

The Effect of Voting by Mail in Washington: 1960-2008¹

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Abstract:

Voting by mail is one type of convenience voting, popular among advocates for voting reform as a mechanism to increase voter turnout. Most of the empirical studies of mail voting are based on data from Oregon. This paper extends analysis of VBM to Washington State which, since 1994, has been incrementally adopting VBM on a county by county basis. We use a full information maximum-likelihood model with fixed effects to estimate turnout effects in Washington counties in four specifications covering 68 statewide elections between 1960 and 2008. We find VBM is associated with an statistically significant increase in turnout, ranging from 1.73 to 4.15 percent.

Advocates of electoral reform often point to declining turnout in the United States as symptomatic of a lack of civic engagement. Voting, it is reasoned by some, is too costly in terms of time and energy, to equalize the small chance any one vote may prove pivotal in an election (Downs 1957). In contrast to this position, others

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claim that participation will increase if the costs of voting are reduced (Riker & Ordeshook 1968), although later revisions acknowledge that voting is a marginal decision, and is therefore responsive to relatively small changes in the costs (and benefits) of voting (Aldrich 1993). This “consumption” or “expressive” model of voting explains such apparently anomalous results as turnout varying in response to the weather (Gomez, Hansford, and Krause 2007) or the placement of precinct places (Haspel and Knotts 2005).

A class of voting reforms intended to increase convenience for the voter have emerged in the United States since the late 1970s, and have proved increasingly popular means for voters to cast their ballot. More than 40 million ballots, nearly one-third of those cast in the 2008 general election were cast before Election Day and away from the polling place. As Michael Hanmer (2009) argues in a forthcoming volume, under the consumption model of voting, we would expect some increase in turnout, although the effects should be relatively small (Hanmer focuses on election day registration, but the implication is the same for other administrative reforms).

In this paper, we aim to test the conventional wisdom that convenience and voting are related. We take advantage of a unique natural experiment from the State of Washington, which allowed counties to adopt vote by mail, but unlike Oregon, did not adopt the system all at once. Analytically, this allows us to isolate the causal impact of the administrative change from characteristics of the county and

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characteristics of the election, something much more difficult to do in Oregon. We use electoral and demographic data collected from Washington State over 48 years and 68 elections to argue that, indeed, the expansion of VBM into a greater number of Washington counties during the 1990s and 2000s has increased participation in statewide elections.

Convenience Voting and Turnout

Voting by mail (VBM) is one form of convenience voting (Gronke et al 2008b), a set of reforms intended to reduce the opportunity costs of voting and motivate greater participation in elections. (Many of these reforms also make it easier to administer elections and may reduce the costs of elections.). Under VBM, all registered voters are sent a ballot through the mail in advance of an election. The voter completes the ballot away from the polls and can return the ballot by mail or in-person.³ Scholarly analysis of VBM and convenience voting generally has proceeded in two ways: examination of demographic differences between early voters and polling place voters, and turnout effects of these voting reforms. A summary of key findings from these studies follows.

There are few discernible differences between early and polling place voters.

³ Data from Oregon suggests that 15-25% of the voting population returns their ballots on Election Day or the day before. Anywhere from 10-25% of the ballots are returned by hand to drop boxes during the 14 day early voting period rather than returned through the mail. Unlike Oregon's requirement that a ballot be received by Election Day to be counted, Washington only requires that a ballot be postmarked by Election Day to be valid. The consequence of this for Washington is a slow count. (LaCorte 2008).

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Baretto and colleagues (2006) examine voting patterns in the 2003 recall election in California and find early voters are indistinct in many areas, but are older and better educated. Neeley & Richardson (2001) find no differences between early and polling place voters in Tennessee. Dubin & Kalsow (1996) also find few differences in the profiles of early and polling place voters, but they do find that the vote decision process is different for each type of voter. Berinsky summarizes this research well:

Although these reforms do not create partisan biases in the electorate, they reinforce the demographic compositional bias of the electorate and may even heighten that bias (2005 p. 478)

For the most part, in Federal contests, early voters are not markedly different from polling place voters, and in lower level contests, convenience voting may actually increase biases.

Turnout effects of VBM and other voting reforms have attracted considerably more attention from scholars. The first studies considered municipal elections, finding mail voting contributed to greater participation (Magelby 1987, Hamilton 1988). Nationwide studies have found a positive effect associated with VBM, though findings do not agree on the magnitude of the effect. One study (Gronke et al. 2008b) found a 4% increase in turnout due to VBM use in Oregon. Another nationwide study (Richey 2008) found a 10% increase in Oregon. The latter study additionally finds a statistically significant and *negative* turnout effect of early in-person voting procedures. Studies that do not include VBM use as an explanatory variable find no significant turnout effects of these convenience reforms (Fitzgerald

2005). These studies suggest that no-excuse absentee voting has an indiscernible effect on turnout, but that completely transition to a mail voting scheme may have an effect on turnout.

One widely cited study of VBM in Oregon finds a turnout effect of 10% (Southwell & Burchett 2000), but that effect may be due to the unusual context of the first VBM elections (Gronke & Miller 2007).⁴ A study that evaluates turnout in Switzerland from 1970 to 2005 finds VBM is associated with an increase in turnout of 4.1% (Luechinger et al. 2007). A study of turnout in the 2000 and 2002 general elections in California finds VBM *decreases* turnout by 2.6 to 2.9%, but can increase participation in local, special elections by more than 7% (Kousser & Mullin 2007). In sum, VBM and other convenience reforms may alter participation rates, but research suggests this change is moderate in magnitude.

Other scholars present a more complex argument. Convenience voting reforms may increase turnout, but have a differential effect across groups of voters. VBM advantages resource-rich voters, converting occasional voters into habitual voters rather than enlarging the electorate (Berinsky 2005, Hamner & Traugott 2004, Berinsky et al. 2001). Other scholars find that convenience voting reforms induce voters already predisposed to vote to vote early (Karp & Banducci 2001, 2000; Neeley & Richardson 2001). Patterson & Caldeira (1985) find strong partisans in

⁴ The first three VBM elections consisted of a 1995 special primary and 1996 special general election to replace Senator Bob Packwood, who resigned in the midst of a scandal, and a 1996 presidential preference beauty contest.

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California and Iowa are more likely to use provisions for early voting. Oliver (1996) argues provision of liberalized ballot accessibility laws lead to increases in turnout when parties mobilize supporters.

We have two reasons to expect Washington will exhibit a positive turnout effect when modeling VBM across time. First, traces of an effect have been observed in previous elections. A report completed after the June 1997 election—where counties were able to choose whether to use VBM or polling places and 27 counties opted for VBM—suggest VBM can increase participation. Analyzing the patterns of turnout, then-Thurston County Auditor, now Secretary of State Sam Reed found:

When comparing pollsite and vote-by-mail counties, it became quite clear that voting-by-mail increased voter participation. For example, pollsite Pacific County had 38.7% turnout, while its vote-by-mail neighbor, Wahkiakum County, had a 62.56% turnout. Lewis County, which opted for the polls had 37.69% turnout, while vote-by-mail Mason County had a 63.98% turnout. The increased turnout is reflected most dramatically in the comparison of comparably sized and located Asotin and Garfield Counties. Asotin County, with pollsite procedures and the state's smallest percentage of absentee ballots, had a low 17.99% turnout; whereas, adjacent vote-by-mail Garfield County had a whopping 63.53% turnout. (Reed 1997, 3).

Reed's study is suggestive, but needs to be replicated and extended. The study is based on one out-of-cycle election in a single county. A more complete analysis of additional elections can give a more precise estimate of the effect of VBM on turnout. Boosts in turnout in the range of 30% to 45% are probably out of range for typical (i.e. primary and general) elections, but the results observed in this case are

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suggestive of a positive turnout effect.

The second reason we are hopeful that voting patterns in Washington State will show a positive turnout effect is based on research using geographical information system to examine the relationship between distance from the polling place and the tendency to vote. Dyck & Gimpel (2005) find that voters in Clark County, Nevada are increasingly likely to vote by mail as the distance to a polling station increases. This finding is directly relevant to the case of Washington since many of the early adopting counties are geographically large and small in population. It is plausible to think the increased convenience of having a ballot mailed rather than travelling to a polling place will inspire additional voters to cast a ballot.

Data and Methodology

Previous research has used one of two research designs to model turnout effects of convenience voting reforms. Some studies have used turnout in one particular state as the dependent variable in a time-series analysis (Gronke & Miller 2007, Southwell & Burchett 2000). Other scholars have used turnout on a national basis to evaluate the turnout effects of these reforms in a cross-sectional time-series framework (Gronke et al. 2008, Richey 2008, Luechinger et al. 2007, Fitzgerald 2005).⁵ National analyses can be useful to maximize observations, but may introduce error to the findings. The studies that find a significant turnout effect of

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VBM (Gronke et al. 2008, Richey 2008) may be presenting a spurious result due to selection bias. These studies find a boost in turnout due to VBM, but it is difficult to separate a VBM turnout effect from an Oregon turnout effect when only Oregon has adopted VBM on a statewide basis. Similarly, it is difficult to know how much we can generalize from a study only of Oregon to other states.

Our approach is somewhat different. Similar to Kousser and Mullin (2007), we take advantage of a unique natural experiment that occurred in the State of Washington over the past fifteen years.⁶ In Washington after 1974, as in California, precincts were given the option to move to a fully vote by mail system if they have fewer than 100 registered voters. Over time, an increasing number of counties were fully populated with such precincts. After 2004, the state relaxed the population requirement, and allowed counties to make the switch regardless of population size. At the time of this writing, just one more county, Pierce County, has not switched to fully vote by mail. King County, which contains the city of Seattle, only switched in 2009, and is coded as a non vote-by-mail county for all of our analysis.

As a result, we have a large set of observations to use in our statistical analyses. In addition, as pointed out in the opening, the sequential quality of the

⁶ Kousser and Mullin take advantage of a change to California state law which allows counties to move precincts with less than 250 registered voters to fully vote by mail. Analytically, Kousser and Mullin match these precincts with most similar non-vote by mail precincts.

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data means that we should be able to distinguish turnout changes due to campaign-specific effects from those caused by the administrative change.

This paper examines county-level data from 68 elections over 48 years in Washington State. The data includes 25 primary (held in September) and general (held in November) elections and 18 odd-year, special elections (held in November). Special elections usually decide initiatives and referenda, though the 1983 election (with 58.7% turnout) saw Daniel J. Evans elected to the Senate, replacing the late Senator Henry “Scoop” Jackson.

The analysis includes a wide variety of electoral settings. Turnout (measured as the percentage of registered voters casting ballots in an election, from 0 to 100) is the dependent variable. Dummy variables control for the type of election, whether primary, general or special. Controls for the types of races (presidential, senatorial, gubernatorial or ballot measure) in any election are also included. Following research which suggests initiatives and other ballot measures can have a critical effect on turnout (Tolbert, Grummel and Smith 2001), the number of ballot measures on the ballot of each general and special election is collected. A dummy variable is used to distinguish VBM elections from polling place elections. VBM elections constitute about 9.54% of the observations. Lastly, electoral competition is measured for the race with the highest votes cast in each election. Competition is quantified by one minus the difference between the winning and second-highest candidate or issue

position divided by the number of ballots cast.⁷ We expect competition to be positively correlated with turnout, given the previous research linking the public perception of a close race with higher rates of voter participation (Levine & Palfrey 2007, Franklin 2004). The schedule of statewide races is structured in such a way that every twelve years there is no Presidential, Senatorial or Gubernatorial race in a primary election. As a result, there is no measure of competition in the 1966, 1978, 1990 or 2002 primary elections.

All estimates are calculated using a full information maximum-likelihood model (FIML) with fixed effects.⁸ FIML models are found to be computationally efficient when using data with an autoregressive error structure (Choudhury et al. 1999). We use a fixed effects model to control for any county-specific variables not explicitly controlled for in our estimates.

⁷ In general and special elections, competition is calculated by

$$Competition = 1 - \frac{V_1 - V_2}{B}$$

Where V_1 and V_2 are ballots cast for the winner and runner-up, respectively, and B is the total number of ballots cast. To account for intraparty competition, an aggregate measure in primary elections is given by

$$Competition = 1 - \frac{\frac{V_{D1} - V_{D2}}{B_D} + \frac{V_{R1} - V_{R2}}{B_R}}{2}$$

where the D and R subscripts indicate Democratic and Republican candidates, respectively. Competition ranges from 0, where all of the ballots are cast for one candidate or ballot measure, and 1, indicating an evenly split vote share between candidates or issue positions.

⁸ Specifically, we use the *xtrreg* procedure in Stata.

Findings and Discussion

Voter participation in Washington State has been consistently high for the entire period. 82.4% of Washingtonians voted in the 1960 general election. In 2008, 84.6% of registered voters cast a ballot. Figure 1 displays the turnout in Presidential and midterm contests between 1960 and 2008. Predictably, turnout decreases in midterm elections, but has stayed stable over time as well. The 1962 general election saw 67.2% turnout, while the turnout rate in 2006 was 64.6%. In 1973, the first statewide, odd-year special election took place and 57.8% of voters participated. In the 2007 special election, 50% of voters cast a ballot. Unlike primary and general elections, odd year special contests have a higher degree of variance in turnout.

(Insert Figure 1 here)

Washington has gradually transitioned to VBM. In 1967, the use of VBM was permitted for precincts with less than 100 voters (later this threshold was increased to 200 registered voters). The state adopted no-excuse absentee voting in 1974. Ferry County in northeast Washington was the first, in 1994, to fully adopt VBM, by virtue of each of the precincts in the county being a VBM jurisdiction. By the end of 2002, five counties (Clallam, Ferry, Okanogan, Pend Oreille and Skamania) had eliminated polling places entirely, because each precinct within the counties had shifted to VBM. Figure 3 plots turnout in primary, general and special elections on the left-hand y-axis and the number of counties using VBM on the right-hand y-axis

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between 1990 and 2008.⁹ We see a slow expansion of the use of VBM until 2005, when usage dramatically increases, and continues to grow.

(Insert Figure 2 here)

Situations of crisis are often resolved by the creation of new institutional forms (Skowronek 1982). Crisis is also one means by which convenience voting reforms are adopted by states. The administrative problems highlighted by the counts and recounts in Florida in 2000 led that state to adopt a parallel system of no-excuse absentee and early in person voting. Likewise, the close result in the 2004 gubernatorial race caused considerable public outcry about ways to reform the administration of elections. In 2005, the state legislature permitted each county to adopt VBM at their discretion, which explains the marked increase seen in figure 3. Seven counties allowed for VBM in the 2004 general election; 27 counties used VBM in the 2005 election, nearly a fourfold increase in usage of VBM. In the 2008 cycle, 37 of the 39 counties use VBM for all elections. Of the two remaining counties, King and Pierce, King County expects to fully use VBM by 2009. Even without fully adopting VBM, voters in Pierce County already make use of the no-excuse absentee voting provisions: no-excuse absentee ballots comprised 90% of ballots cast there in the 2006 primary election, and 84% of ballots cast in the 2006 general election

⁹ Clark county used VBM in the 1995 special election, but did not completely adopt it until the 2005 special election. San Juan county adopted VBM for the 1994 general election. The primary election was run using polling places and no-excuse absentee balloting.

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(Washington Secretary of State 2007, 6). Washington should soon become the second state, after Oregon, to migrate entirely away from polling places, on either a *de facto* or *de jure* basis.

We include three analyses of turnout in Washington State. First, we estimate turnout effects in Presidential and midterm elections, excluding odd-year elections. Second, we pool all elections (including special elections) and estimate a universal model of turnout in Washington. Third, we include three demographic variables and present a full turnout model. Our full model includes measures of per capita income, population density and the percentage of the population over the age of 65. Across all models, the use of VBM is associated with a modest, but significant, increase in turnout. This finding is in accordance with previous research on the effects of VBM (Gronke et al. 2008a, Gronke et al. 2007, Luechinger et al 2007).

(Insert Table 1 Here)

Table 1 includes presidential and midterm turnout models. Having a presidential election on the ballot (or having an election in a presidential year) dramatically decreases the salience of other characteristics of the election. In our model, Senatorial elections, electoral competition and the number of ballot measures have no discernible effect on turnout. Nonetheless, VBM is associated with an increase in turnout of about 4%. Additionally, general elections draw about 30% more participation than primary elections.

Midterm elections exhibit a more malleable electoral landscape. Senatorial elections and competition are associated with statistically significant effects on turnout (though oddly in different directions). Ballot measures increase turnout by about 1% as well, in line with other estimates of their turnout effect. VBM is also associated with an increase in turnout, though its magnitude is less than half that observed in presidential election years. The turnout effect associated with general elections is also reduced by about a third.

(Insert Table 2 around here)

We include two additional analyses of the Washington elections data. We first estimate a pooled turnout effects model without demographic controls. These controls for population differences are included in our fourth model. Table 2 includes the coverage (in terms of observations and years) and summary statistics for our three demographic controls: per capita income, population over the age of 65, and population density. We expect turnout to increase among older and more affluent populations. We observed above that population density explained much of the pre-2005 adoption of VBM, in that rural counties were the first to transition away from polling places. In addition, the two counties with the largest populations—King and Pierce—have not fully adopted VBM. Therefore, we expect population density and turnout to be negatively correlated.

(Insert Table 3 about here)

We present our pooled estimations in Table 3. Demographic controls are included in the right-hand column. VBM is consistently associated with an increase in turnout, though the effect is reduced by about 1% when including demographic controls. Gubernatorial elections are associated with larger turnout effects than either Presidential or Senatorial races. One explanation for this may be the tendency in Washington to have Presidential delegates distributed by caucuses rather than primaries for most of the period under consideration. The closeness of the election causes more people to vote, as both models show competition to be a significant variable. Ballot measures exert less of an effect in these models than Table 1, but remain statistically significant. Lastly, and contrary to our expectations, the three demographic controls have no effect on turnout.

Conclusion

In previous work (Gronke and Miller 2007, Gronke et al. 2008), we have questioned the impact of voting by mail on turnout. In line with the arguments of Aldrich (1993) and Hanmer (2009), we expect, at most, a marginal impact of this voting reform on turnout, particularly since, in the two states that have adopted it, citizens were already overwhelmingly choosing to cast absentee ballots. In our studies of Oregon, we have argued that the unique characteristics of the first three vote by mail elections made them poor cases from which to generalize to all vote by mail elections. As Kousser and Mullin (2007) similarly argue, "...the problem with using

these findings to predict the effects of a shift to mail ballot elections elsewhere is that the Oregon studies do not hold constant the political context and the ways in which elections are administered.” In short, the inferential strength of the Oregon case is that it holds constant the state level context, but the inferential weakness of the case is identical: it cannot control away the political context.

Washington provides a second case in which we can examine the turnout effects of voting by mail. The Washington case allows us to control the administrative context, as we are able to in Oregon, but the unique trajectory of the adoption of voting by mail in Washington means that we are able to control for political variables (competitiveness, type of race at the top of the ballot) as well as demographic variation across the counties.

In our results, we discovered a consistent and statistically significant turnout effect due to the adoption of VBM in Washington State. The magnitude of this effect varies between 1.73% and 4.15% in the four models we present here, effects that are well in the range that Hanmer predicts from a variety of election reforms. They are statistically significant, yet modest, effects, just as you would expect under the consumption model of turnout. This finding is also in range with other empirical studies measuring the effect of mail voting on turnout.

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FIGURE ONE: WASHINGTON STATE TURNOUT 1960-2008

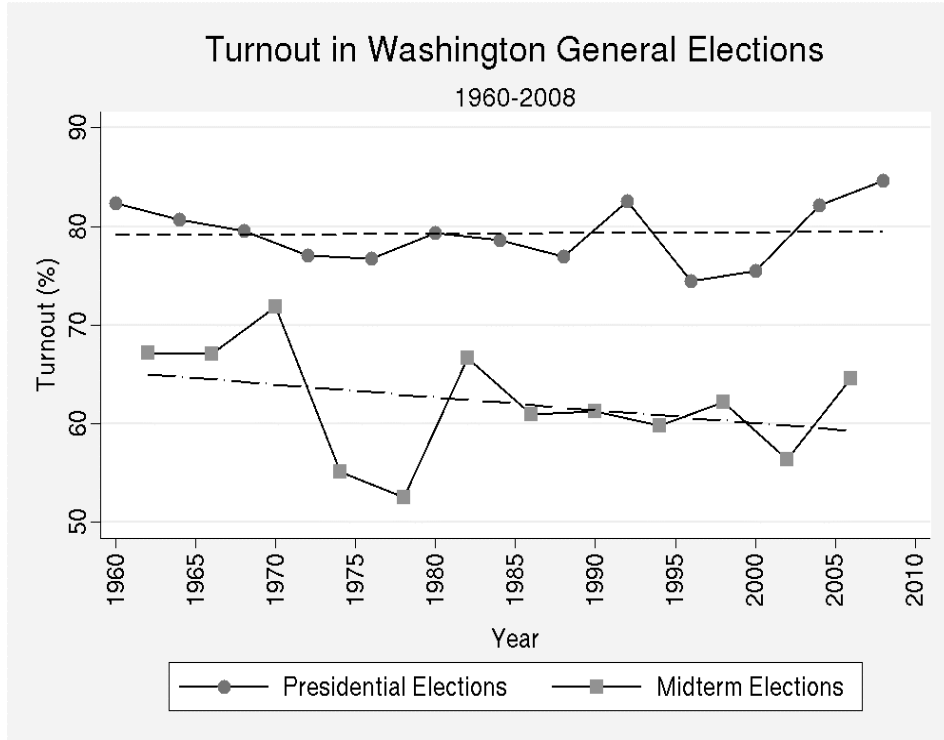
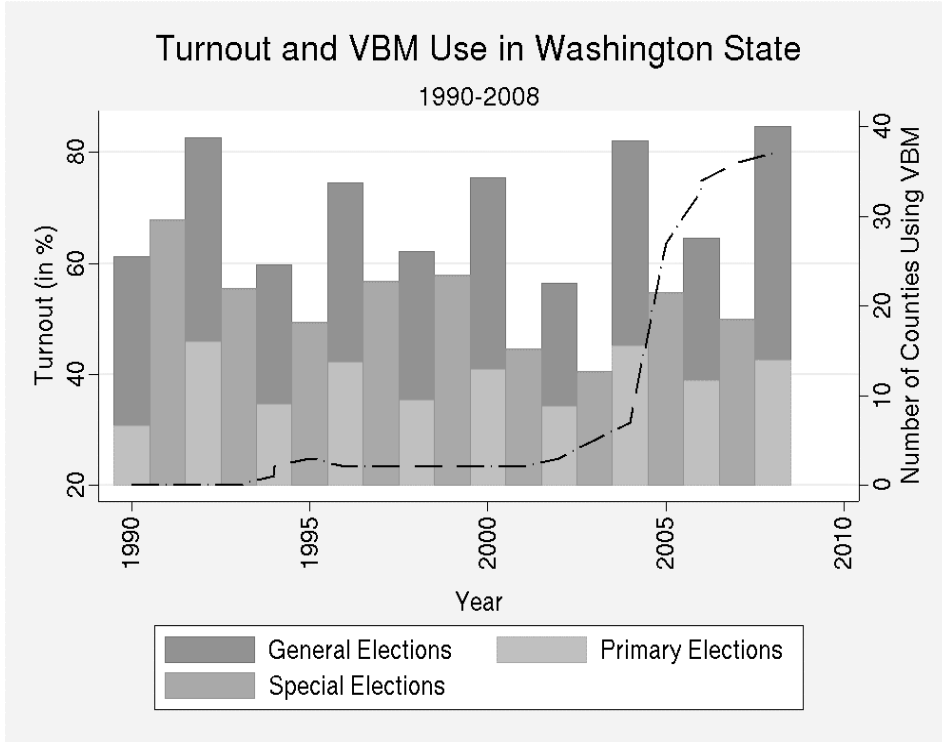


FIGURE TWO: COMPARISON OF TURNOUT AND THE ADOPTION OF VOTING BY MAIL, 1990-2008



	Presidential Election Years	Midterm Election Years
Voting-by-Mail	3.83*** (0.68)	1.73** (0.8)
General Election	29.14*** (0.59)	19.39*** (0.8)
Senatorial Election	0.22 (0.37)	4.68*** (0.66)
Election competitiveness	1.08 (0.96)	-3.97*** (1.23)
Number of Ballot Items	-0.002 (0.05)	0.95*** (0.08)
Constant	48.91*** (0.64)	41.02*** (0.78)
Adjusted R-squared (within)	0.884	0.757
Adjusted R-squared (between)	0.0155	0.2132
Adjusted R-squared (overall)	0.8341	0.6235
Observations	1014	780

Notes: Data collected from Washington State Official Abstract of Vote reports. Competitiveness calculated by authors (see footnote 5). ** Indicates $p < .05$; *** Indicates $p < .01$. The excluded category is Primary elections. Standard errors are in parentheses.

Table 2: Summary of Independent Demographic Variables				
	County-level data			
Variable	Observations	Years	Mean	Standard Deviation
Population Density	2652	1960-2008	86.91	150.55
Per Capita Income	2145	1970-2006	26385.25	5239.207
Population percentage 65 years and older	1209	1980, 1990-2008	14.2	4.03

Sources: Population density is calculated from Washington State Office of Financial Management county population and land area data. Per capita income is collected from the Bureau of Economic Analysis Regional Economic Information System and adjusted to 2008 values. Population over 65 years is collected by Washington OFM.

	Pooled Model of all Elections	Pooled Model with Demographic Variables
Voting-by-Mail	4.15*** (0.47)	3.11*** (0.67)
General Election	21.51*** (0.57)	20.06*** (0.89)
Special Election	9.72*** (0.67)	12.49*** (1.16)
Presidential Election	4.22*** (0.50)	4.77*** (0.72)
Gubernatorial Election	7.46*** (0.46)	4.95*** (0.74)
Senatorial Election	2.32*** (0.37)	4.45*** (0.60)
Election competitiveness	1.47* (0.77)	2.98** (1.18)
Number of Ballot Items	0.39*** (0.05)	0.89*** (0.13)
Per Capita Income		-0.0006 (0.0001)
Population Density		-0.004 (0.01)
Population over 65 years old		0.29 (0.20)
Constant	40.37*** (0.52)	50.91*** (3.43)
Adjusted R-squared (within)	0.7628	0.7949
Adjusted R-squared (between)	0.0801	0.0643
Adjusted R-squared (overall)	0.6912	0.6659
Observations	2496	1014

Notes: * indicates $p < .1$; ** indicates $p < .05$; *** indicates $p < .01$. Per capita income is measured in 2008 dollars. Primary elections are the excluded category. Standard errors are in parentheses.