

Early Voting Laws, Voter Turnout, and Partisan Vote Composition: Evidence from Ohio*

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Online Appendix

Abstract

We estimate effects of early voting on voter turnout using a 2010 homogenization law from Ohio which forced some counties to expand and others to contract early voting. Using voter registration data, we compare individuals who live within the same 2×2 mile square block but in different counties. We find substantial positive impacts of early voting on turnout equal to 0.22 percentage points of additional turnout per additional early voting day. We also find greater impacts on women, Democrats, Independents and those of child-bearing and working age. We simulate impacts of national early day laws on recent election outcomes.

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Table A.1: Sample Means of Ohio Registered Voters in Counties by Change in Early Voting Duration: 2012

	All	Change Related to Mean	# Hours	# Days in Weekend	# Days with Same Day Registration	# Days Open Late		# Weekdays	# Saturdays	# Sundays
						Open	Late			
Black (%)	11.6	+	5.9	7.6	8.0	5.9	0.5	8.6	7.3	
Hispanic (%)	2.6	+	21.9	17.9	19.2	22.9	11.8	16.0	21.2	
White (%)	83.7	-	2.4	2.0	2.2	2.4	1.0	2.2	2.2	
Democrat	30.4	+	3.1	3.6	3.6	3.2	2.7	3.3	3.6	
Independent	43.1	-	90.3	88.6	88.2	90.3	97.5	87.5	88.9	
Republican	26.5	+	72.0	76.0	74.4	70.8	83.6	78.1	72.3	
College Grad. (%)	25.9	+	28.1	27.4	28.1	28.5	22.7	28.2	27.7	
HS Dropout (%)	11.7	-	34.5	35.1	35.0	34.0	30.4	33.6	36.2	
Med. Household Income	55.3	+	42.1	42.4	42.6	42.0	40.4	42.9	42.2	
Age in 2008	44.6	-	44.8	44.1	44.2	45.3	43.1	43.4	45.1	
Distance to Early Voting Site (miles)	10.9	+	29.8	30.2	29.3	29.5	37.0	28.9	30.1	
Voted in 2008	86.2	+	20.7	20.8	20.7	20.7	26.4	23.1	18.7	
Voted in 2010	59.9	-	22.5	23.2	23.2	22.3	15.3	22.9	23.5	
Voted in 2012	76.3	+	32.0	30.1	31.5	33.0	26.0	30.3	31.3	
Voted in 2014	43.7	-	11.8	12.0	12.0	11.9	12.3	12.2	11.9	
Observations	6,559,589	+	11.6	11.3	11.1	11.4	11.7	11.0	11.4	
		-	54.5	54.6	54.5	54.3	54.8	53.4	55.0	
		+	56.8	56.5	57.2	57.5	55.4	58.2	56.1	
		-	45.3	45.1	45.1	45.3	45.4	45.0	45.0	
		+	43.4	43.8	43.4	43.1	44.6	44.0	43.6	
		-	11.2	10.7	10.5	11.2	13.4	10.4	11.1	
		+	10.3	11.1	11.6	10.2	10.9	11.6	10.3	
		-	85.9	86.4	86.3	85.9	87.3	86.1	86.4	
		+	86.9	85.9	86.1	87.0	86.2	86.4	85.9	
		-	60.1	60.3	60.5	60.2	61.2	60.0	60.1	
		+	59.4	59.2	58.6	59.3	59.9	59.7	59.2	
		-	76.0	76.7	76.5	76.0	79.0	76.2	76.7	
		+	76.9	75.6	75.8	77.0	76.3	76.4	75.5	
		-	44.3	45.0	44.8	44.4	45.7	44.5	44.9	
		+	42.7	41.9	41.5	42.5	43.7	42.6	41.3	
		-	4,206,014	3,998,136	4,428,625	4,337,070	56,223	3,879,580	4,512,346	
		+	2,353,575	2,561,453	2,130,964	2,222,519	6,503,366	2,680,009	2,047,243	

Notes: Each row reports the means of one variable indicated by the first column. Column "All" reports the sample means of Ohio residents who registered and were eligible to vote in 2008. Column "Change Related to Mean" indicates a sub-sample of counties with above (+) or below (-) mean changes of early voting duration from 2008 to 2012 as measured by the subsequent column headings. Variable "Med. Household Income" is the median household income of a registered voter's Census block group in thousands of dollars. "Distance to Early Vote Site" is measured in miles. "Age in 2008" is measured in years as of the general election day in 2008. All other variables are in percentage points.

Table A.2: Placebo Test: Date Last Voted

	Date Last Voted		Never Voted				
	Pre-2014	Pre-2008	Pre-2014	Pre-2008			
Number of Days	2.423 (3.922)	-0.455 (2.529)	-0.000 (0.001)	0.001 (0.002)			
Observations	1,099,585	991,512	1,141,237	1,141,237			

Age	20	30	40	50	60	70	80
Number of Days	-0.030 (0.020)	-0.202 (0.189)	0.113 (0.076)	0.080 (0.111)	0.001 (0.067)	0.069 (0.073)	0.021 (0.047)
Observations	1141237	1141237	1141237	1141237	1141237	1141237	1141237

Notes: In the upper panel, the dependent variables in the first two columns are the date that a registered voter last voted. The first column considers all turnout in the sample period, while the second column considers only turnout before the 2008 election. The dependent variables in the third and fourth columns are respective a binary variable that indicates an individual had never voted before 2014 (third column) and before 2008 (fourth column). In the lower panel, the dependent variables are a binary variable that indicate age in 2008 by decades. All binary variables are scaled up by 100 so they take value 0 or 100. The independent variable is the number of early voting days in all regressions, which include 2×2 mile geographic fixed effects. Standard errors are clustered two-way by county and by county-border segment. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table A.3: Placebo Test: Number of Registered Voters in a Census Block

	2008	2012	Changes from 2008 to 2012
Number of Days	-0.392 (0.262)	-0.466 (0.296)	-0.074 (0.091)
Observations	59,563	59,563	59,563

Notes: Each column reports an estimated coefficient of the changes of early voting days from 2008 to 2012. As indicated by the column header, the dependent variables are, respectively, the number of registered voters in a census block in 2008, 2012, and the changes thereof from 2008 to 2012. All regressions include 2×2 mile geographic fixed effects. Standard errors are clustered two-way by county and by county-border segment. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table A.4: Correlation between Individual Partisanship and Precinct-level Democratic Vote Share

	2008	2012
Democrat	0.571	0.548
Independent	0.297	0.380
Republican	-0.822	-0.769

Notes: Each cell reports a correlation coefficient between the precinct-level democratic vote share and the precinct-level average individual partisanship. Party affiliation is identified by the most recent primary vote before the 2008 general election. The column header indicates the year of the election. The row headers indicate individual partisanship by past primary turnouts.

Table A.5: Partisanship by Election

Year	Democrats	Independents	Republicans
2008	38.3	38.3	23.4
2012	30.3	43.0	26.6

Notes: Each cell above reports the share of a partisan group voting in an election. Party affiliation is identified by the most recent primary vote before the 2008 general election. The row header indicates the year of election. The column header indicates individual partisanship by past primary turnouts. All values are in percentage points.

Figure A.1: Changes in Early Voting Duration (2008 - 2012)

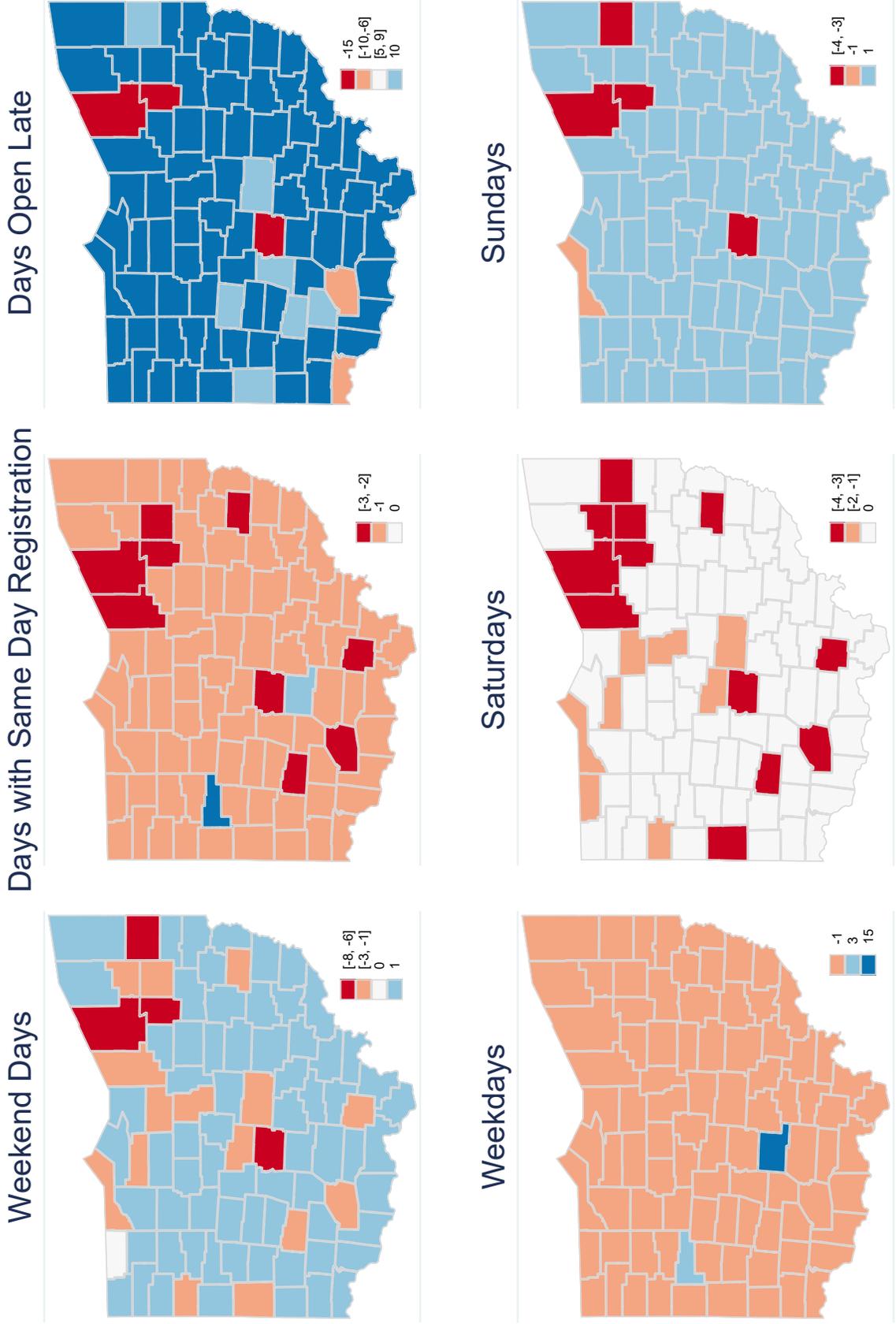
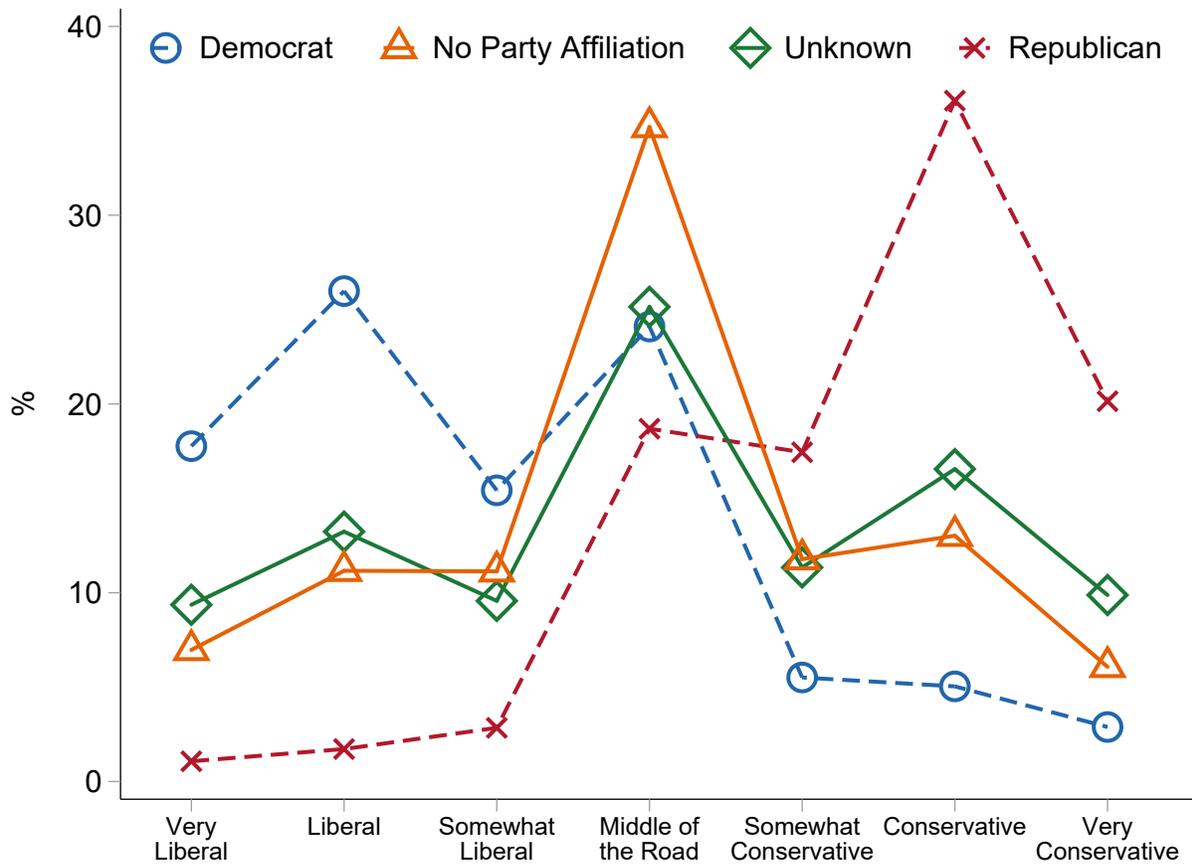
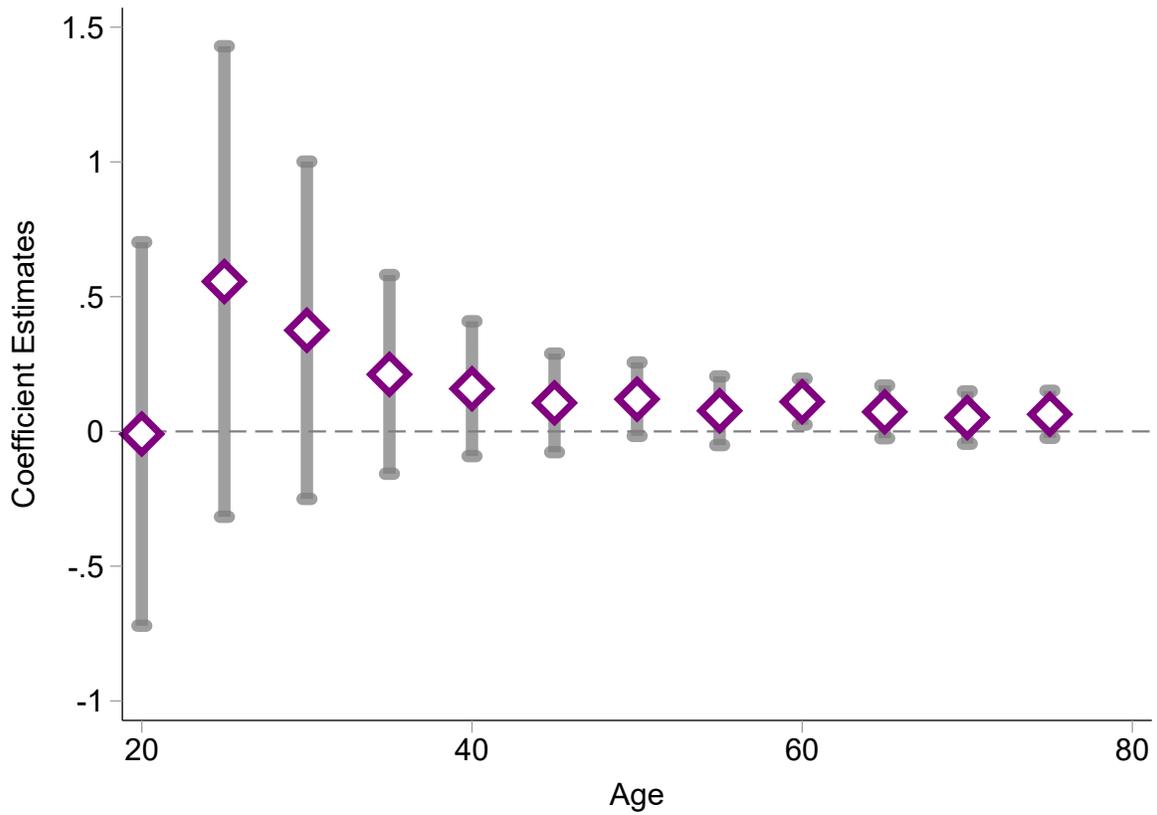


Figure A.2: Ideological Leaning by Partisan Affiliation



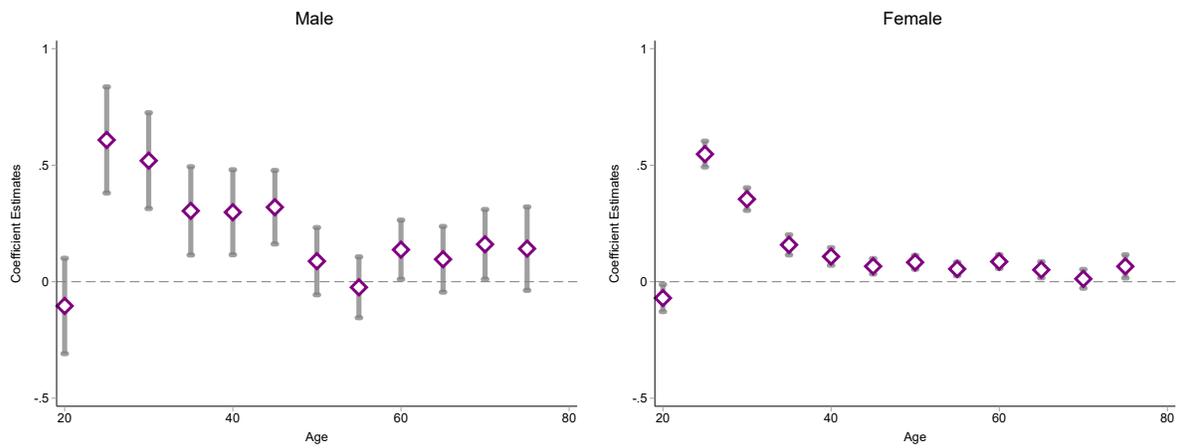
Notes: The graph above plots the shares of self-reported ideological leaning by partisan affiliation (or lack thereof) using data from the 2016 CCES.

Figure A.3: Heterogeneous Treatment Effects of Early Voting by Age Group from the Full Geographic Sample



Notes: The graph above plots the estimated impacts of early voting on turnout rates for each 5-year age group. Each plotted coefficient and its 95% confidence interval is from one regression using the full geographic sample and a 5-year age group subsample as indicated by the horizontal axes. The specification includes individual fixed effects and election fixed effects. Standard errors are clustered by county.

Figure A.4: Heterogeneous Treatment Effects of Early Voting by Age Group and Gender



Notes: The graph above plots the estimated impacts of early voting on turnout rates for each 5-year age group by gender. Each plotted coefficient and its 95% confidence interval is from one equation using the full geographic sample and a 5-year age group subsample as indicated by the horizontal axes. The left subplot uses the male subsample, and the right subplot uses the female subsample. All specifications include individual fixed effects and election fixed effects. Standard errors are clustered by county.