church members in the first, second, third, and fourth quartile of the cost of membership distribution, respectively. Column (6) repeats the regression from column (1) for all church members originally sampled (partly without church payment info for 2013 and 2014). The regressions do not include further controls. Standard errors are clustered at the level of the church member (individual or married couple). ***, ** and * denote significance level at 1, 5 and 10 percent level, respectively.

Table OA5: Effects of Private Recognition on Church Opt-Outs: Regressions With Strata Controls

Dependent Variable: Indicator for Church Opt-Out	Estimation Sample					
	(1)	(2)	(3)	(4)	(5)	(6)
	Estimation Sample	1 st Cost Quartile	2 nd Cost Quartile	3 rd Cost Quartile	4 th Cost Quartile	All Members Sampled
Treatment×Month 1	-0.00006 (0.00017)	-0.00075** (0.00030)	-0.00046 (0.00030)	0.00036 (0.00041)	0.00070* (0.00037)	0.00001 (0.00016)
Treatment×Month 2	-0.00009 (0.00023)	-0.00098** (0.00039)	-0.00038 (0.00041)	0.00057 (0.00050)	0.00052 (0.00052)	-0.00003 (0.00021)
Treatment×Month 3	-0.00038 (0.00028)	-0.00117** (0.00050)	-0.00034 (0.00053)	-0.00014 (0.00063)	0.00022 (0.00060)	-0.00031 (0.00026)
Treatment×Month 4	-0.00040 (0.00032)	-0.00129** (0.00056)	-0.00043 (0.00061)	-0.00009 (0.00071)	0.00027 (0.00070)	-0.00030 (0.00029)
Treatment×Month 5	-0.00038 (0.00036)	-0.00104* (0.00063)	-0.00043 (0.00067)	-0.00040 (0.00080)	0.00041 (0.00078)	-0.00026 (0.00033)
Treatment×Month 6	-0.00060 (0.00040)	-0.00143** (0.00071)	-0.00063 (0.00075)	-0.00047 (0.00089)	0.00018 (0.00086)	-0.00048 (0.00036)
Treatment×Month 7	-0.00087** (0.00044)	-0.00174** (0.00076)	-0.00108 (0.00082)	-0.00046 (0.00098)	-0.00013 (0.00095)	-0.00069* (0.00040)
Treatment×Month 8	-0.00099** (0.00048)	-0.00170** (0.00082)	-0.00072 (0.00089)	-0.00065 (0.00104)	-0.00084 (0.00103)	-0.00081* (0.00043)
Treatment×Month 9	-0.00117** (0.00051)	-0.00209** (0.00089)	-0.00093 (0.00095)	-0.00080 (0.00111)	-0.00083 (0.00111)	-0.00098** (0.00046)
Treatment×Month 10	-0.00090* (0.00055)	-0.00168* (0.00095)	-0.00057 (0.00102)	-0.00071 (0.00118)	-0.00063 (0.00119)	-0.00079 (0.00049)
Treatment×Month 11	-0.00067 (0.00057)	-0.00151 (0.00101)	-0.00022 (0.00108)	-0.00075 (0.00122)	-0.00018 (0.00124)	-0.00058 (0.00052)
Treatment×Month 12	-0.00044 (0.00059)	-0.00135 (0.00104)	0.00038 (0.00112)	-0.00066 (0.00127)	-0.00012 (0.00129)	-0.00040 (0.00054)
Number of indiv. (N)	200,784	50,201	50,191	50,205	50,187	233,539
Number of obs. (N × 12)	2,409,408	602,412	602,292	602,460	602,244	2,802,468

Notes: This table shows OLS panel regressions for the effect of the private recognition treatment on the probability of opting out of church membership. Columns (1) to (5) are based on regressions with all church members in the experiment for whom we observe church payments in 2013 and 2014 and who were not invited to take part in the survey (estimation sample). Column (1) shows the total effect. Columns (2), (3), (4), and (5), respectively, report results for church members in the first, second, third, and fourth quartile of the cost of membership distribution, respectively. Column (6) repeats the regression from column (1) for all church members originally sampled (partly without church payment info for 2013 and 2014). All regressions include a full series of month effects and controls for strata variables. Standard errors are clustered at the level of the church member (individual or married couple). ***, ** and * denote significance level at 1, 5 and 10 percent level, respectively.

Table OA6: Results Robust to Randomization Inference. Regressions Without Strata Controls

Randomization Inference p -value for Treatment Effect on Church Opt-Outs for Months 1 to 12						
	Estimation Sample	Estimation Sample, 1 st Cost Quartile	Estimation Sample, 2 nd Cost Quartile	Estimation Sample, 3 rd Cost Quartile	Estimation Sample, 4 th Cost Quartile	Estimation Sample, All Members Sampled
	(1)	(2)	(3)	(4)	(5)	(6)
Month 1	[0.8058]	[0.0166]	[0.1516]	[0.4148]	[0.0821]	[0.8556]
Month 2	[0.7402]	[0.0135]	[0.3747]	[0.2818]	[0.3626]	[0.9486]
Month 3	[0.1939]	[0.0235]	[0.5300]	[0.7784]	[0.7841]	[0.2523]
Month 4	[0.2307]	[0.0213]	[0.5036]	[0.8596]	[0.7502]	[0.3358]
Month 5	[0.3050]	[0.1088]	[0.5497]	[0.5888]	[0.6408]	[0.4526]
Month 6	[0.1382]	[0.0503]	[0.4106]	[0.5679]	[0.8754]	[0.2033]
Month 7	[0.0542]	[0.0242]	[0.1980]	[0.6140]	[0.8532]	[0.0902]
Month 8	[0.0441]	[0.0442]	[0.4308]	[0.5165]	[0.3786]	[0.0706]
Month 9	[0.0238]	[0.0204]	[0.3421]	[0.4483]	[0.4293]	[0.0352]
Month 10	[0.1048]	[0.0850]	[0.5858]	[0.5209]	[0.5688]	[0.1169]
Month 11	[0.2516]	[0.1373]	[0.8524]	[0.5300]	[0.8576]	[0.2694]
Month 12	[0.4833]	[0.2124]	[0.7263]	[0.5993]	[0.8919]	[0.4756]

Notes: This table shows p -values from randomization inference for the treatment effects displayed in Table OA4. We proceed in four steps: First, we compute and store the t -statistics for the coefficients of interest in eq. (??) from our original data set. Second, we randomly permute the treatment indicator and re-run our estimation, storing the resulting t -statistics for the coefficients of interest. Third, we repeat the second step for 10,000 times as suggested in Young (2019). Finally, we compare the distribution of permutation-based t -statistics with the original t -value. The randomization inference p -value is given by the share of permuted t -statistics weakly greater than the original t -statistic in absolute value. We follow Kennedy and Cade (1996) and Ferman and Pinto (2019) and base the procedure on cluster robust t -statistics instead of the coefficient of interest in order to rely on a pivotal statistic.

Table OA7: Results Robust to Randomization Inference: Regressions With Strata Controls

Randomization Inference p -value for Treatment Effect on Church Opt-Outs for Months 1 to 12						
	Estimation Sample	Estimation Sample, 1 st Cost Quartile	Estimation Sample, 2 nd Cost Quartile	Estimation Sample, 3 rd Cost Quartile	Estimation Sample, 4 th Cost Quartile	All Members Sampled
	(1)	(2)	(3)	(4)	(5)	(6)
Month 1	[0.7520]	[0.0113]	[0.1293]	[0.3686]	[0.0602]	[0.9403]
Month 2	[0.6993]	[0.0099]	[0.3545]	[0.2555]	[0.3128]	[0.8888]
Month 3	[0.1778]	[0.0191]	[0.5117]	[0.8180]	[0.7233]	[0.2264]
Month 4	[0.2155]	[0.0174]	[0.4876]	[0.8905]	[0.6944]	[0.3084]
Month 5	[0.2884]	[0.0963]	[0.5359]	[0.6198]	[0.5957]	[0.4249]
Month 6	[0.1292]	[0.0455]	[0.3998]	[0.5932]	[0.8279]	[0.1888]
Month 7	[0.0509]	[0.0213]	[0.1914]	[0.6340]	[0.8953]	[0.0837]
Month 8	[0.0415]	[0.0399]	[0.4222]	[0.5350]	[0.4104]	[0.0650]
Month 9	[0.0227]	[0.0178]	[0.3344]	[0.4646]	[0.4584]	[0.0317]
Month 10	[0.0991]	[0.0771]	[0.5756]	[0.5352]	[0.5972]	[0.1078]
Month 11	[0.2400]	[0.1272]	[0.8430]	[0.5450]	[0.8876]	[0.2556]
Month 12	[0.4672]	[0.1989]	[0.7334]	[0.6178]	[0.9257]	[0.4539]

Notes: This table shows p -values from randomization inference for the treatment effects displayed in Table OA5. We proceed in four steps: First, we compute and store the t -statistics for the coefficients of interest in eq. (??) from our original data set. Second, we randomly permute the treatment indicator and re-run our estimation, storing the resulting t -statistics for the coefficients of interest. Third, we repeat the second step for 10,000 times as suggested in (Young, 2019). Finally, we compare the distribution of permutation-based t -statistics with the original t -value. The randomization inference p -value is given by the share of permuted t -statistics weakly greater than the original t -statistic in absolute value. We follow Kennedy and Cade (1996) and Ferman and Pinto (2019) and base the procedure on cluster robust t -statistics instead of the coefficient of interest in order to rely on a pivotal statistic.

References

- FERMAN, B. and PINTO, C. (2019). Inference in differences-in-differences with few treated groups and heteroskedasticity. *Review of Economics and Statistics*, **101** (3), 452–467.
- KENNEDY, P. E. and CADE, B. S. (1996). Randomization tests for multiple regression. *Communications in Statistics-Simulation and Computation*, **25** (4), 923–936.
- YOUNG, A. (2019). Channeling Fisher: Randomization tests and the statistical insignificance of seemingly significant experimental results. *Quarterly Journal of Economics*, **134** (2), 557–598.