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

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Voting Rights in the U.S.

- At birth:
  - ▸ States defined qualifications for having the right to vote
  - ▸ Most states enfranchised only white men
    - Most states had property or tax payment qualifications
    - Vermont enfranchised all adult men from the beginning

- Pre Civil War: Over time, suffrage expanded as states got rid of property/tax qualifications.

- Post-Reconstruction: The federal government established some voting rights.
  - ▸ All adult men (15th Amendment, 1870)
  - ▸ Women (19th Amendment, 1920)
  - ▸ D.C. residents (23rd Amendment, 1961)
  - ▸ Poll tax (24th Amendment, 1964)
  - ▸ 18 year olds (26th Amendment, 1971)

Post-War Disenfranchisement and Re-Enfranchisement

- Disenfranchisement of blacks in the South
  - State by state
  - Began 1877
  - Poll tax, literacy tests
  - Selective enforcement
  - Shotgun policy

- Voting Rights Act of 1965
  - Ended voting restrictions
  - Required pre-clearance for states/counties with suppression history

Recent Development

Some states have passed laws which :

- Voter ID

- Reduction of early voting

- Restrictions on voter registration

- Absentee ballots

- Disenfranchisement of ex-felons

Recent Development

Shelby County v. Holder (2013)

- The Voting Right Act of 1965 had provisions authorizing the federal government to block discriminatory changes of voting rules in covered areas.

- The Supreme Court struck down these provisions in 2013.

- Within 2 weeks of the Court Decision, Many Impacted States Passed Laws Restricting Voting:

    - AL, AZ, NC, OH, SC, TX, WI

States With New Voting Restrictions Since the 2010 Election

NH	VT
RI	MA
NJ	CT
MD	DE
	DC
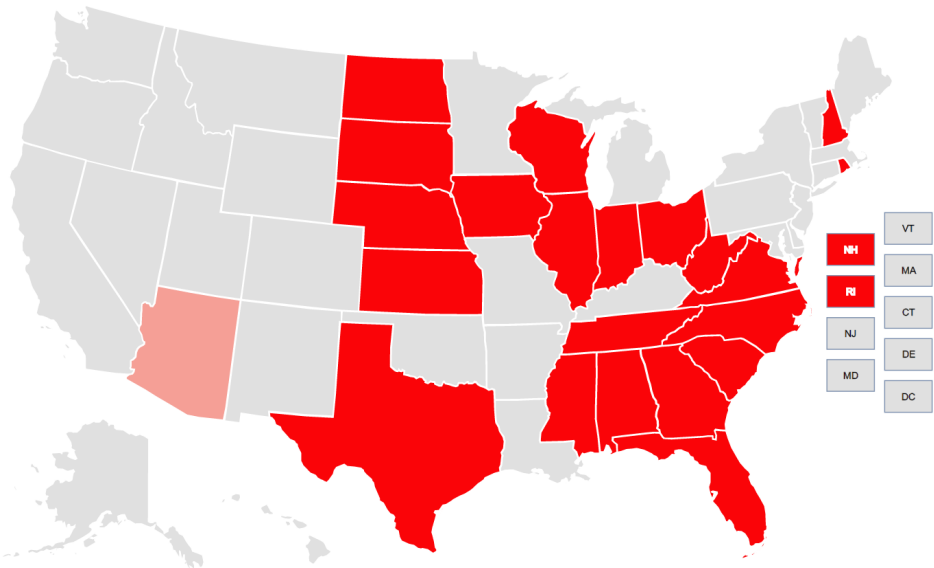
(Figure: Brennan Center for Justice, NYU Law School)

Early Voting

- Election day is a Tuesday and not a holiday.

- Early in-person voting allows people to cast ballots in-person before election day
  - Early voting availaibility depends upon state policy
  - Some states allow counties discretion
  - Number of early voting days range from 0 to 46

- 1/3 of U.S. and OH voters voted early in 2012

- Democrats rely more on early voting.

This Paper

- We investigate how changes in early voting availability in Ohio affected turnout and partisan outcomes.

- Why early voting?
  - ▶ Within state, cross county variation in early voting.
  - ▶ No within state variation in laws for photo ID, registration, and absentee balloting.

- Why Ohio?
  - ▶ Large variation in roll out of early voting cross counties.
  - ▶ In 2012, OH laws homogenized early voting across counties.
  - ▶ Further uniform reduction of early voting was enacted in 2014.

De Facto Enfranchisement Matters

Related Literature:

- County level diff-in-diff studying the impacts of Voting Right Act of 1965 (Cascio & Washington, 2013)

- Black disenfranchisement in the post-reconstruction South using state-border county pairs (Naidu, 2012)

Policy Determinants of Turnout

Related Literature:

- On Photo ID laws (Erickson & Minnite, 2010):
  - State level Diff-in-Diff with demographic controls
  - Good individual controls but state level selection and small sample (CPS)
  - Household survey $=>$ self-reported turnout $=>$ too high

- On voting technology (Card & Morretti, 2007):
  - Uses cross-county variation
  - Assumption that introduction of new technology due to HAVA Act uncorrelated with voting trends

Early Voting Effects

Prior Literature:

- Using cross-state variation, Burden et al. (2014) find that early voting, though convenient, decreases voter turnout.

- Using time-series variation in Florida, Herron & Smith (2014) find that reduction of early voting lowers turnout.
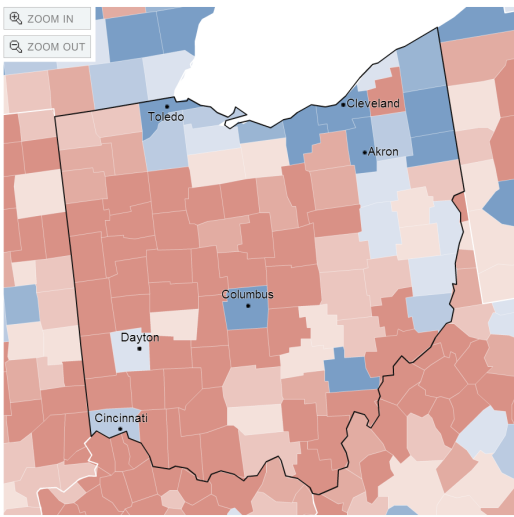
Our Contribution

- Empirical challenge:

    ▸ How to construct appropriate control groups.

- We geocode registered Ohio voters and exploit the spatial discontinuity in early voting to credibly identify the effects of early voting:

    ▸ On turnout
    ▸ On partisan vote composition
    ▸ By gender, race, and age.
    ▸ By type of day (weekend, days open late, others).
    ▸ We simulate impacts of standardizing early voting nationwide.

2012 Presidential Electoral College (Figure: New York Times)

County bubbles

County leaders

Voting shifts

Year

'08 '04 '00 '96 '92

Map key

15 10 5 0 5 10 15%

Democrat · · · Republican

ZOOM IN

ZOOM OUT

Toledo

Cleveland

Akron

Columbus

Dayton

Cincinnati
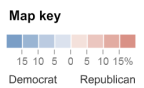
Ohio 20 electoral votes

100% reporting

Candidate	Votes	Pct.	party
✓ Barack Obama	2,708,685	51.2%	Dem.
John McCain	2,501,855	47.2%	G.O.P.
Other Candidates	84,946	1.6%	Other

› Full Ohio results »

2008 presidential vote share margins in Ohio counties (figure: New York Times)

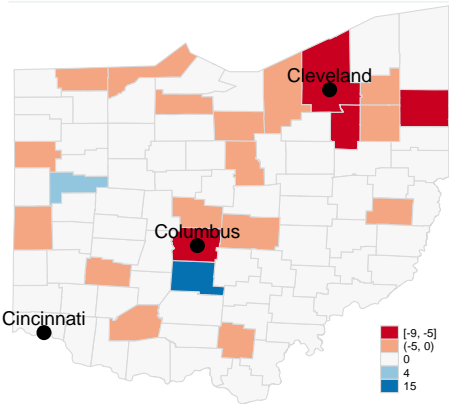# Ohio: Swing State

- Obama won by narrow margins in 2008 and 2012.

- However, Republicans control both houses of the state legislature, as well as the governorship (John Kasich).

Changes in Early Voting Days

2008 - 2012

Cleveland

Columbus

Cincinnati

[-9, -5]
(-5, 0)
0
4
15

2010 - 2014

Cleveland

Columbus

Cincinnati

[-13, -5]
(-5, 0)
(0,1)
[2,3]
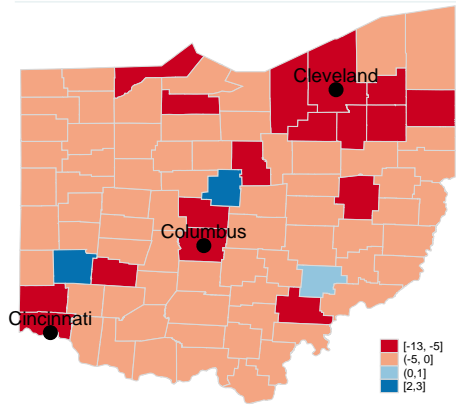
Data

- Universe of Ohio registered voters:

    - 7.6 million

    - Name, birth date, registration date, address, party, voting precinct, voting history since 2000

    - We geocode the addresses.

- Locations and opening hours of early voting sites from OH Secretary of State & county election commissions.

- 2010 Census demographics (block group)

- TIGER/Line GIS files of county & block group boundaries.

- Precinct level vote shares of candidates

Empirical Approaches

- Difference-in-Differences

  - County fixed effects

  - Individual fixed effects

- Spatial Discontinuity

  - County borders subsample with individual fixed effects

  - Fixed effects of 1×1 mile grids straddled over two counties.

Specification: County Fixed Effect

$$V_{it} = \beta D_{it} + \mu_t + \phi_c + \epsilon_{it}$$

V_{it} : dummy variable equal to one if individual i voted in year t; zero otherwise.

D_{it} : number of early voting days

μ_t : year fixed effect

ϕ_c : county fixed effect

t : 2008, 2010, 2012, 2014.

	2008 - 2012 Changes in Number of Days			2010 - 2014 Changes in Number of Days		
	All	+ / -	Mean	All	+ / -	Mean
Black (%)	13.2	+	9.0	13.5	+	6.4
		-	19.6		-	22.5
Hispanic (%)	2.9	+	2.3	3.0	+	2.2
		-	3.9		-	4.0
White (%)	83.0	+	87.9	82.7	+	90.8
		-	75.4		-	72.3
Democrat (%)	30.4	+	27.4	28.6	+	26.4
		-	35.1		-	31.3
Independent (%)	43.1	+	42.4	46.6	+	44.7
		-	44.1		-	49.0
Republican (%)	26.5	+	30.2	24.8	+	28.9
		-	20.8		-	19.7
College Grad. (%)	25.2	+	22.5	25.0	+	20.9
		-	29.3		-	30.3
HS Dropout (%)	12.0	+	12.4	12.2	+	12.5
		-	11.5		-	11.8
Med. Household Income	53.7	+	52.8	53.4	+	51.5
		-	55.1		-	55.8
Observations	6,559,589	+	3,998,136	7,597,048	+	4,257,198
		-	2,561,453		-	3,339,850

Specification: Individual Fixed Effect

$$V_{it} = \beta D_{it} + \mu_t + \delta_i + \epsilon_{it}$$

V_{it} : dummy variable equal to one if individual i voted in year t; zero otherwise.

D_{it} : number of early voting days

μ_t : year fixed effect

δ_i : individual fixed effect

t : 2008, 2010, 2012, 2014.

Empirical Approaches

- Difference-in-Differences

    - County fixed effects

    - Individual fixed effects

- Spatial Discontinuity

    - County borders subsample with individual fixed effects

    - Fixed effects of 1×1 mile grids straddled over two counties.

County-Border Sample

- Geocode 7.6 million Ohio addresses

- Calculate distance to the nearest county border

- Retain individuals who are within 1 mile (≈ 1.6 km) of county borders.

Registered Voters in Ohio
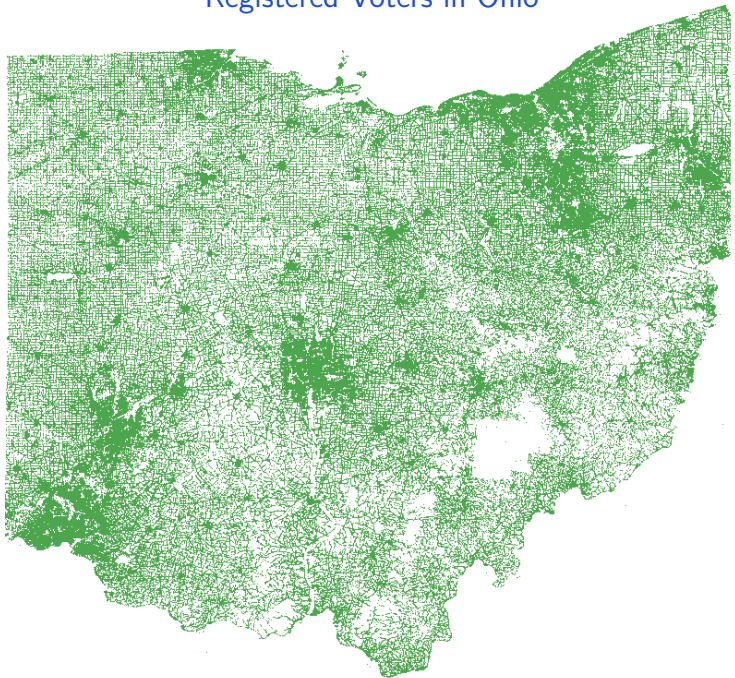
Registered Voters in Ohio
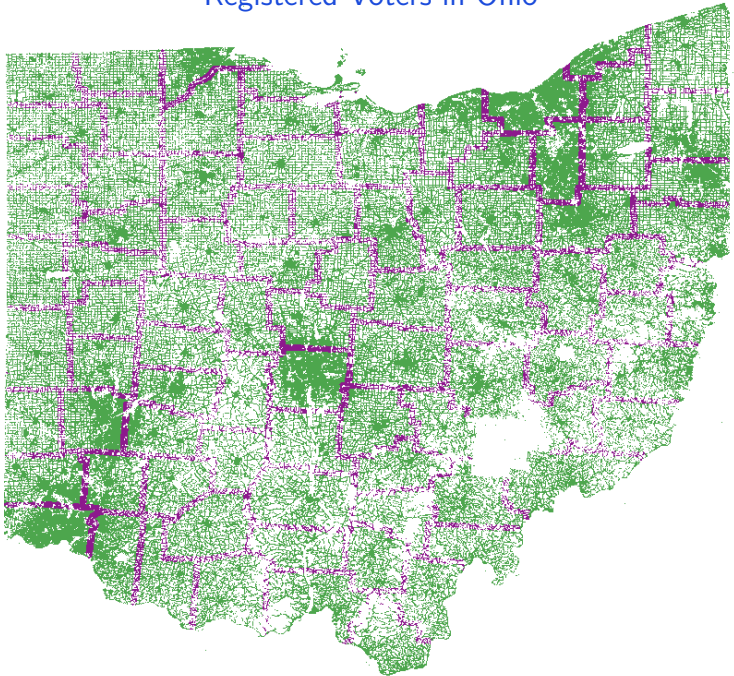
County-Border Sample, 1×1 Mile Fixed Effect

4-Year Differencing:

$$\Delta V_{it} = \beta \Delta D_{it} + \Delta \mu_t + \Delta f_t(x_i, y_i) + \Delta \epsilon_{it}$$

$$\Delta V_{it} = V_{it} - V_{i,t-4}$$
$$\Delta D_{it} = D_{it} - D_{i,t-4}$$
$\Delta f_t(x_i, y_i)$: election-type specific 1×1 mile area fixed effect
(x_i, y_i) : longitude-latitude of individual i
t : 2012, 2014.

	0.1	0.5	1	1.5	2	3	5	10	20
					Border Balancing Tests (2008 – 2012 Changes)				
Independent	0.1951	0.3617*	0.1001	0.0741	0.1919	-0.1278	0.0644	-0.0160	-0.1980
	(0.2575)	(0.2063)	(0.2114)	(0.2189)	(0.3610)	(0.1761)	(0.3458)	(0.2774)	(0.3386)
Republican	-0.1161	-0.2756*	0.0057	0.0301	-0.0801	0.2405	0.2076	0.4693	0.9588***
	(0.2230)	(0.1565)	(0.1584)	(0.1909)	(0.3053)	(0.1913)	(0.3425)	(0.2894)	(0.3304)
Democrat	-0.1072	-0.2653*	-0.2164	-0.1950	-0.2563	-0.1463	-0.3889**	-0.5273**	-0.7830***
	(0.2171)	(0.1528)	(0.1531)	(0.1402)	(0.2167)	(0.1505)	(0.1896)	(0.2413)	(0.2718)
Age in 2008	-0.0522	-0.0067	0.0432	0.0419	0.0381	0.0715	0.0578	0.0674	0.1312*
	(0.1142)	(0.0633)	(0.0616)	(0.0859)	(0.0734)	(0.0710)	(0.0891)	(0.0655)	(0.0712)
Female	0.2655*	-0.0359	-0.0197	-0.0001	-0.0469	-0.0700	-0.0718	-0.0886	-0.0833
	(0.1463)	(0.0514)	(0.0453)	(0.0515)	(0.0419)	(0.0648)	(0.0757)	(0.0620)	(0.0634)
Distance to	0.0009	0.0043	0.0047	0.0119	0.0059	0.0201	0.0133	0.0448	0.2183
Early Voting Site	(0.0006)	(0.0045)	(0.0103)	(0.0189)	(0.0212)	(0.0336)	(0.0619)	(0.0800)	(0.1552)
College Grad. (%)	-0.4123	-0.3692	-0.1024	-0.1919	-0.5132	-0.2238	-0.2867	-0.1767	-0.4537
	(0.2816)	(0.2370)	(0.2412)	(0.2356)	(0.3732)	(0.2899)	(0.3734)	(0.3171)	(0.3261)
HS Dropout (%)	0.1548	0.0971	0.0571	0.1029	0.1561	0.1189	0.1642	0.0486	-0.0497
	(0.1330)	(0.1198)	(0.1340)	(0.1209)	(0.1353)	(0.1654)	(0.1553)	(0.1455)	(0.1134)
Med. HH. Income	-0.3108	-0.3850	0.1453	0.2091	-0.5721	0.3032	0.1885	0.3870	0.8964
	(0.4060)	(0.4307)	(0.5735)	(0.6041)	(0.6183)	(0.5804)	(0.8160)	(0.6195)	(0.6434)
Hispanic (%)	-0.0071	0.0087	-0.0414	-0.0273	-0.0151	-0.0280	-0.0300	-0.0476	-0.1091*
	(0.0174)	(0.0241)	(0.0347)	(0.0323)	(0.0411)	(0.0321)	(0.0546)	(0.0488)	(0.0588)
Black (%)	-0.0781	0.0705	-0.0400	-0.1850	0.1673	-0.3697	-0.3329	-0.6001	-1.4486***
	(0.2155)	(0.1696)	(0.1203)	(0.3942)	(0.2302)	(0.3820)	(0.4316)	(0.4009)	(0.4785)
White (%)	0.0882	-0.0827	0.0921	0.2189	-0.0227	0.4051	0.4201	0.7211*	1.6438***
	(0.2536)	(0.2020)	(0.1513)	(0.4097)	(0.2629)	(0.3952)	(0.4541)	(0.4136)	(0.4845)
Observations	55586	274718	562616	855835	1141271	1703645	2669117	4260076	4322569

∗ $p < 0.10$; ∗∗ $p < 0.05$; ∗∗∗ $p < 0.01$.

	0.1	0.5	1	1.5	2	3	5	10	20
					Border Balancing Tests (2010 − 2014 Changes)				

	0.1	0.5	1	1.5	2	3	5	10	20
Independent	0.6233**	0.7340***	0.2988	0.4042**	0.4645	0.2164	0.4674**	0.4447**	0.2832
	(0.3049)	(0.2241)	(0.2285)	(0.1964)	(0.3418)	(0.1683)	(0.2120)	(0.2071)	(0.2749)
Republican	-0.5410**	-0.5855***	-0.2193	-0.2346	-0.3577	-0.0782	-0.3028	-0.0373	0.3166
	(0.2255)	(0.1481)	(0.1700)	(0.2131)	(0.3131)	(0.2972)	(0.3343)	(0.3828)	(0.4159)
Democrat	-0.0774	-0.3453	-0.2129	-0.2862	-0.2962	-0.2187	-0.3589	-0.5893**	-0.7027*
	(0.1962)	(0.2196)	(0.2335)	(0.2266)	(0.2470)	(0.2455)	(0.2704)	(0.3065)	(0.3637)
Age in 2008	-0.1989	-0.0305	0.0398	0.0102	0.0310	0.0483	0.0104	0.0186	0.0233
	(0.1904)	(0.0800)	(0.0777)	(0.0781)	(0.0654)	(0.0590)	(0.0518)	(0.0451)	(0.0683)
Female	0.0797	-0.0242	-0.0479	-0.0184	-0.0179	-0.0398	0.0054	-0.0311	-0.0059
	(0.1772)	(0.0527)	(0.0301)	(0.0544)	(0.0405)	(0.1018)	(0.0924)	(0.0783)	(0.0693)
Distance to	0.0015*	0.0057	0.0169	0.0345**	0.0231	0.0489	0.0905	0.2149**	0.3302**
Early Voting Site	(0.0008)	(0.0065)	(0.0137)	(0.0208)	(0.0297)	(0.0424)	(0.0715)	(0.1045)	(0.1681)
College Grad. (%)	-0.7053**	-0.7622***	-0.3200	-0.5722**	-0.7422*	-0.7311**	-0.8694***	-0.6312**	-0.6613*
	(0.3212)	(0.2651)	(0.3344)	(0.2558)	(0.4232)	(0.3685)	(0.3090)	(0.2772)	(0.3748)
HS Dropout (%)	0.1359	0.1705	0.0992	0.1574	0.1579	0.1510	0.2586*	0.0858	-0.0644
	(0.1559)	(0.1288)	(0.1140)	(0.1247)	(0.1551)	(0.1590)	(0.1404)	(0.1388)	(0.1406)
Med. HH. Income	-0.8792**	-1.2678**	-0.6455	-0.7015	-1.2525**	-0.6005	-1.0085*	-0.4508	0.0433
	(0.4215)	(0.5435)	(0.5678)	(0.4689)	(0.6131)	(0.4636)	(0.5250)	(0.4731)	(0.4888)
Hispanic (%)	-0.0447	-0.0095	-0.0560	-0.0377	-0.0371	-0.0464	-0.0170	-0.0443	-0.0724
	(0.0464)	(0.0356)	(0.0597)	(0.0292)	(0.0454)	(0.0325)	(0.0280)	(0.0299)	(0.0661)
Black (%)	-0.1639	0.0076	-0.1232	-0.4538	0.0957	-0.5730	-0.3711	-0.5223	-1.1362
	(0.3164)	(0.2019)	(0.1265)	(0.4299)	(0.1747)	(0.4385)	(0.3358)	(0.5386)	(0.7072)
White (%)	0.2531	0.0201	0.1592	0.5166	0.0263	0.6755	0.5054	0.6425	1.2909*
	(0.3474)	(0.2378)	(0.1715)	(0.4356)	(0.2104)	(0.4271)	(0.3452)	(0.5330)	(0.7277)
Observations	62112	306255	625672	950826	1267210	1888314	2953737	4716425	4787724

∗ $p < 0.10$; ∗∗ $p < 0.05$; ∗∗∗ $p < 0.01$.

	Full Sample		1-Mile Border Sample	
	(1)	(2)	(3)	(4)
	Both Presidential and Midterm Elections			
Number of Days	0.1618***	0.1685***	0.1488***	0.1938**
	(0.0514)	(0.0567)	(0.0431)	(0.0809)
Observations	24,629,989	24,629,989	1,188,288	1,188,288
	Presidential Elections			
Number of Days	0.0549	0.2011**	0.1338***	0.2411**
	(0.0366)	(0.0769)	(0.0348)	(0.1142)
Observations	11,532,916	11,532,916	562,616	562,616
	Midterm Elections			
Number of Days	0.2899***	0.1476	0.1632	0.1348
	(0.0946)	(0.1235)	(0.0987)	(0.1058)
Observations	13,097,073	13,097,073	625,672	625,672
Year Fixed Effects	Y	Y	Y	
County Fixed Effects	Y			
Individual Fixed Effects		Y	Y$^-$	Y$^-$
Year-specific Geo Fixed Effects				Y

Notes: Standard errors in parentheses in Column (1) - (3) are clustered by county.

Standard errors in Column (4) are clustered two-way by county and by county-border segment.

$* \ p < 0.10; \ ** \ p < 0.05; \ *** \ p < 0.01.$

The Turnout Effects of Early Voting Laws: by Area of Geo-Year Fixed Effects

|	0.1	0.5	1	1.5	2	3	5	10	20
				Both Presidential and Midterm Elections					
Number of Days	0.0182	0.1791**	0.1938**	0.1320	0.1848**	0.0569	0.1532	0.1657**	0.2282***
	(0.1099)	(0.0821)	(0.0809)	(0.0904)	(0.0906)	(0.1009)	(0.0988)	(0.0764)	(0.0820)
Observations	117698	580973	1188288	1806661	2408481	3591959	5622854	8976501	9110293
				Presidential Elections					
Number of Days	0.2044*	0.1891*	0.2411**	0.2142*	0.2176***	0.1967**	0.2243**	0.2351**	0.3264***
	(0.1191)	(0.1082)	(0.1142)	(0.1204)	(0.0771)	(0.0940)	(0.1119)	(0.0942)	(0.0975)
Observations	55586	274718	562616	855835	1141271	1703645	2669117	4260076	4322569
				Midterm Elections					
Number of Days	-0.2453	0.1665	0.1348	0.0337	0.1461	-0.1051	0.0747	0.0719	0.1098
	(0.2530)	(0.1203)	(0.1058)	(0.1296)	(0.1859)	(0.1678)	(0.1856)	(0.1339)	(0.1413)
Observations	62112	306255	625672	950826	1267210	1888314	2953737	4716425	4787724

Standard errors in parentheses are clustered two-way by county and by county-border segment. $*$ $p < 0.10$; $**$ $p < 0.05$; $***$ $p < 0.01$.

Whose Votes are Suppressed?
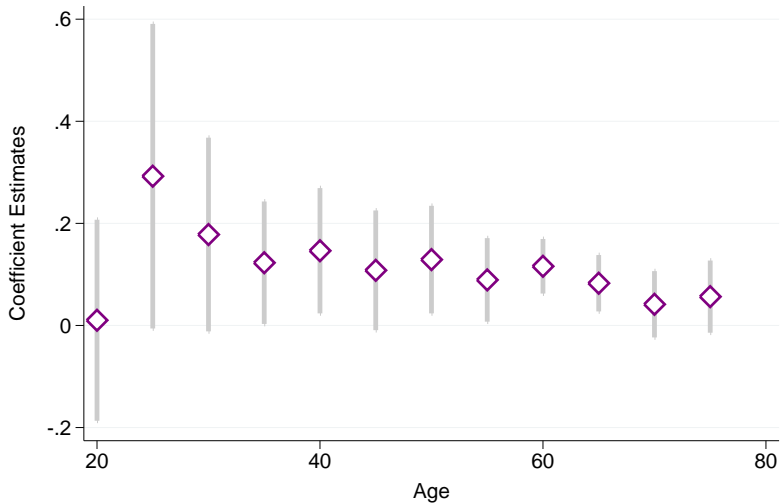
Heterogeneous Treatment Effects by:

- Age

- Gender

- Partisanship

Heterogeneous Treatment Effects of Early Voting by Age Group
(1×1 Mile Border Sample with Geo FEs)

Age in 2008
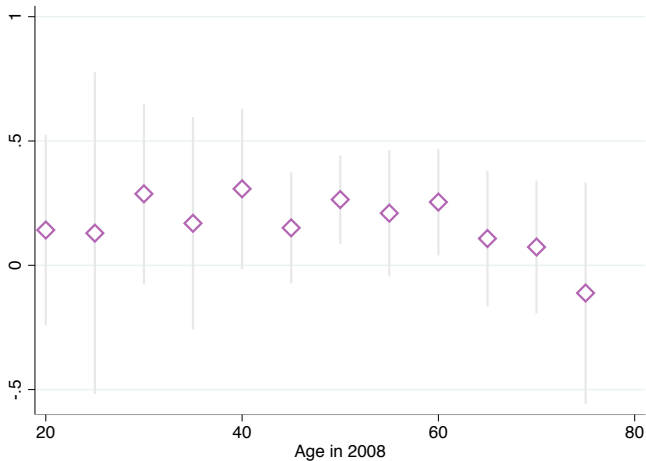
Heterogeneous Treatment Effects by Age Group (Full Sample)

Both

The Turnout Effects of Early Voting Laws: by Gender

	Both		Presidential		Midterm	
	Inferring Gender Using National First Names					
Number of Days	0.1097	0.1144	0.2013*	0.1993*	0.0314	0.0431
	(0.0834)	(0.0850)	(0.1185)	(0.1171)	(0.1090)	(0.1111)
Days × Pr(Female)	0.1261***		0.0428***		0.1619***	
	(0.0191)		(0.0132)		(0.0298)	
Days × Female		0.1209***		0.0400***		0.1556***
		(0.0184)		(0.0113)		(0.0288)
Observations	1148907	1096971	544407	520126	604500	576845
	Inferring Gender Using Ohio First Names					
Number of Days	0.1176	0.1172	0.2109*	0.1992*	0.0360	0.0477
	(0.0851)	(0.0840)	(0.1188)	(0.1157)	(0.1174)	(0.1173)
Days × Pr(Female)	0.1308***		0.0497***		0.1656***	
	(0.0199)		(0.0128)		(0.0309)	
Days × Female		0.1264***		0.0488***		0.1597***
		(0.0192)		(0.0115)		(0.0303)
Observations	1100490	1066515	521814	505948	578676	560567

Standard errors are clustered two-way by county and by county-border segment. $* \ p < 0.10$; $** \ p < 0.05$; $*** \ p < 0.01$.

The Turnout Effects of Early Voting Laws: by Party

	Both		Presidential		Midterm	
	(1)	(2)	(3)	(4)	(5)	(6)
Number of Days	0.1010	0.0716	-0.1083	0.0002	0.0565	0.1133
	(0.0653)	(0.0666)	(0.1088)	(0.0855)	(0.1212)	(0.1114)
Days × Independent	0.0593	0.1284*	0.7773***	0.5777***	-0.0691	-0.1870***
	(0.0739)	(0.0697)	(0.0969)	(0.0801)	(0.0780)	(0.0714)
Days × Democrat	0.1991***	0.2202***	0.1327***	0.1007***	0.2877***	0.2629***
	(0.0547)	(0.0559)	(0.0253)	(0.0190)	(0.0791)	(0.0789)
Individual Fixed Effects	Y	Y	Y	Y	Y	Y
Year-specific Geo F.E.	Y	Y	Y	Y	Y	Y
Sub-sample (18 years old by 2000)		Y		Y		Y
Observations	1188288	1045573	562616	502740	625672	542833

Standard errors are clustered two-way by county and by county-border segment. $* \ p < 0.10$; $** \ p < 0.05$; $*** \ p < 0.01$.

	(1)	(2)	(3)	(4)	(5)
			The Turnout Effects of Early Voting Laws: by Type of Day		

The Turnout Effects of Early Voting Laws: by Type of Day

	(1)	(2)	(3)	(4)	(5)
Days	0.2378***	0.1867*	0.2737***		
	(0.0319)	(0.0993)	(0.0570)		
Weekend Days	-0.0622				0.2013**
	(0.1055)				(0.0812)
Days with Same Day Regis.		0.0237			-0.1113
		(0.2014)			(0.3571)
Days Open Late			-0.0480		
			(0.0517)		
Weekdays				0.2367***	0.2890*
				(0.0305)	(0.1565)
Saturdays				-0.0201	
				(0.2650)	
Sundays				0.3231	
				(0.2239)	
Observations	1188288	1188288	1188288	1188288	1188288

Notes: Standard errors are clustered two-way by county and by county-border segment.
$* \ p < 0.10; ** \ p < 0.05; *** \ p < 0.01.$

Aggregate Effects: Ohio

- Change in total votes cast $\left(T_e = \sum\limits_c \beta_e \mu_{ce} R_c \right)$:

  Presidential : $-45,225$ (-0.82%)

  Midterm : $-61,642$ (-1.96%)

- Republican vote share $\left(V_{pe} = \frac{T_{De} + T_{Re} + T_{Ie}}{Turn_e}, \right.$

  where $\left. T_{pe} = \sum\limits_c \beta_{pe} \rho_{pe} \mu_{ce} \omega_{pce}, p = D, R, I. \right)$:

  Presidential : $+0.36$ percentage points

  Midterm : $+0.51$ percentage points

Changes of Republican Seats and Electoral College Votes
under Hypothetical Standardized Early Voting

Election Type	Year	Observed Republican Seats / Electoral Votes	Standardized Early Voting		
			0 Days	23 Days	46 Days
President	2012	332/538	0	0	-15
President	2016	304/538	10	-65*	-75*
Senate	2012	51/100	1	-1*	-1*
Senate	2014	54/100	0	0	0
Senate	2016	52/100	0	-1	-3*
House	2012	234/435	5	-4	-10
House	2014	247/435	0	-1	-2
House	2016	241/435	1	0	-3

Notes: * indicates a change of seats or electoral votes resulting a change of majority.

Concluding Remarks

- Restrictive voting laws affect voter turnout.

- Our estimates capture the net effects accounting for the incomplete substitution among different voting methods.

- Reduction of early voting has larger impacts on:

  - Voters of child bearing ages

  - Female

  - Independents & Democrats

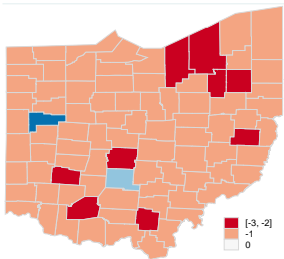- Nationwide standardized provision on early voting could have non-negligible partisan impacts.
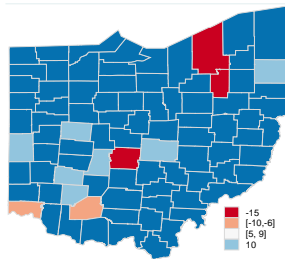
Appendix

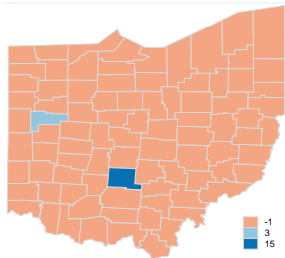# Changes in Early Voting Duration (2008 - 2012)

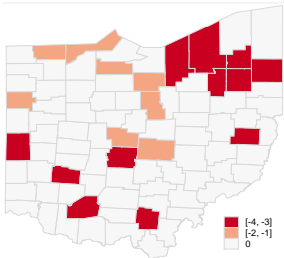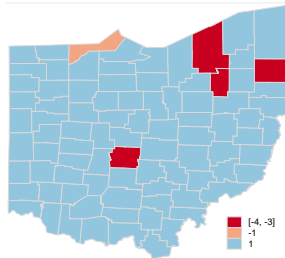
Weekend Days
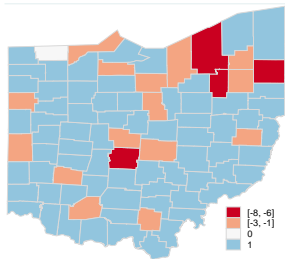
Days with Same Day Registration

Days Open Late

Weekdays

Saturdays

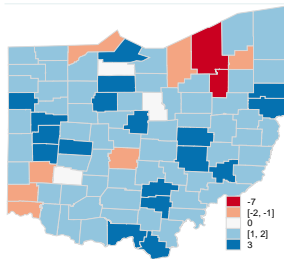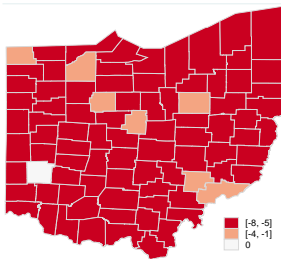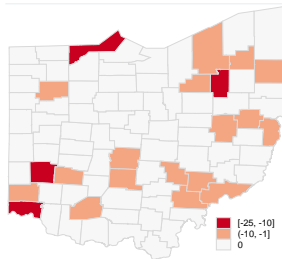Sundays

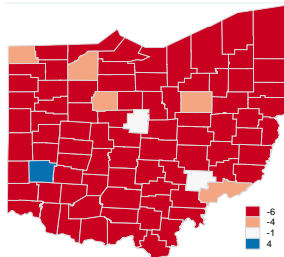# Changes in Early Voting Duration (2010 - 2014)

Weekend Days
-7
[-2, -1]
0
[1, 2]
3

Days with Same Day Registration
[-8, -5]
[-4, -1]
0

Days Open Late
[-25, -10]
(-10, -1]
0

Weekdays
-6
-4
-1
0
4

Saturdays
-3
-1
0
1
2
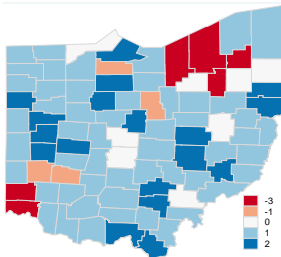
Sundays
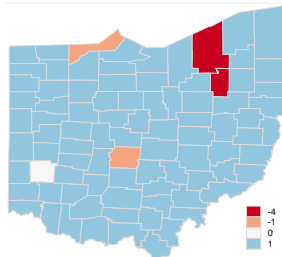-4
-1
0
1

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
Black (%)	13.2	+	7.2	9.0	9.4	7.2	1.4	10.1	8.7
		-	23.8	19.6	20.9	24.8	13.3	17.6	23.0
Hispanic (%)	2.9	+	2.7	2.3	2.4	2.6	1.1	2.5	2.5
		-	3.3	3.9	3.9	3.4	2.9	3.5	3.9
White (%)	83.0	+	89.6	87.9	87.5	89.7	97.0	86.8	88.2
		-	71.2	75.4	73.7	70.0	82.9	77.5	71.6
Democrat (%)	30.4	+	28.1	27.4	28.1	28.5	22.7	28.2	27.7
		-	34.5	35.1	35.0	34.0	30.4	33.6	36.2
Independent (%)	43.1	+	42.1	42.4	42.6	42.0	40.4	42.9	42.2
		-	44.8	44.1	44.2	45.3	43.1	43.4	45.1
Republican (%)	26.5	+	29.8	30.2	29.3	29.5	37.0	28.9	30.1
		-	20.7	20.8	20.7	20.7	26.4	23.1	18.7
College Grad. (%)	25.2	+	21.8	22.5	22.5	21.6	13.6	22.1	22.8
		-	31.2	29.3	30.7	32.0	25.3	29.6	30.4
HS Dropout (%)	12.0	+	12.2	12.4	12.4	12.2	13.4	12.6	12.2
		-	11.8	11.5	11.4	11.7	12.0	11.2	11.6
Med. Household Income	53.7	+	52.9	52.8	52.7	52.6	52.0	51.6	53.2
		-	55.2	55.1	55.8	55.8	53.7	56.7	54.7
Age in 2008	44.6	+	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
Distance to Early Voting Site	10.9	+	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
Voted in 2008 (%)	86.2	+	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
Voted in 2010 (%)	59.9	+	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
Voted in 2012 (%)	76.3	+	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
Voted in 2014 (%)	43.7	+	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
Observations	6559589	+	4206014	3998136	4428625	4337070	56223	3879580	4512346
		-	2353575	2561453	2130964	2222519	6503366	2680009	2047243

	All	Change Related to Mean	# Hours	# Days in Weekend	# Days with Same Day Registration	# Days Open Late	# Weekdays	# Saturdays	# Sundays
Black (%)	13.5	+	6.4	4.8	7.3	9.7	14.3	8.5	8.6
		-	22.5	22.6	22.7	20.7	13.4	21.7	24.6
Hispanic (%)	3.0	+	2.2	2.2	2.4	2.8	2.4	2.8	2.4
		-	4.0	3.8	3.8	3.3	3.0	3.4	4.2
White (%)	82.7	+	90.8	92.5	89.7	87.1	82.3	87.8	88.3
		-	72.3	72.4	72.1	74.2	82.7	74.0	69.7
Democrat (%)	28.6	+	26.4	26.2	26.7	28.9	25.5	26.9	26.4
		-	31.3	31.0	31.4	27.9	28.8	31.3	33.6
Independent (%)	46.6	+	44.7	44.5	45.4	44.6	47.3	46.4	45.5
		-	49.0	48.8	48.3	50.4	46.5	47.0	49.2
Republican (%)	24.8	+	28.9	29.3	27.9	26.5	27.2	26.7	28.2
		-	19.7	20.2	20.3	21.7	24.6	21.8	17.3
College Grad. (%)	25.0	+	20.9	20.6	21.1	22.2	23.1	23.2	22.6
		-	30.3	29.7	31.0	30.5	25.2	28.0	30.6
HS Dropout (%)	12.2	+	12.5	12.5	12.5	12.5	11.8	12.2	12.3
		-	11.8	11.8	11.7	11.5	12.2	12.1	11.8
Med. Household Income	53.4	+	51.5	51.6	51.3	52.2	50.0	52.3	53.0
		-	55.8	55.2	56.4	55.6	53.7	55.1	54.3
Age in 2008	42.9	+	43.7	43.8	43.6	43.7	43.0	42.9	43.4
		-	41.8	41.9	41.8	41.4	42.9	42.8	41.6
Distance to Early Voting Site	10.8	+	11.2	10.9	10.9	10.9	14.5	10.7	11.2
		-	10.2	10.7	10.6	10.5	10.4	11.0	9.9
Voted in 2008 (%)	86.2	+	85.9	86.1	85.7	86.1	84.3	85.7	86.4
		-	86.7	86.4	87.1	86.4	86.4	87.1	85.9
Voted in 2010 (%)	59.9	+	59.9	60.3	59.9	60.4	57.5	59.8	60.2
		-	59.8	59.3	59.8	58.9	60.1	60.0	58.9
Voted in 2012 (%)	76.3	+	76.1	76.3	75.8	76.3	74.2	75.9	76.6
		-	76.6	76.3	77.0	76.3	76.5	77.0	75.5
Voted in 2014 (%)	40.9	+	41.9	42.1	41.5	41.7	40.3	40.9	42.1
		-	39.7	39.7	40.1	39.5	41.0	41.0	38.3
Observations	7597048	+	4257198	3887251	4559020	4979027	632830	4750376	5291847
		-	3339850	3709797	3038028	2618021	6964218	2846672	2305201

The Turnout Effects of Early Voting Laws: Nonlinearity

	Both		Presidential			Midterm	
ΔDays	0.2197***		0.2249***			0.2473***	
	(0.0565)		(0.0717)			(0.0930)	
ΔDays^2	0.0034		-0.0034			0.0100	
	(0.0052)		(0.0095)			(0.0093)	
min$\{\Delta$Days, 0$\}$		0.1851*		0.2584*	0.1928*		0.0564
		(0.1051)		(0.1464)	(0.1004)		(0.1566)
max$\{\Delta$Days, 0$\}$		0.2403***		0.1661***	0.1881**		0.7224***
		(0.0758)		(0.0603)	(0.0741)		(0.2651)
Individual FEs	Y	Y	Y	Y	Y	Y	Y
Year-specific Geo FEs	Y	Y	Y	Y	Y	Y	Y
Sub-sample					Y		
Observations	1188288	1188288	562616	562616	362487	625672	625672

Standard errors are clustered two-way by county and by county-border segment. $*$ $p < 0.10$; $**$ $p < 0.05$; $***$ $p < 0.01$.

Correlation between Individual Partisanship
and Precinct-level Democratic Vote Share

	2008	2010	2012	2014
Democrat	0.571	0.658	0.548	0.553
Independent	0.297	0.283	0.38	0.48
Republican	-0.822	-0.853	-0.769	-0.872

Partisanship by Election

Year	Democrats	Independents	Republicans
2008	38.3	38.3	23.4
2010	35.2	39.9	24.9
2012	30.4	43.1	26.5
2014	28.6	46.6	24.8