Motor Voter and Turnout 15 Years after the NVRA

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1. Introduction

The National Voter Registration Act of 1993 (NVRA) established more convenient registration methods, especially by requiring all states to provide "motor voter:" voter registration applications on driver's license registration forms[1]. The NVRA was intended to reverse a trend of lowered voter turnouts: in 1988 only 50.1% of the voting age population cast a vote in the presidential election, a postwar low (Martinez and Hill, 1999). The 1992 elections showed a similarly low turnout of 55.2%. Although the object of the NVRA and state-level motor voter laws was to increase voting participation, especially among lower-educated groups underrepresented in the presidential elections (Piven and Cloward, 1996), it is not obvious that the decreased cost of registration has produced the desired result in voting turnout. Only 49% of voting age population voted in 1996, the first presidential election year after the NVRA. While turnout has improved in subsequent elections 51.2% in 2000 and 56.7% in 2004 (United States Federal Election Commission) -- it is not apparent whether the eventual increase in participation is a result of easier registration or secular factors, such as the narrow race in 2000 or the war in Iraq in 2004.

Several states had enacted measures designed to ease registration, including variants of motor voter, before the Federal government intervened. Michigan, in 1976, was the first to adopt an "active" motor voter provision of the kind that would eventually be required by the NVRA. Other states followed suit, while some introduced "passive" measures that, while also providing the opportunity to register while at the DMV, do not feature a registration application on the

[1] Idaho, New Hampshire, and Wyoming adopted Election Day Registration before the Federal mandate for motor voter, but they can be considered among the states affected by the NVRA for the purposes of this paper (Fitzgerald 2003)

same form as the driver's license application, meaning an individual would have to ask specifically for the registration form in order to register at the DMV. Table 1 shows which states had active and passive motor voter provisions by the year of implementation. In addition to states with motor voter, North Dakota never required registration in the sample period. Minnesota and Wisconsin have allowed Election Day registration at the polls since the 1970's (http://www.demos.org/page52.cfm). As the difficulty of voting in North Dakota, Minnesota, and Wisconsin was much lower than in states with state-level motor voter provisions, they are included in the group of states with motor voter provisions prior to the NVRA (Highton, 1997).

This paper estimates the effects of the 1993 NVRA using a difference-in-difference method. For those states without any active registration law, the passage of the NVRA generated reduced costs of voter registration. Subsequently, if the law was effective at increasing registration, we should see an increase in voter registration and turnout in these states after 1993. However, it would be unclear how much of the change is caused by the NVRA and how much is attributable to possible secular changes in voter participation. Therefore, I use the states with active laws in place prior to 1993 as a control group. Specifically, the time series changes in voter registration and turnout in these states identify the secular changes in these outcomes that would have occurred in the states with no measures prior to 1993 without federal intervention.

The data used in this study were taken from American National Election Surveys (NES), and include 21,552 observations for the election years 1980-2004, with 13,129 observations for presidential elections. By using survey responses spanning three presidential election cycles following the institution of the NVRA, this paper has an advantage over past articles that attempt to gauge the effect of the NVRA by using results from motor voter laws enacted at the state level. Martinez and Hill theorize that if the NVRA were effectual, states with no motor voter

laws would have shown greater increases in turnout than states with laws on the books already in the following elections and compare the two results indirectly. While I use the same intuition in this paper, I directly compare results of the Act in the two groups using a difference-in-difference model, with two more elections' worth of data than available in Martinez and Hill.

My results indicate that, as expected, motor voter does successfully raise registration, by roughly 3 percentage points. The relationship between increased registration and voting, however, is less clearly established. The estimated effects of motor voter on voting turnout vary considerably between presidential and non-presidential elections. Differencing out state and year effects and controlling for observed demographic characteristics of poll respondents and for the coincidence of a senate race in the state, I find that the NVRA leads to a 3.5 percentage-point increase in voter turnout in presidential election years. In years without a presidential election, the NVRA is associated with a decrease in voting turnout of as much 4 percentage points.

The NVRA was intended to increase voter turnout among lower-income groups (Piven and Cloward), which one of the reasons it was not passed until 1993 even though it had support long before that. Highton and Wolfinger (2001) claim that if everyone in America had voted in 2002, Bill Clinton's margin of victory would have been 15 percentage points instead of 13.7 – a clear incentive for the Republican party to block the passage of the NVRA. While I do not find increases in turnout for the lowest economic quintile, I do find significant increases in turnout in the three lowest economic quintiles. Plutzer (2002) argues that, as voting is a habit with strong inertia, increasing voting among the young, who are also the ones most likely to apply for driver's licenses in any given period, is key to increase voting overall. Although President Bill Clinton specifically mentioned the influence of youth advocacy groups such as Rock the Vote in his remarks on the NVRA, I find no precisely estimated differences in turnout among varying

age groups. Lastly, I examine the impact of the NVRA on Hispanic turnout, which is seen as under representative of the Hispanic population in the United States (Cassel, 2002).

2. Previous research on Motor Voter

While a number of studies have attempted to assess the impact of state-level motor voter laws, only a few recent studies examine the outcome of the 1993 NVRA. Highton (1997) attempts to predict the impact of the NVRA by determining the impact of easing registration requirements on voting. Highton compares states with typical registration methods to states with no registration requirements or election-day registration (including North Dakota, Minnesota, and Wisconsin) and concludes that the NVRA will have modest positive effects.

Rhine (1996) uses the 1992 National Election Survey (NES) data to estimate a probit model including both demographic and respondent-volunteered data. Rhine finds that motor voter provisions increase turnouts by 8 percentage points. Although Rhine uses the same data source I use, she only uses cross-section data for one year. Furthermore, she does not directly estimate the effects of the NVRA; instead she extrapolates from the results of state-level measures.

In a study comparing presidential election results over the years 1976 to 1992, Knack (1995) finds that voter turnout increases by 0.97 of a percentage point several elections after the implementation of motor voter laws in states. Knack also uses state-level data for voter turnout, precluding examination of individual-level effects. Furthermore, he uses motor voter duration as his independent variable in order to capture the effect of motor voter, because states have driver's

licenses renewal cycles that can last up to 6 years. This measure is unnecessary in my study as I have data from 12 years prior to and 11 years following the NVRA.

Highton and Wolfinger (1993) simulate the effect of the NVRA using a logit model for the states with election-day registration and Colorado, which had motor voter provisions almost similar to those of the NVRA. Highton and Wolfinger use individual-level data from the 1992 CPS Voter Supplement, and conclude that the NVRA increases turnout by 8.7 percent. They also find a positive effect for motor voter among the young.

Martinez and Hill (1999), using a difference-in-difference model similar to my own, find that the NVRA increased turnout by only 0.3 of a percentage point. Their study, however, is limited in its sample because for post-NVRA data on presidential elections they only have the year 1996. Furthermore, they use state turnout data, whereas I use individual data, which allows for an examination of whether the law differentially impacted specific demographic groups.

3. Data and Methodology

The Cumulative Data File of the National Election Survey includes data for every election year from 1948 to 2004. The data for this paper were taken from the years 1980 through 2004, as the first motor voter law, Michigan's, was passed in 1976, meaning that the first presidential election year likely to be affected to any great degree would be 1980. 1980 also provides enough information on the voting trends of states to provide a control and experiment group for the difference-in-difference model. The NES's sample is a multi-stage area probability design including all eligible members of US households. Once respondents have been identified, the NES Project Staff interview each respondent face-to-face. The response rate among the

sampled respondents was 60.5 percent in 2000, the latest year the NES reports. More can be read about the NES's design at http://www.electionstudies.org/overview/overview.htm.

One recognized drawback to NES data is that voter turnout is self-reported. In every year, the NES's reported turnout is 10-20 percent higher than the official estimates, which are based on the percentage of the voting age population casting a ballot for the President. Part of the difference is that the NES is restricted to citizens, while the officially computed numbers include non-citizens. In order to correct this possible misreporting, the NES checked their results by sending field interviewers to election office's to look at the record of participation for each respondenthttp://www.electionstudies.org/overview/dataqual.htm). According to Highton and Wolfinger (2001), misrepresentation of voting is correlated with higher education, so any marginal effects calculated for education should be construed as the upper bounds for the estimate.

For the years 1980-2004, the NES includes between 1200 and 2500 observations per year. Descriptive statistics of variables taken from the NES data are listed in Table 2. The table shows that the mean of voting in the sample years in 60.5 percent, while registration is 80.7 percent. As the NES lacked information about state registration laws, I created the indicator variables "active" and "passive" to show whether individuals lived in states that provided active or passive motor voter measures. I used the categories provided by Knack and summarized on Table 1, and merged the variables into the NES data by matching states, coding North Dakota, Minnesota, and Wisconsin as having active motor voter.

With this categorization, I then created a simple difference-in-difference table showing registration and voting outcomes in states with and without motor voter prior to the NVRA

before and after 1993 (Table 3). The means for states with state-level motor voter prior to the NVRA include only values from states in years during which motor voter had already been implemented. So, for example, Arizona, which adopted active motor voter in 1984, would be included in the means for "states with state-level motor voter prior to the NVRA" for the all the years after 1984, but would be included in the mean for "states without state-level motor voter" for the years 1980 and 1982.

Column (v) indicates that registration increased by 7.9 percentage points after 1993 in states most impacted by the NVRA. This table also indicates, though, that registration increased by 4.1 percentage points in the states that already had motor voter – the group that identifies the time path of states without motor voter in the absence of the law. The increase caused by secular forces highlights the need for a difference-in-difference model, the results of which are displayed in column (vii). The NVRA increased registration by 3.6 percentage points, a result that is significant at the 95 percent confidence level. Also, the NVRA increased voting turnout by 3.1 percentage points, significant at the 95 percent confidence level.

4. Model Specification and Results

Although instructive, Table 3 does not control for other factors that could have changed voting rates over time within a state, such as the existence of passive motor voter laws, incidence of senate races in states, and individual characteristics, such as age, race, gender, education, and income. In order to control for these characteristics, I estimate the effect of the NVRA on voting outcome using the entire 1980-2004 sample, holding constant year and state effects as well as individual characteristics, and using dummy variables for active and passive motor voter to obtain the difference-in-difference estimate. In order to capture some of the state-specific effects,

I include dummies and interaction terms for senate races and for whether the respondent thinks the race will be close. Then I add dummies for whether the respondent owns a home, is employed, or has a full-time job to control and obtain estimates for individual differences. To estimate turnout in presidential election years, I estimate a model incorporating presidential year dummies interacted with active motor voter, along with dummies for state and individual characteristics. Lastly, to examine whether income or age differences generate partisan effects, I estimate the voting equation by age and income.

The basic model is of the form

$$(1) \quad Y_{ist} = X_{ist}\beta_1 + Z_{st}\beta_2 + Active_{st}\alpha_1 + Passive_{st}\alpha_2 + \gamma_t + \mu_s + \varepsilon_{ist}$$

Y_{ist} is the outcome of interest for person i from state s in year t. The vector X_{ist} measure individual social and demographic characteristics such as age, race, gender, income, and education. The vector Z captures time-varying state characteristics such as the presence of senate elections. The key covariates of interest are Active and Passive, which are dummy variables that equal 1 in a state that has either a state-level or federally mandated passive law and 1 otherwise. So for example, Michigan, which passed a motor voter law in 1976, equals 1 in all years. Arizona, which passed a motor voter law in 1984, equals 0 in 1982 and 1 in all the years following 1984. States like Alabama, which never had a state-level law, equal 0 before and 1 after the NVRA. The variable γ_t is a state effect that is meant to capture variation in the outcome that is constant across states but varies over time. This variable will capture time-specific changes in voting and registration generated by period specific shocks such as the close election of 2000 or the war in Iraq in 2004. The variable μ_s is a state specific variable that measures differences in voting patterns that are persistent across states over time. For example, in all

years, Northern states tend to have higher turnout than states that were members of the Confederacy. It is impossible to specify all the underlying social and demographic factors responsible for this difference. Rather, I simply control for these differences through the use of state fixed effects. The variable ε is a random error term.

As shown on Table 4, the initial regression yields α_1 of .0005 with a standard error of 0.015 -- a result that is both small and insignificant. These results indicate that motor votor appears to have had little impact in an average election. The same is true for regressions (ii), (iii), and (v), which add the dummies for individual characteristics and the presence of a senate race into the model. In presidential election years except 2000, the NES asked respondents whether they thought the election was going to be close. Restricting the sample to the 9372 observations from these surveys, we now see a positive coefficient on active that is 3 percentage points and significant at the 90 percent confidence level, as seen in column (iii) of Table 4. Columns (iv) and (v) show the results of estimating the equation with the close race dummy interacted with active and controlling for individual characteristics, but the key result is shown in (iia), which shows the basic regression using only the 9372 observations from presidential election years. Here the coefficient on Active is 0.03, with a standard error of 0.018, yielding a t-stat of 1.62.

Estimates by Presidential election years

The drastic differences between results obtained from presidential election years and non-presidential election years demand closer examination. In order to quantify outcomes by presidential or non-presidential election, I estimate an equation of the form

$$(2)\quad Y_{ist} = X_{ist}\beta_1 + Z_{st}\beta_2 + Passive_{st}\,\alpha_1 + \alpha_2\,Presidential + \alpha_3$$
$$Presidential*Active + \alpha_4\,Presidential*(1\text{-}Active) + \gamma_t + \mu_s + \varepsilon_{ist}$$

Presidential is a dummy variable for whether the observation is in a presidential election year. Active*Presidential is an interaction term representing the marginal effect of active motor voter in presidential election years, and Active*(1-Presidential) is a term interacting active motor voter and non-presidential election years, capturing the marginal effect of motor voter in non-presidential election years. Table 5 summarizes the results of this regression. Column (i) shows that, without controlling for certain individual characteristics, α_3 , the covariate of interest, is 0.26 with a standard error of 0.017. Adding dummies for home ownership, marital status, and employment, in addition to controlling for senate races, yields a coefficient of 0.035 on the Active law indicator, a number that is statistically significant at the 95 percent confidence level (column (iii)). This model indicates that the NVRA is associated with a 3.5 percentage point increase in voter turnout in presidential election years. In all regressions, however, the coefficient for active *(1-presidential) is roughly -0.04. Although I am unable to reject the null hypothesis that the NVRA did not decrease voting turnout in non-presidential years, it seems that there is evidence suggesting it did.

The results in column (iii) show that home ownership increases the probability of voting by 7.1 percentage points. Being married and having a full time job also increase the likelihood of voting by 4.1 and 1.8 percentage points, respectively. Furthermore, having a Senate race in the state increases turnout by 2.4 percentage points. The coefficients on home ownership, marital

status, employment, and senate race are all significant at the 95 percent confidence level, and all apply to states in all years.

Estimates by Age groups

Using model (2), I can examine the impact of the NVRA among different age groups simply by limiting the sample to individuals within each group. Table 6 shows results for four age groups. The NVRA is supposed to address the concerns over youth civic participation in the US, which had been on the decline(Galston, 2004). And in fact column (i) shows that for young people, aged 18-25, the NVRA had a sizable impact: turnout increased 6.2 percentage points during presidential election years, although that result, with a standard error of 0.055, is imprecise. These results accord with Highton and Wolfinger's findings that the NVRA's greatest impact was on young people. During non-presidential election years, there is a modest and ambiguous decrease in turnout.

The impact of the NVRA for individuals aged 25-40, in column (ii), is negligible -- the estimated increase in turnout is imprecise and only 0.7 of a percentage point. The turnout increase attributable to the NVRA is among 40-65 year-olds and the general population is very similar, although the standard errors on the covariate of interest in column (iii) are large. The decrease in non-presidential years, however, is large (8.6 percentage points) and significant. The estimated coefficients on the employment dummy variable for the age groups 25-40 and 40-65 are greater than 0.06 and significant, indicating a strong correlation between home ownership and voting. Lastly, the NVRA has a large estimated impact on those older than 65. Column (iv) shows that the NVRA increased presidential election turnout by roughly 6 percentage points in

this group, while modestly reducing turnout in other years. Home ownership significantly increases the probability of voting in all age groups, with the increase ranging from 5.4 percentage points for senior citizens to 7.2 percentage points for those aged 40-65.

Estimations by Income Groups

One of the key goals for the NVRA was to increase voting among low-education and low-earning groups. Whether this goal was accomplished is of special interest because of the anticipated introduction of partisan effects that led Republicans to block registration reform until 1993 (Martinez and Hill).

Table 7 shows the estimates for model (2) applied to different socioeconomic groups. The estimated coefficient for the NVRA during presidential years in the lowest income quintile does not display the expected partisan effects [column (i)]. Instead, it only estimates a modest and ambiguous increase in turnout. In fact it seems that the NVRA had little impact on the lowest earning group at all, as its estimated effect in non-presidential years is negative, small, and ambiguous.

The bottom three quintiles, however, do show significant changes. Column (ii) shows that the NVRA increased turnout during presidential years by 4.9 percentage points, and decreased turnout during non-presidential years by 7.5 percentage points. For this group, marriage is predicted to increase the probability of voting by 3.5 percentage points, owning a house 6.9 percentage points, and holding a full-time job 1.9 percentage points, although that result is not significant.

Intuitively, people in the highest income quintiles would be the least likely to be deterred by registration hurdles. And indeed, the estimated impact of the NVRA for presidential elections, shown in column (iii), is modest (1.5 percentage points). Home ownership is also estimated to be indicative of 8.1 percentage points higher probability of voting in this group.

Estimates for Hispanic voters

Hill (2003) finds little to no race composition effects of the NVRA by comparing whites to nonwhites. Among Hispanics, the race group of most immediate policy interest, however, I find evidence of large positive effects from the NVRA. Column (ii) of Table 8 displays the results of model (2) run using data from Hispanic individuals and controlling for individual characteristics. The model estimates a 12 percentage point increase among Hispanics, although this result is not precise.

The difference-in-difference utilizes states not treated by the federal law as a control group to isolate what the time-path of the outcome would have been in the absence of the intervention. I cannot prove this assumption, but I can examine whether the time trends of the treatment and control groups are similar before the treatment. Since the control group is used to identify the time path of the treatment group after the treatment, if the trends are not in fact the same the control group will over- or understate the true impact of the treatment. Chart 1 displays the trends of presidential election voter turnout in states with state-level motor voter provisions compared to those without. States are included in the control group -- the "active prior to 1993" group -- only if they had active motor voter laws at the time indicated on the chart. For instance, Arizona's turnout is not factored in the "active prior to 1993 group" in 1980, but it is in 1984.

Similarly, Michigan, which enacted motor voter in 1976, has its turnout included in this group for all years.

The results in Chart 1 demonstrate that the trends of the two groups do track each other in absolute terms. The trends prior to the enactment of the NVRA, however, indicate that there may be some convergence, suggesting that a difference-in-difference estimate may slightly overestimate the impact of the NVRA. This difference in trends seems to be driven by the extreme dip in turnout among states without motor voter in 1988, which is not mirrored by a similarly large dip in the control group.

5. Conclusion

In this paper, I estimate the impact of the NVRA on voting participation rates using over 20,000 observations from the NES for the years 1980 to 2004. This data set covers a much longer period after the NVRA than any paper to date, and uses far more data points than previous studies based on NES data. The results from the difference-in-difference model indicate that results vary between presidential and non-presidential election years. In presidential elections, the NVRA caused a 3.5 percentage point increase in voter turnout. In other elections, the NVRA seems to have modest negative effects on turnouts. These results are considerably larger than those given by the only other similar examination of the NVRA (Martinez and Hill). They are considerably smaller, however, than the results predicted from the various studies of motor voter at the state level.

The partisan effects of NVRA are not as clearly visible. The NVRA seems to have had a sizable impact on turnout among the young in presidential elections, but that result is not statistically significant. One prediction borne out in the data is that lowering the difficulty of

registration increases the participation of lower income groups. The estimated effect of the NVRA on the three lowest income quintiles is a 4.9 percentage point increase for presidential elections, and a 7.5 percentage point decrease in non-presidential election years. There is also some evidence the NVRA accomplished the goal of reducing race turnout inequality.

Table 1 – INTRODUCTION OF REGISTRATION LAWS BY STATE

State	Active Motor Voter	Passive Motor Voter	State	Active Motor Voter	Passive Motor Voter
Alabama			Montana	1992	
Alaska		1984	Nebraska		
Arizona	1984		Nevada	1988	
Arkansas			New Hampshire		
California		1988	New Jersey	1992	1990
Colorado	1986		New Mexico		1992
Connecticut		1990	New York		1992
Delaware			North Carolina	1992	1986
District of Columbia	1990		North Dakota		
Florida			Ohio	1984	1978
Georgia			Oklahoma		
Hawaii		1992	Oregon	1992	
Idaho		1992	Pennsylvania		1982
Illinois		1990	Rhode Island		1990
Indiana			South Carolina		
Iowa			South Dakota		
Kansas			Tennessee		
Kentucky			Texas	1992	
Louisiana		1990	Utah		
Maine			Vermont		1986
Maryland		1988	Virginia		
Massachusetts			Washington	1992	1984
Michigan	1976		West Virginia	1992	
Minnesota	1988		Wisconsin		
Mississippi		1992	Wyoming		
Missouri					

Note: Year indicates introduction of measure in state.
Taken from Knack (1995).

TABLE 2 – REGISTRATION AND VOTING TURNOUT IN STATES WITHOUT AND WITHOUT STATE-LEVEL MOTOR VOTER ACTS IN YEARS BEFORE AND AFTER NVRA

	States with state-level Motor Voter		States without state-level motor voter		Differences		Differences-in-differences
	Before NVRA	After NVRA	Before NVRA	After NVRA	[(2) -(1)]	[(4) – (3)]	[(6) –(5)]
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Registration	0.822	0.865	0.768	0.847	0.043	0.079	0.036
	(0.382)	(0.341)	(0.422)	(0.360)			(0.013)
Voting Turnout	0.684	0.694	0.645	0.685	0.009	0.040	0.031
	(0.465)	(0.461)	(0.479)	(0.464)			(0.016)

Note: Standard errors in parentheses. Taken from NES Cumulative Data Survey

Table 3 -- REGRESSION VARIABLES

Variable	Description	Mean (standard deviation)
Age	Age of respondent	45.727 (17.778)
Gender	1 if male, 2 if female	1.550 (0.497)
Race	6-category dummy for race	
Family Income	Household income, national quintile	(2.589) 1.388
Homeowner	1 if respondent's family owns home, 0 otherwise	0.672 (0.469)
Married	1 if respondent is married, 0 if single/divorced/widowed	0.552 (0.497)
Work	1 if respondent works full-time job	0.582 (0.493)
Close Race	1 if respondent thinks the presidential race will be close in his state	0.605 (0.489)
Senate Race	1 if there is a Senate race in respondent's state	0.662 (0.473)
Active	1 if respondent state has an active motor-voter law, state- or federal-level	0.490 (0.500)
Passive	1 if respondent's state has a state-level passive motor-voter law	0.266 (0.442)
Vote	1 if respondent voted	0.605 (0.472)
Registered	1 if respondent registered	0.807 (0.395)

Note: standard errors in parentheses. Taken from NES Cumulative Data Survey

Table 4 – REGRESSION EQUATIONS FOR PROBABILITY OF VOTING

Explanatory variable	(i)	(ii)	(iia)	(iii)	(v)	(iv)	(vi)
Active Motor Voter Prior to NRVA Indicator	0.005	0.010	0.030	0.030	0.007		
	(0.015)	(0.015)	(0.018)	(0.018)	(0.015)		
Passive Motor Voter Prior to NRVA Indicator	-0.016	-0.017	-0.002	-0.002	-0.017	-0.002	-0.003
	(0.013)	(0.013)	(0.018)	(0.018)	(0.013)	(0.018)	(0.018)
Senate Race Indicator		0.023					
		(0.007)					
Close Race Indicator				-0.004		-0.002	-0.002
				(0.009)		(0.011)	(0.011)
Active X Close Race Indicator						0.028	0.032
						(0.019)	(0.020)
Active X (1-Close) Indicator						0.025	0.030
						(0.024)	(0.024)
Homeowner Indicator					0.071		0.080
					(0.008)		(0.010)
Married Indicator					0.040		0.034
					(0.007)		(0.010)
Work					0.018		0.001
					(0.008)		(0.001)
Constant	0.894	0.985	1.072	1.076	0.841	1.076	0.971
	(0.322)	(0.447)	(0.414)	(0.414)	(0.324)	(0.414)	(0.414)
R2	0.145	0.146	0.178	0.178	0.151	0.178	0.187
N	20208	20189	9372	9372	19939	9372	9199

Note: standard errors in parentheses.
Controlling for state, year, and individual effects.
Data taken from NES Cumulative Data Survey

Table 5 – REGRESSION EQUATIONS FOR PROBABILITY OF VOTING

Explanatory Variable	(i)	(ii)	(iii)
Passive Motor Voter Prior to NVRA Indicator	-0.014	-0.016	-0.017
	(0.013)	(0.013)	(0.013)
Presidential Year Indicator Variable	0.123	0.117	0.118
	(0.017)	(0.017)	(0.017)
Motor Voter X Presidential Year Indicator	0.026	0.030	0.035
	(0.017)	(0.017)	(0.017)
Motor Voter X (1-Presidential Year) Indicator	-0.042	-0.041	-0.039
	(0.023)	(0.023)	(0.023)
Homeowner Indicator		0.071	0.071
		(0.008)	(0.008)
Married Indicator		0.041	0.041
		(0.007)	(0.007)
Work Indicator		0.018	0.018
		(0.008)	(0.008)
Senate Race in State Indicator			0.024
			(0.007)
Constant	0.770	0.723	0.659
	(0.322)	(0.324)	(0.448)
N	20208	19939	19921
R2	0.145	0.152	0.153

Note: standard errors in parentheses
Controlled for state, year, individual effects
Taken from NES cumulative data survey

Table 6 -- REGRESSION EQUATIONS FOR PROBABILITY OF VOTING, BY AGE

Explanatory variable	Age 18-25 (i)	25-40 (ii)	40-65 (iii)	65+ (iv)
Passive Motor Voter Prior to NVRA Indicator	0.017	-0.012	-0.015	-0.064
	(0.042)	(0.023)	(0.021)	(0.035)
Presidential	0.216	0.120	0.088	0.102
	(0.048)	(0.030)	(0.028)	(0.043)
Active*Presidential	0.060	0.007	0.036	0.066
	(0.055)	(0.030)	(0.028)	(0.041)
Active*(1-Presidential)	-0.022	-0.063	-0.086	-0.032
	(0.065)	(0.039)	(0.037)	(0.062)
Married Indicator	0.018	0.046	0.040	-0.007
	(0.023)	(0.013)	(0.012)	(0.019)
Work	0.010	0.023	0.013	0.015
	(0.021)	(0.014)	(0.012)	(0.029)
Homeowner	0.062	0.062	0.072	0.054
	(0.023)	(0.013)	(0.013)	(0.021)
Constant	-0.080	0.405	0.534	0.675
	(0.181)	(0.111)	(0.099)	(0.324)
R2	0.237	0.146	0.158	0.174
N	2231	6783	7004	2861

Note: standard errors in parentheses, controlling for state, year, and individual effects
Data taken from NES Cumulative Data Survey

Table 7 - REGRESSION EQUATIONS FOR PROBABILITY OF VOTING, BY INCOME

	Income Group		
Explanatory variable	1st Quintile (i)	1st - 3rd Quintiles (ii)	4th - 5th Quintiles (iii)
Passive Motor Voter Prior to NVRA Indicator	-0.073	-0.019	-0.002
	(0.041)	(0.018)	(0.021)
Presidential	0.109	0.094	0.170
	(0.047)	(0.023)	(0.049)
Active*Presidential	0.012	0.049	0.015
	(0.049)	(0.023)	(0.029)
Active*(1-Presidential)	-0.008	-0.075	-0.016
	(0.063)	(0.030)	(0.038)
Married Indicator	0.041	0.035	0.022
	(0.023)	(0.009)	(0.014)
Work	0.006	0.019	-0.003
	(0.021)	(0.010)	(0.014)
Homeowner	0.097	0.069	0.081
	(0.021)	(0.010)	(0.015)
Constant	0.539	0.457	0.743
	(0.249)	(0.140)	(0.206)
R2	0.163	0.149	0.182
N	2980	12160	5967

Note: standard errors in parentheses, controlling for state, year, individual effects
Data taken from NES Cumulative Data Survey

Table 8 - REGRESSION EQUATIONS FOR PROBABILITY OF VOTING AMONG HISPANICS

Explanatory variable	(i)	(ii)
Passive Motor Voter Prior to NRVA Indicator	-0.0262534	-0.031
	(0.070981)	(0.071)
Presidential	0.0808302	0.102
	(0.1224643)	(0.124)
Active*Presidential	0.1178837	0.124
	(0.0934733)	(0.094)
Active*(1-Presidential)	-0.0838876	-0.075
	(0.1386024)	(0.139)
Married Indicator		-0.004
		(0.036)
Work		-0.024
		(0.038)
Homeowner		0.038
		(0.036)
Constant	-0.4674186	0.327
	(0.709281)	(0.714)
R2	0.2279	0.230
N	1007	1002

Note: standard errors in parentheses, controlling for state, year, individual effects

Data taken from NES Cumulative Data Survey

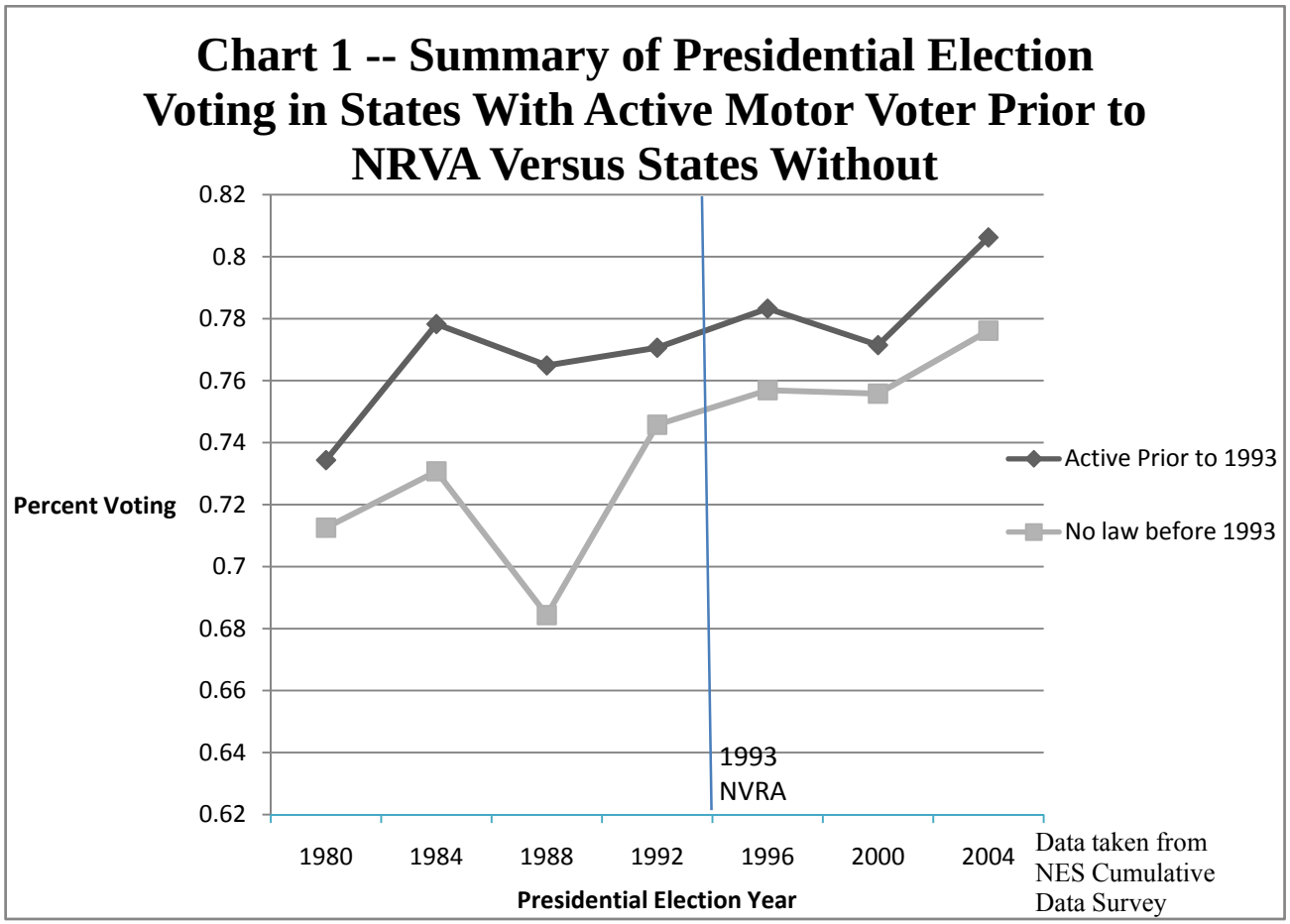
Chart 1 -- Summary of Presidential Election Voting in States With Active Motor Voter Prior to NRVA Versus States Without
0.82
0.8
0.78
0.76
0.74
0.72
0.7
0.68
0.66
0.64
0.62
Percent Voting
1993
NVRA
Active Prior to 1993
No law before 1993
1980
1984
1988
1992
1996
2000
2004
Presidential Election Year
Data taken from NES Cumulative Data Survey

Reference

Cassel, Carol A. 2002. "Hispanic Turnout: Estimates from Validated Voting Data."*Political Research Quarterly*, Vol. 55, No. 2 (Jun., 2002), pp. 391-408

Clinton, Bill. "Remarks on signing the National Voter Registration Act of 1993 - Bill Clinton's speech, May 20, 1993." *Bnet.com* http://findarticles.com/p/articles/mi_m2889/is_n20_v29/ai_14083556

Fitzgerald, Mary. 2003. "Working Paper 01: Easier Voting Methods Boost Youth Turnout." *CIRCLE Working Paper Series.* (2003). http://www.civicyouth.org/PopUps/WorkingPapers/WP01Fitzgerald.pdf

Galston, William A. 2003. Civic Education and Political Participation. *Phi Delta Kappan* 85 (1):29-33.

Highton, B. (1997). Easy registration and voter turnout. *Journal of Politics*, *59*(2), 565–575.

Highton, Benjamin, and Raymond E. Wolfinger. 1998. " Estimating the Effects of the National Voter Registration Act of 1993." *Political Behavior* 20(2): 79– 104.

Highton, Benjamin, and Raymond E. Wolfinger. 2001. " The Political Implications of Higher Turnout." *British Journal of Political Science* 31(1): 179– 223.

Hill, David. 2003. "A two-step approach to assessing composition effects of the National Voter Registration Act" *Electoral Studies* 22(2), December 2003:703-720.

Knack. 1995. "Does 'Motor-Voter' work? Evidence from state-level data." *Journal of Politics* **57** (3) (1995), pp. 796–811 (August).

Martinez, M.D., Hill, D., 1999. "Did motor voter work?" *American Politics Quarterly* 27 (3), 296–315.

Piven, Frances, and Richard A. Cloward. 1996. "Northern Bourbons: A Preliminary Report on the National Voter Registration Act." *PS: Political Science and Politics* 29:39-42.

Plutzer, Eric. 2002. "Becoming a Habitual Voter: Inertia, Resources, and Growth in Young Adulthood." *The American Political Science Review*, Vol. 96, No. 1 (Mar., 2002), pp. 41-56

Rhine, Staci L. 1996. ''An Analysis of the Impact of Registration Factors on Turnout in 1992.'' *Political Behavior* 18 (2):171–185.

The American National Election Studies (www.electionstudies.org). THE 1948-2004 ANES CUMULATIVE DATA FILE [dataset]. Stanford University and the University of Michigan [producers and distributors], 2005.

United States. US Department of Justice, Civil Rights Division. "Subchapter I-H – National Voter Registration." http://www.usdoj.gov/crt/voting/42usc/subch_ih.htm#anchor_1973gg. 18 April, 2008.

United States. Federal Election Commission. "Election Results for the U.S. President, the U.S. Senate and the U.S. House of Representatives." http://www.fec.gov/pubrec/electionresults.shtml

Wolfinger, Raymond and Jonathan Hoffman. 2001. "Registering and Voting with Motor Voter." *Political Science and Politics*, PS Online, 35(1) (March).