Appendix 1

Difference-in-difference Analysis: Additional Results

Part 1 Probit Estimates for Presidential-election Years: Complete Results

Table A1.1 Effects of Offering Online Registration on Voter Turnout: Probit Estimates (Complete Results)

VARIABLES	*For Presidential Years (2000,2004, 2008, and 2012)*					
	(1) Voted	(2) Marginal Effect	(3) Registered	(4) Marginal Effect	(5) Voted	(6) Marginal Effect
Online registration	0.140*	0.015	0.248***	0.019***	0.247***	0.037***
	(0.078)	(0.012)	(0.088)	(0.013)	(0.075)	(0.014)
Online registration ×age	-0.002		-0.004***		-0.002**	
	(0.001)		(0.001)		(0.001)	
Age	0.015***	0.004***	0.015***	0.004***	0.014***	0.004***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
No ID requirement	-0.036	-0.010	0.153***	0.044***	0.089*	0.024*
	(0.038)	(0.011)	(0.040)	(0.011)	(0.050)	(0.013)
Closing date of registration	-0.001	-0.000	-0.002	-0.000	-0.002	-0.001
	(0.001)	(0.000)	(0.002)	(0.001)	(0.002)	(0.001)
Same Day Registration	0.011	0.003	0.024	0.007	0.021	0.006
	(0.019)	(0.005)	(0.038)	(0.011)	(0.025)	(0.007)
Closeness of election	-0.468*	-0.135*	-0.028	-0.008	-0.450*	-0.121*
	(0.247)	(0.071)	(0.255)	(0.073)	(0.255)	(0.069)
Senatorial election	-0.025**	-0.007**	-0.029	-0.008	-0.016	-0.004
	(0.012)	(0.004)	(0.018)	(0.005)	(0.012)	(0.003)
Gubernatorial election	0.097	0.028	0.166	0.047	0.059	0.016
	(0.108)	(0.031)	(0.128)	(0.036)	(0.111)	(0.030)
DMV registration	0.688***	0.198***			0.407***	0.109***
	(0.031)	(0.009)			(0.030)	(0.008)

	(1)	(2)	(3)	(4)	(5)	(6)
Married	0.171***	0.049***	0.098***	0.028***	0.163***	0.044***
	(0.010)	(0.003)	(0.017)	(0.005)	(0.011)	(0.003)
Female	0.129***	0.037***	0.139***	0.039***	0.121***	0.032***
	(0.006)	(0.002)	(0.007)	(0.002)	(0.006)	(0.002)
Family income	0.037***	0.011***	0.029***	0.008***	0.037***	0.010***
	(0.002)	(0.000)	(0.001)	(0.000)	(0.002)	(0.000)
Education	0.284***	0.082***	0.265***	0.075***	0.270***	0.073***
	(0.006)	(0.002)	(0.006)	(0.002)	(0.007)	(0.002)
Metropolitan status	0.019	0.005	-0.076***	-0.022***	0.035*	0.009*
	(0.020)	(0.006)	(0.022)	(0.006)	(0.020)	(0.005)
White	-0.125**	-0.036**	0.099*	0.028*	-0.132**	-0.035**
	(0.057)	(0.016)	(0.053)	(0.015)	(0.055)	(0.015)
Time at address	0.147***	0.042***	0.166***	0.047***	0.139***	0.037***
	(0.005)	(0.001)	(0.005)	(0.001)	(0.005)	(0.001)
Business or farm employment	0.104***	0.030***	0.067***	0.019***	0.107***	0.029***
	(0.016)	(0.005)	(0.018)	(0.005)	(0.016)	(0.004)
In-person interview	-0.082***	-0.024***	-0.057***	-0.016***	-0.080***	-0.022***
	(0.008)	(0.002)	(0.010)	(0.003)	(0.009)	(0.002)
Hispanic	-0.090***	-0.026***	-0.431***	-0.122***	-0.076**	-0.020**
	(0.029)	(0.008)	(0.022)	(0.006)	(0.031)	(0.008)
Constant	-1.281***		-1.255***		-1.221***	
	(0.164)		(0.168)		(0.167)	
Observations	215,420	215,420	199,099	199,099	202,671	202,671

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

State and year fixed effects are included. Standard errors are clustered at state level.

In Column (2), DMV registration is omitted because it strongly predicts registration status, the dependent variable in a probit.

Figure A1.1 Average Marginal Effects of Online Registration on Voter Registration by Age (Presidential-election Years): Probit Estimates

Average Marginal Effects of Online Registration on Registration by Age with 95% CIs
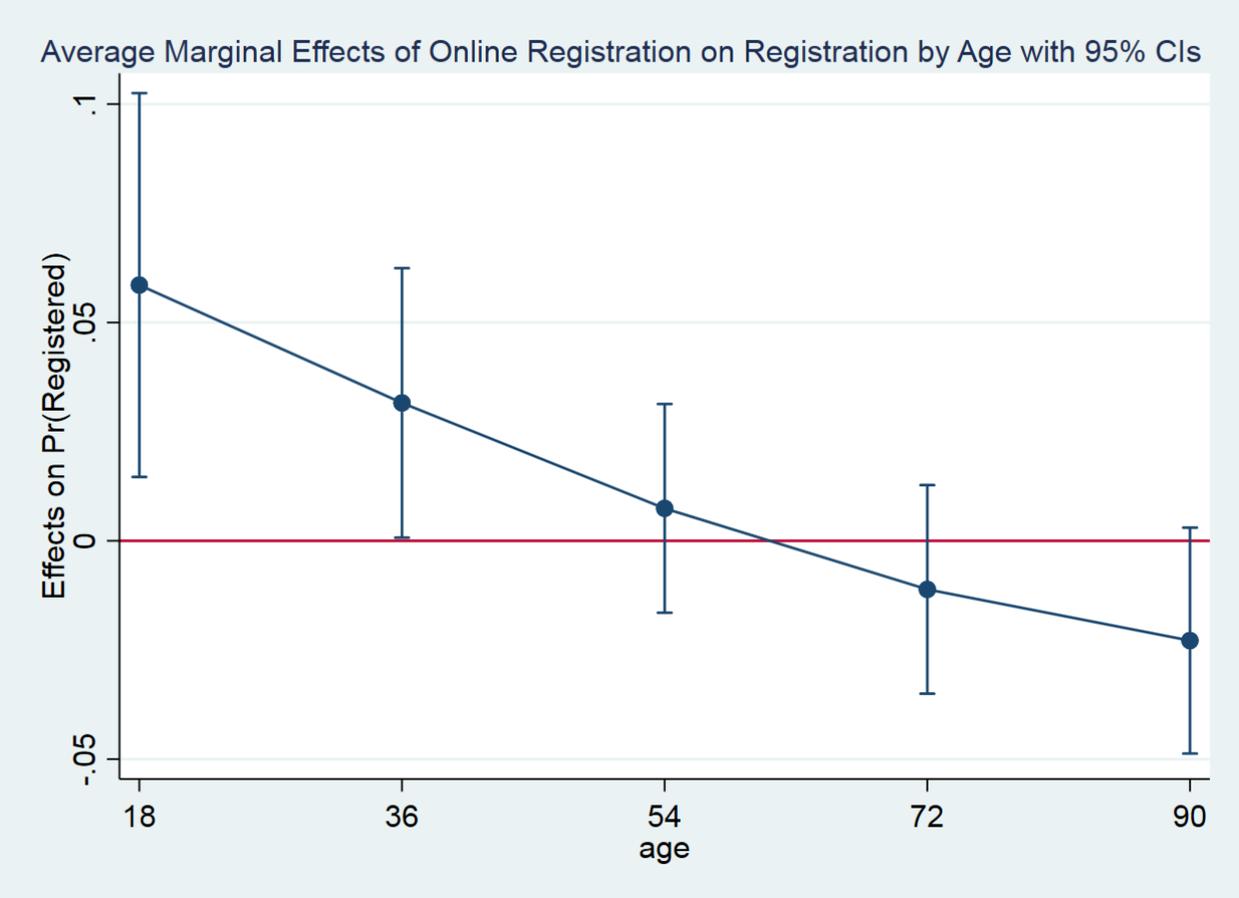
Figure A1.2 Average Marginal Effects of Online Registration on Voter Turnout

Conditional on Registration by Age (Presidential-election Years): Probit Estimates
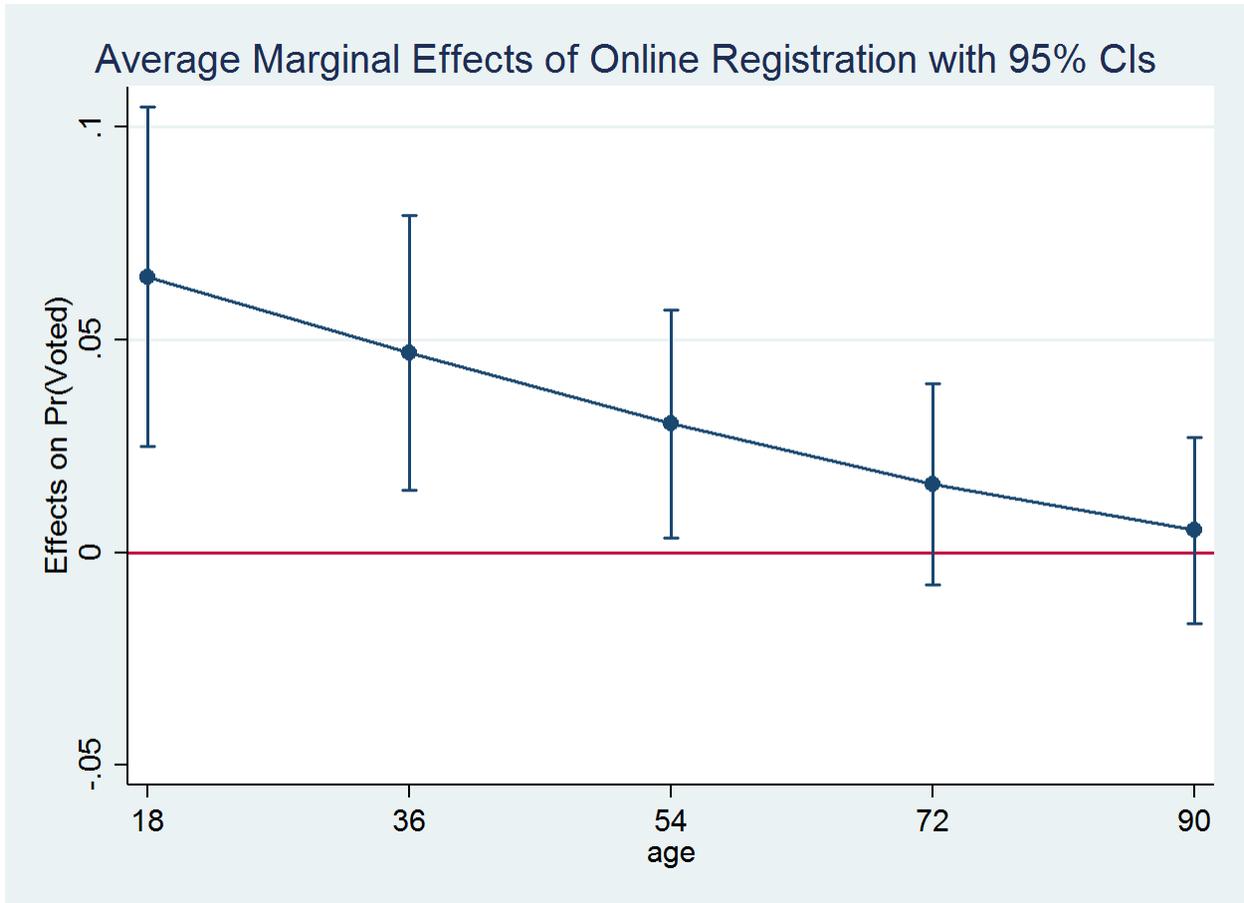
Part 2 Probit Estimates for Non-Presidential Election Years

Table A1.2 shows the results of probit estimates for the sample of non-presidential years. The model is specified the same as in Table 1. For the sake of space, the average marginal effects are not provided but are available on request. The key variable of interest, *online registration*, shows no statistically significant effects. In Column (2), where the dependent variable is *registered*, the variable *no ID requirement* has a positive and statistically significant effect at p=0.1 level. This indicates that online registration systems with no ID requirements make it more likely for citizens to register even in non-presidential election years.

All the five state-level control variables show statistically significant effects, varying across models but in generally expected ways. In Column (3), *closing date of registration* has a negative and statistically significant effect on voting conditional on registration at p=0.1 level. Conditional on registration, longer closing dates before registration make it less likely for voters to vote. This seems reasonable because some voters may simply have forgotten to vote even if they had registered 30 days before. As expected, Same Day Registration has a positive and statistically significant effect on voting at p=0.1 level, as shown in Column (3). Again, *closeness of election* has negative and statistically significant effects (p=0.01) on voting in both Columns (1) and (3). *Senatorial election* increases voter turnout, maybe because of its salience in non-presidential election years. *Gubernatorial election*, however, shows negative effects on voting. This may result from multicollinearity between *senatorial election* and *gubernatorial election* given that many states may have both in non-presidential election years.

Table A1.2 Effects of Offering Online Registration on Voter Turnout: Probit Estimates

	For Non-Presidential Years (2002,2006, 2010, and 2014)		
	(1)	(2)	(3)
VARIABLES	Voted	Registered	Voted
Online registration	-0.013	0.032	0.034
	(0.046)	(0.053)	(0.049)
Online registration× age	0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)
Age	0.021***	0.018***	0.020***
	(0.000)	(0.000)	(0.000)
No ID requirement	-0.044	0.089*	-0.031
	(0.036)	(0.052)	(0.086)
Closing date of registration	-0.002	-0.003	-0.004*
	(0.003)	(0.003)	(0.003)
Same Day Registration	0.087	0.004	0.091*
	(0.064)	(0.035)	(0.054)
Closeness of election	-0.630***	-0.140	-0.620***
	(0.143)	(0.232)	(0.152)
Senatorial election	0.075***	0.013	0.071***
	(0.018)	(0.018)	(0.017)
Gubernatorial election	-0.173***	-0.058	-0.171***
	(0.039)	(0.045)	(0.038)
DMV registration	0.427***		0.243***
	(0.026)		(0.025)
Married	0.186***	0.147***	0.179***
	(0.007)	(0.016)	(0.007)
Female	0.034***	0.112***	0.023***
	(0.006)	(0.007)	(0.006)
Family income	0.030***	0.024***	0.029***
	(0.002)	(0.001)	(0.002)
Education	0.242***	0.249***	0.231***
	(0.005)	(0.006)	(0.005)
Metropolitan status	-0.048***	-0.099***	-0.034**
	(0.016)	(0.020)	(0.015)
White	-0.083	0.098**	-0.091*
	(0.051)	(0.049)	(0.049)
Time at address	0.193***	0.212***	0.181***
	(0.005)	(0.006)	(0.004)
Business or farm employment	0.095***	0.086***	0.097***
	(0.016)	(0.015)	(0.016)
In-person interview	-0.063***	-0.034***	-0.065***
	(0.009)	(0.008)	(0.009)
Hispanic	-0.103***	-0.353***	-0.094***
	(0.026)	(0.030)	(0.025)

Constant	-1.837***	-1.379***	-1.766***
	(0.111)	(0.148)	(0.106)
Observations	231,041	215,173	215,163

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

State and year fixed effects are included. Standard errors are clustered at state level.

In Column (2), DMV registration is omitted because it strongly predicts registration status, the dependent variable in a probit.

Part 3 Difference-in-Difference Analysis: OLS Estimates

Tables A1.3 and A1.4 show the results of the same model as that in Table A1.1 and Table A1.2 estimated with OLS instead of probit. Table A1.3 shows the results for the sample of presidential-election years; Table A1.4 shows the results for the sample of non-presidential election years. The only difference is an additional model as shown in Column (2), where the dependent variable is a dummy *voted* but registration status is controlled for. This is not feasible in a probit because registration status strongly predicts voting, resulting in the drop of many observations.

Overall, changing from probit to a linear probability model, there are no material changes in the findings. The only change worth noting is in Column (3) of Table A1.4. *Online registration* has a positive and statistically significant effect ($p=0.05$) on registration and its interaction term with *age* is negative and statistically significant at $p=0.1$ level. This indicates that, for the sample of non-presidential years, online registration makes it more likely for young citizens to register for voting. However, since *online registration* has no statistically significant effect on voting, it seems that this increase in voter registration fails to generate higher voter turnout. Therefore, the main findings are robust to alternative model assumptions and estimation techniques.

Table A1.3 Effects of Offering Online Registration on Voter Turnout: OLS Estimates

	For Presidential Years (2000,2004, 2008, and 2012)			
	(1)	(2)	(3)	(4)
VARIABLES	Voted	Voted	Registered	Voted
Online registration	0.042*	0.005	0.072***	0.117***
	(0.024)	(0.012)	(0.023)	(0.022)
Online registration ×age	-0.001*	0.000	-0.001***	-0.002***
	(0.000)	(0.000)	(0.000)	(0.000)
Age	0.005***	0.001***	0.004***	0.004***
	(0.000)	(0.000)	(0.000)	(0.000)
No ID requirement	-0.010	-0.003	0.059***	0.026**
	(0.011)	(0.007)	(0.011)	(0.011)
Registered		0.829***		
		(0.007)		
Closing date of registration	-0.000	-0.000	-0.001	-0.001
	(0.000)	(0.000)	(0.001)	(0.001)
Same Day Registration	0.000	-0.006	-0.001	-0.005
	(0.005)	(0.005)	(0.010)	(0.007)
Closeness of election	-0.128*	-0.074	0.011	-0.118
	(0.073)	(0.050)	(0.071)	(0.072)
Senatorial election	-0.007**	-0.001	-0.009*	-0.005
	(0.004)	(0.002)	(0.005)	(0.004)
Gubernatorial election	0.026	-0.013	0.040	0.008
	(0.032)	(0.012)	(0.038)	(0.028)
DMV registration	0.187***	-0.035***	0.303***	0.109***
	(0.007)	(0.005)	(0.008)	(0.006)
Married	0.052***	0.020***	0.023***	0.045***
	(0.003)	(0.002)	(0.005)	(0.003)
Female	0.041***	0.010***	0.038***	0.036***
	(0.002)	(0.001)	(0.002)	(0.002)
Family income	0.012***	0.005***	0.008***	0.011***
	(0.000)	(0.000)	(0.000)	(0.001)
Education	0.082***	0.027***	0.065***	0.072***
	(0.002)	(0.001)	(0.002)	(0.002)
Metropolitan status	0.005	0.014***	-0.021***	0.009*
	(0.006)	(0.003)	(0.006)	(0.006)
White	-0.041**	-0.021***	0.022	-0.039**
	(0.017)	(0.007)	(0.015)	(0.015)
Time at address	0.046***	0.014***	0.046***	0.042***
	(0.002)	(0.001)	(0.002)	(0.002)
Business or farm employment	0.027***	0.012***	0.016***	0.026***
	(0.004)	(0.002)	(0.004)	(0.004)
In-person interview	-0.026***	-0.011***	-0.017***	-0.024***
	(0.002)	(0.002)	(0.003)	(0.002)

Hispanic	-0.038***	-0.004	-0.151***	-0.033***
	(0.010)	(0.007)	(0.008)	(0.011)
Constant	0.114**	-0.158***	0.200***	0.170***
	(0.050)	(0.031)	(0.053)	(0.050)
Observations	215,420	215,420	229,550	202,671
R-squared	0.198	0.641	0.226	0.188

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1
State and year fixed effects are included. Standard errors are clustered at state level.

Table A1.4 Effects of Offering Online Registration on Voter Turnout: OLS Estimates

	For Non-Presidential Years (2002,2006, 2010, and 2014)			
	(1)	(2)	(3)	(4)
VARIABLES	Voted	Voted	Registered	Voted
Online registration	0.004	-0.004	0.027**	0.023
	(0.015)	(0.010)	(0.014)	(0.017)
Online registration ×age	-0.000	0.000	-0.000*	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Age	0.007***	0.004***	0.005***	0.007***
	(0.000)	(0.000)	(0.000)	(0.000)
No ID requirement	-0.013	-0.009	0.024	-0.009
	(0.012)	(0.012)	(0.017)	(0.027)
Registered		0.615***		
		(0.009)		
Closing date of registration	-0.001	-0.000	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Same Day Registration	0.028	0.032**	-0.002	0.028*
	(0.020)	(0.014)	(0.010)	(0.016)
Closeness of election	-0.199***	-0.179***	-0.023	-0.192***
	(0.045)	(0.045)	(0.059)	(0.050)
Senatorial election	0.024***	0.022***	0.003	0.023***
	(0.006)	(0.005)	(0.005)	(0.005)
Gubernatorial election	-0.055***	-0.057***	-0.018	-0.061***
	(0.013)	(0.010)	(0.012)	(0.011)
DMV registration	0.141***	-0.065***	0.364***	0.082***
	(0.008)	(0.006)	(0.008)	(0.008)
Married	0.065***	0.032***	0.040***	0.063***
	(0.002)	(0.002)	(0.005)	(0.002)
Female	0.013***	-0.007***	0.033***	0.010***
	(0.002)	(0.002)	(0.002)	(0.002)
Family income	0.010***	0.006***	0.007***	0.010***
	(0.001)	(0.000)	(0.000)	(0.001)
Education	0.081***	0.039***	0.066***	0.077***
	(0.001)	(0.002)	(0.002)	(0.001)
Metropolitan status	-0.015***	-0.002	-0.029***	-0.011**
	(0.005)	(0.003)	(0.006)	(0.005)
White	-0.026	-0.019**	0.025*	-0.030*
	(0.017)	(0.009)	(0.014)	(0.016)
Time at address	0.064***	0.029***	0.061***	0.062***
	(0.002)	(0.001)	(0.002)	(0.002)
Business or farm employment	0.032***	0.019***	0.023***	0.032***
	(0.005)	(0.004)	(0.004)	(0.005)
In-person interview	-0.020***	-0.014***	-0.011***	-0.021***
	(0.003)	(0.002)	(0.002)	(0.003)

Hispanic		-0.033***	-0.007	-0.119***	-0.032***
		(0.008)	(0.006)	(0.009)	(0.008)
Constant		-0.230***	-0.277***	0.035	-0.075**
		(0.035)	(0.027)	(0.040)	(0.033)
Observations		231,041	231,041	246,245	215,163
R-squared		0.221	0.449	0.255	0.208

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

State and year fixed effects are included. Standard errors are clustered at state level.

Part 4 Alternative Measure of Closeness of Election

Tables A1.5 shows the results of the same model as in Table A1.1, estimated with probit but with an alternative measure of the variable *closeness of election*. Here, the house of representative election is excluded, considering that it is neither as competitive nor salient as presidential election, senatorial election, and gubernatorial election in presidential-election years. The results show minimal changes for both this variable and others, indicating the robustness of the main findings to alternative measure of this control variable.

Table A1.5 Effects of Offering Online Registration on Voter Turnout: Probit Estimates and Alternative Measure of Closeness of Election

	For Presidential Years (2000,2004, 2008, and 2012)		
	(1)	(2)	(3)
VARIABLES	Voted	Registered	Voted
Online registration	0.137*	0.248***	0.245***
	(0.079)	(0.089)	(0.076)
Online registration ×age	-0.002*	-0.004***	-0.002**
	(0.001)	(0.001)	(0.001)
Age	0.015***	0.015***	0.014***
	(0.000)	(0.000)	(0.000)
No ID requirement	-0.040	0.152***	0.085*
	(0.040)	(0.040)	(0.051)
Closing date of registration	-0.001	-0.002	-0.002
	(0.001)	(0.002)	(0.002)
Same Day Registration	0.011	0.024	0.021
	(0.021)	(0.038)	(0.023)
Closeness of (non-House) election	-0.395*	0.007	-0.398*
	(0.239)	(0.231)	(0.234)
Senatorial election	-0.022*	-0.029	-0.013
	(0.013)	(0.018)	(0.013)
Gubernatorial election	0.102	0.165	0.063
	(0.109)	(0.128)	(0.112)
DMV registration	0.689***		0.407***
	(0.031)		(0.030)
Married	0.171***	0.098***	0.163***
	(0.010)	(0.017)	(0.011)
Female	0.129***	0.139***	0.121***
	(0.006)	(0.007)	(0.006)
Family income	0.037***	0.029***	0.037***
	(0.002)	(0.001)	(0.002)
Education	0.284***	0.265***	0.270***
	(0.006)	(0.006)	(0.007)
Metropolitan status	0.019	-0.076***	0.035*
	(0.020)	(0.022)	(0.020)
White	-0.125**	0.099*	-0.132**
	(0.057)	(0.053)	(0.055)
Time at address	0.147***	0.166***	0.139***
	(0.005)	(0.005)	(0.005)
Business or farm employment	0.104***	0.067***	0.106***
	(0.016)	(0.018)	(0.016)
In-person interview	-0.083***	-0.057***	-0.080***
	(0.008)	(0.010)	(0.009)
Hispanic	-0.090***	-0.431***	-0.076**

	(0.029)	(0.022)	(0.031)
Constant	-1.333***	-1.275***	-1.262***
	(0.153)	(0.151)	(0.147)
Observations	215,420	199,099	202,671

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

State and year fixed effects are included. Standard errors are clustered at state level.

In Column (2), DMV registration is omitted because it strongly predicts registration status, the dependent variable in a probit.

Appendix 2

Instrumental Variable Analysis: Additional Results

Part 1 Table 2: Complete Results

Table A2.1 Effects of Registering Online on Voter Turnout: IV Estimates (Complete Results)

VARIABLES	(1) OLS 2010	(2) Bivariate Probit 2010	(3) Marginal Effect 2010	(4) OLS 2012	(5) Bivariate Probit 2012	(6) Marginal Effect 2012
Registering online	0.404***	1.306***	0.134**	0.435***	1.863***	0.527***
	(0.064)	(0.251)	(0.059)	(0.036)	(0.234)	(0.052)
Registering online× Age	-0.005***	-0.019***		-0.003***	-0.002	
	(0.002)	(0.005)		(0.001)	(0.005)	
Age	0.004***	0.016***	0.005***	0.002***	0.008***	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Closeness of election	-0.106***	-0.364***	-0.114***	-0.584***	-1.896***	-0.565***
	(0.035)	(0.126)	(0.039)	(0.057)	(0.193)	(0.057)
Gubernatorial election	0.013	0.041	0.013	0.082***	0.269***	0.080***
	(0.010)	(0.033)	(0.010)	(0.010)	(0.034)	(0.010)
Senatorial election	0.024***	0.072***	0.022***	0.004	0.014	0.004
	(0.005)	(0.015)	(0.005)	(0.005)	(0.018)	(0.005)
Closing date of registration	-0.001***	-0.002**	-0.001**	-0.001***	-0.003***	-0.001***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)
Same Day	0.023***	0.065**	0.020**	0.018*	0.081**	0.024**

	(1)	(2)	(3)	(4)	(5)	(6)
Registration	(0.008)	(0.030)	(0.009)	(0.010)	(0.034)	(0.010)
Time at address	0.132***	0.388***	0.121***	0.137***	0.402***	0.120***
	(0.002)	(0.006)	(0.002)	(0.002)	(0.005)	(0.001)
Business or farm employment	0.019***	0.042**	0.013**	0.004	0.017	0.005
	(0.006)	(0.018)	(0.006)	(0.006)	(0.021)	(0.006)
Metropolitan status	-0.001	-0.008	-0.003	0.002	0.003	0.001
	(0.005)	(0.017)	(0.005)	(0.005)	(0.016)	(0.005)
In-person interview	-0.054***	-0.177***	-0.055***	-0.054***	-0.166***	-0.049***
	(0.005)	(0.018)	(0.006)	(0.005)	(0.014)	(0.004)
Hispanic	-0.035***	-0.130***	-0.041***	-0.031***	-0.086***	-0.025***
	(0.007)	(0.026)	(0.008)	(0.007)	(0.022)	(0.006)
Education	0.070***	0.212***	0.066***	0.074***	0.240***	0.072***
	(0.002)	(0.006)	(0.002)	(0.001)	(0.005)	(0.001)
Married	0.059***	0.159***	0.050***	0.046***	0.151***	0.045***
	(0.004)	(0.015)	(0.005)	(0.004)	(0.013)	(0.004)
Female	0.007*	0.009	0.003	0.032***	0.100***	0.030***
	(0.004)	(0.014)	(0.004)	(0.004)	(0.013)	(0.004)
Family income	0.004***	0.010***	0.003***	0.004***	0.011***	0.003***
	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)
White	-0.015***	-0.011	-0.003	-0.047***	-0.145***	-0.043***
	(0.006)	(0.020)	(0.006)	(0.006)	(0.019)	(0.006)
Constant	-0.364***	-2.624***		0.091***	-1.246***	
	(0.019)	(0.076)		(0.030)	(0.097)	
Observations	50,044	40,296	40,296	49,599	49,599	49,599

For OLS regressions, robust standard errors in parentheses; for bivariate probit regression, bootstrapped standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Figure A2.1 Average Marginal Effects of Registering Online on Voter Turnout by Age

(2010 Sample): OLS Estimates
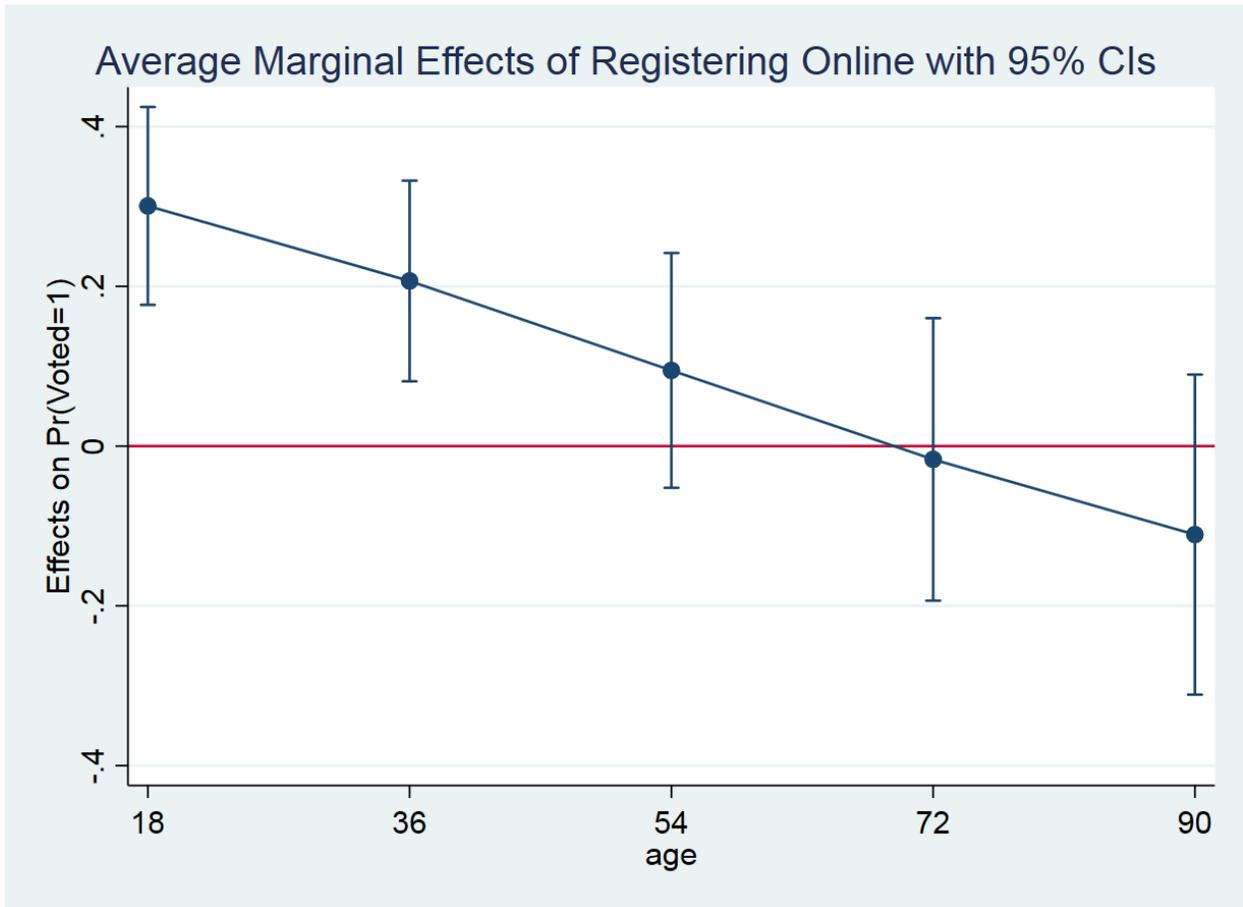
Figure A2.2 Average Marginal Effects of Registering Online on Voter Turnout by Age
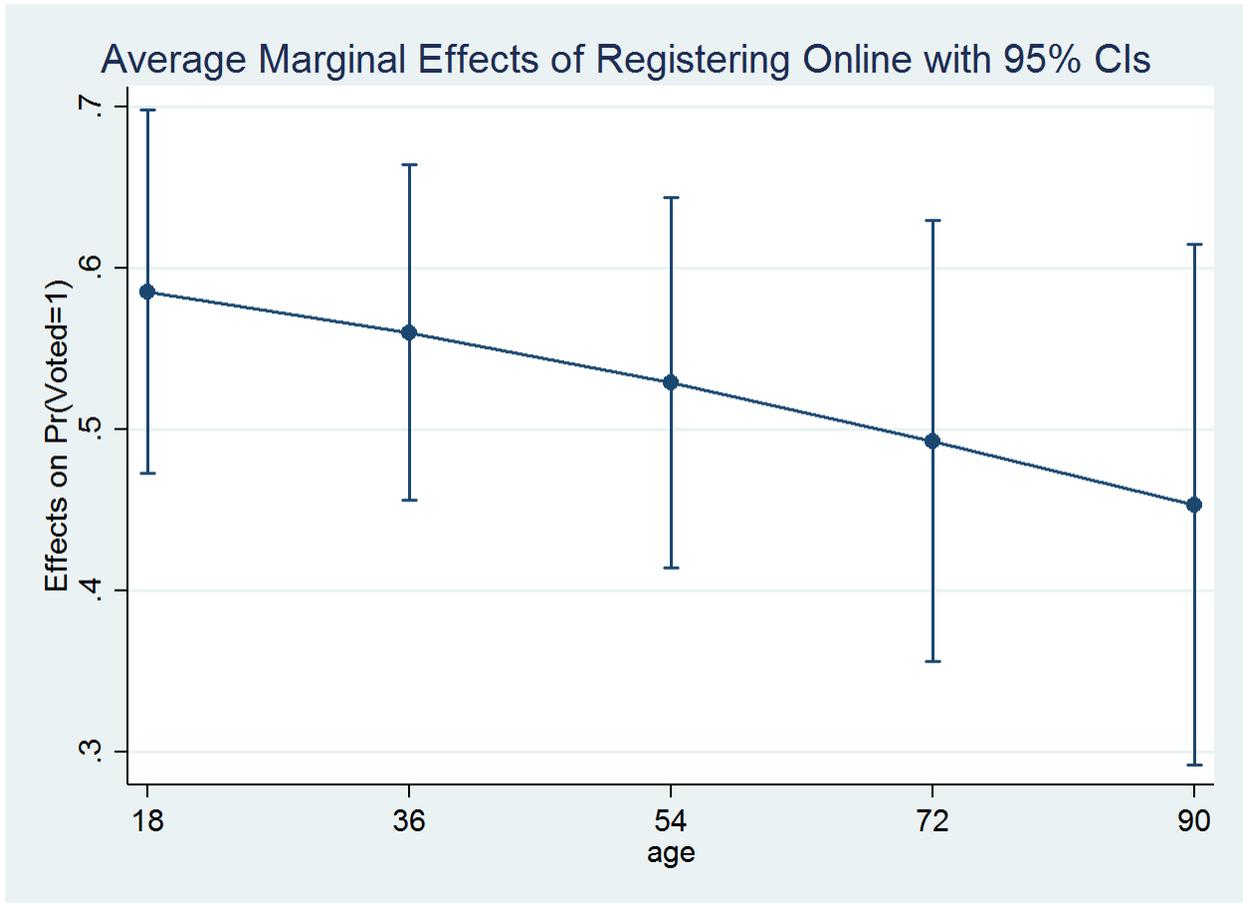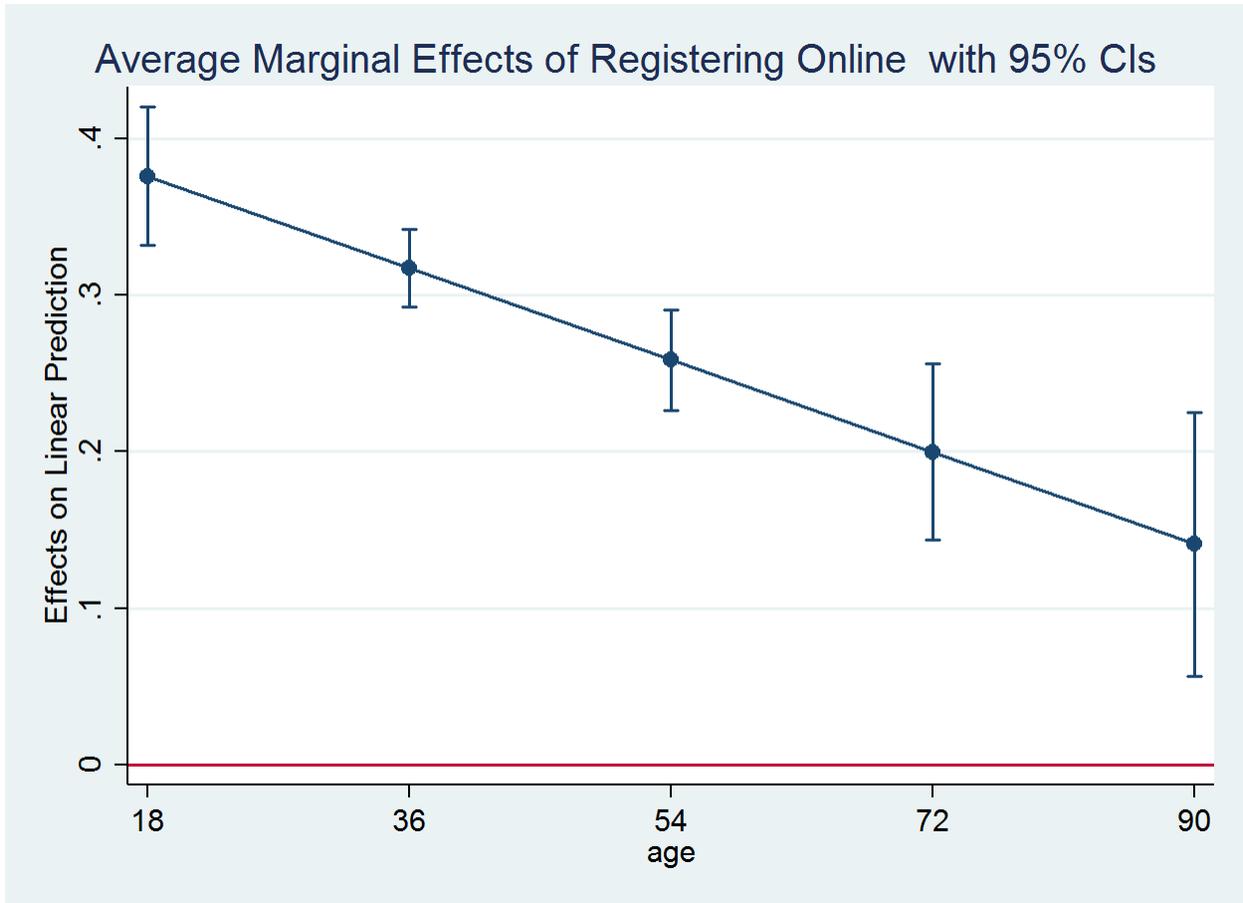
(2012 Sample): IV Estimates

Average Marginal Effects of Registering Online with 95% CIs

Figure A2.3 Average Marginal Effects of Registering Online on Voter Turnout by Age

(2012 Sample): OLS Estimates

Part 2 Robustness Check: State-level IV Estimates

As a robustness check, an alternative instrumental variable analysis is conducted at the state level. The instrumental variable is the Internet access measured at the state level, or the percentage of people with access to Internet from home by state by year. Except for 2000, 2010, and 2012, this variable is measured one year before the endogenous variable *registering online* between 2000 and 2014. The data come from CPS. The rationale is that a citizen living in a state with higher percentage of Internet access is more likely to register online but not to vote other than because of higher likelihood of online registration. Again, a bivariate probit model is estimated.

Table A2.2 shows the results for the sample of presidential-election years; Figure A2.4 shows the average marginal effects of registering online on voter turnout by age. Table A2.3 shows the results for the sample of non-presidential election years; Figure A2.5 shows the average marginal effects of registering online on voter turnout by age.

The results confirm the robustness of the main findings, lending further support for the two hypotheses. For presidential-election years, *registering online* shows a positive and statistically significant effect (p=0.01). As Figure A2.4 shows, the size of the effect decreases as the age of voters increases. For example, registering online has a marginal effect of about 0.18 for an average voter aged 36 years old, indicating that registering online increases voter turnout by 18 percentage points. For non-presidential years, *registering online* shows no statistically significant effects. Though both *registering online* and its interaction term with *age* are statistically significant (p=0.01), the average marginal effect of registering online by age are not statistically significant.

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The only exception is that, when the age voters increases beyond 70 years old, the average marginal effect of registering online becomes negative. Since the voters aged above 70 years old represent a small proportion of the sample, this result has virtually no substantive importance.

Table A2.2 Effects of Registering Online on Voter Turnout: State-level IV Estimates

| VARIABLES | *For Presidential Years (2000,2004, 2008, and 2012)* | | |
	(1) OLS	(2) Bivariate Probit	(3) Marginal Effect
Registering online	0.405***	0.943***	
	(0.010)	(0.086)	
Registering online ×age	-0.004***	-0.010***	
	(0.000)	(0.001)	
Age	0.005***	0.015***	0.004***
	(0.000)	(0.000)	(0.000)
Close date of registration	-0.000	-0.000	-0.000
	(0.000)	(0.001)	(0.000)
Same Day Registration	0.004	0.016	0.004
	(0.008)	(0.030)	(0.009)
Closeness of election	-0.134***	-0.477***	-0.134***
	(0.032)	(0.109)	(0.031)
Senatorial election	-0.007***	-0.026***	-0.007***
	(0.002)	(0.007)	(0.002)
Gubernatorial election	0.054***	0.145***	0.041***
	(0.015)	(0.051)	(0.015)
DMV registration	0.202***	0.716***	0.205***
	(0.003)	(0.012)	(0.003)
Married	0.054***	0.178***	0.051***
	(0.002)	(0.007)	(0.002)
Female	0.040***	0.128***	0.037***
	(0.002)	(0.006)	(0.002)
Family income	0.012***	0.037***	0.011***
	(0.000)	(0.001)	(0.000)
Education	0.081***	0.283***	0.081***
	(0.001)	(0.003)	(0.001)
Metropolitan status	0.005**	0.020**	0.006**
	(0.002)	(0.008)	(0.002)
White	-0.040***	-0.126***	-0.036***
	(0.003)	(0.010)	(0.003)
Time at address	0.046***	0.146***	0.042***
	(0.001)	(0.003)	(0.001)
Business or farm employment	0.029***	0.106***	0.030***
	(0.002)	(0.010)	(0.003)

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In-person interview	-0.026***	-0.083***	-0.024***
	(0.002)	(0.006)	(0.002)
Hispanic	-0.039***	-0.090***	-0.026***
	(0.004)	(0.012)	(0.003)
Constant	0.099***	-1.325***	
	(0.022)	(0.075)	
Observations	215,420	215,420	215,420

State and year fixed effects are included, robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A2.3 Effects of Registering Online on Voter Turnout: State-level IV Estimates

	For Non-Presidential Years (2002,2006, 2010, and 2014)		
	(1)	(2)	(3)
VARIABLES	OLS	Bivariate Probit	Marginal Effect
Registering online	0.272***	0.284***	
	(0.015)	(0.100)	
Registering online ×age	-0.002***	-0.007***	
	(0.000)	(0.001)	
Age	0.007***	0.021***	0.007***
	(0.000)	(0.000)	(0.000)
Close date of registration	-0.001**	-0.002**	-0.001**
	(0.000)	(0.001)	(0.000)
Same Day Registration	0.029***	0.094***	0.029***
	(0.007)	(0.023)	(0.008)
Closeness of election	-0.203***	-0.640***	-0.203***
	(0.023)	(0.069)	(0.022)
Senatorial election	0.023***	0.077***	0.024***
	(0.002)	(0.007)	(0.002)
Gubernatorial election	-0.055**	-0.171**	-0.055**
	(0.023)	(0.073)	(0.024)
DMV registration	0.148***	0.430***	0.139***
	(0.003)	(0.010)	(0.003)
Married	0.066***	0.187***	0.060***
	(0.002)	(0.006)	(0.002)
Female	0.012***	0.034***	0.011***
	(0.002)	(0.006)	(0.002)
Family income	0.010***	0.030***	0.010***
	(0.000)	(0.001)	(0.000)
Education	0.080***	0.242***	0.078***
	(0.001)	(0.002)	(0.001)
Metropolitan status	-0.015***	-0.048***	-0.015***
	(0.002)	(0.007)	(0.002)
White	-0.026***	-0.084***	-0.027***
	(0.003)	(0.009)	(0.003)
Time at address	0.064***	0.193***	0.062***
	(0.001)	(0.003)	(0.001)
Business or farm	0.032***	0.094***	0.030***
employment	(0.003)	(0.008)	(0.003)

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In-person interview	-0.020***	-0.063***	-0.020***
	(0.002)	(0.006)	(0.002)
Hispanic	-0.032***	-0.103***	-0.033***
	(0.004)	(0.012)	(0.004)
Constant	-0.131***	-1.863***	
	(0.028)	(0.088)	
Observations	231,041	231,041	231,041

State and year fixed effects are included, robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure A2.4 Average Marginal Effects of Registering Online on Voter Turnout by Age (for Presidential-election Years): State-level IV Estimates
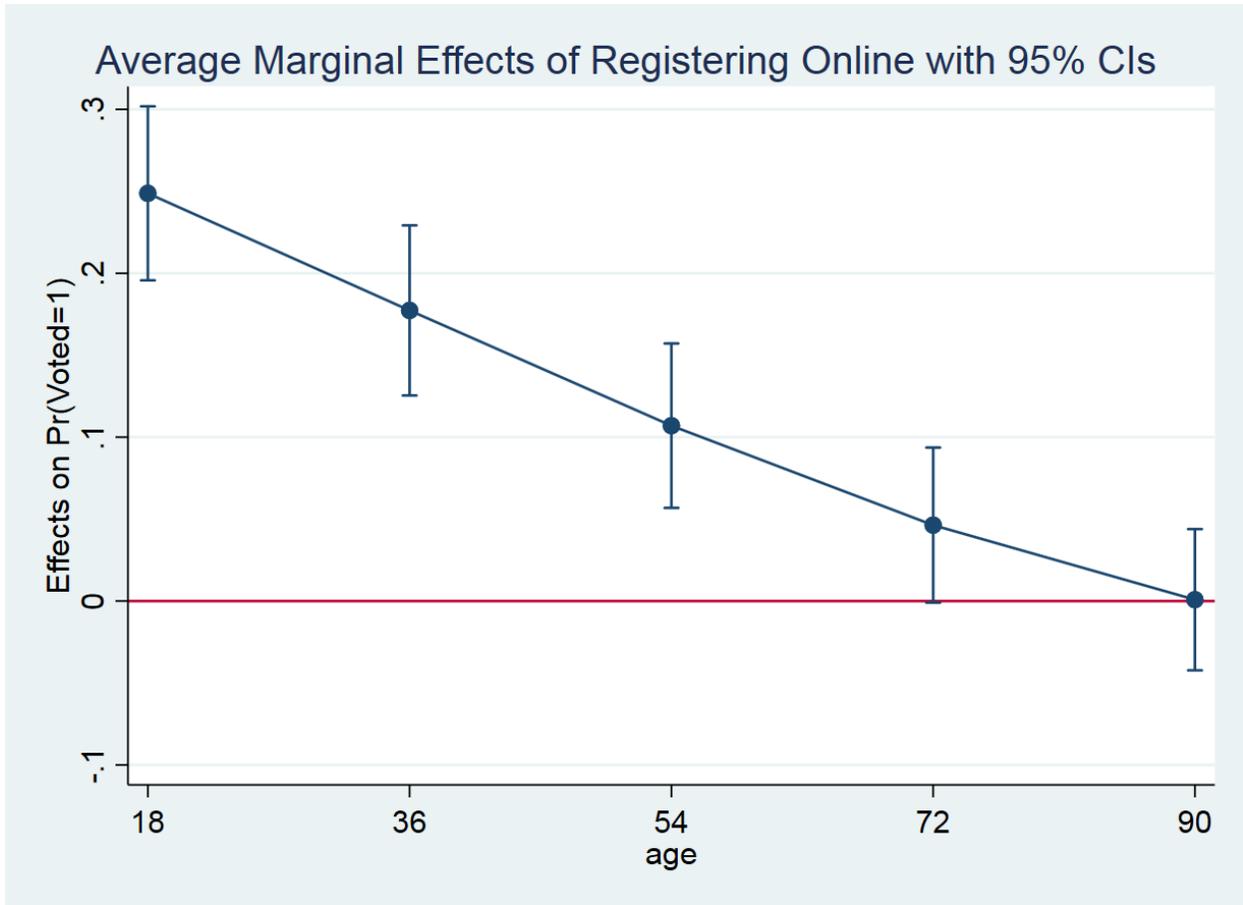
Figure A2.5 Average Marginal Effects of Registering Online on Voter Turnout by Age (for non-Presidential Election Years): State-level IV Estimates