The Partisan Costs of Automatic Voter Registration

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Introduction

The last decade has seen a marked increase in voter registration rates. According to U.S. Census Bureau estimates, the percentage of registered voters among the voting eligible population grew from 65% to 73% between 2014 and 2020 nationwide. At the same time, partisan self-identification continues to be on the decline, with less than half of Americans self-identifying with a political party in recent tracking polls (Gallup 2022). This paper examines the intersection of these two trends in American politics as they relate to Automatic Voter Registration (AVR) policy. Specifically, we examine whether AVR increases voter registration at the cost of partisan affiliation.

AVR has been adopted by 22 states and Washington D.C. since 2016. As a general rule, AVR systems ease the voter registration process by adding individuals to the voter rolls on an *opt out* rather than *opt in* basis (National Conference of State Legislatures 2021c). These systems may also make registration less onerous by utilizing known information, such as contact information, without requiring duplicative paperwork. One key variation in AVR policy is *where* precisely the opt-out occurs. In so-called "front end" AVR systems, the potential voter is asked if they would like to opt out while they are still at the DMV or other government agency. In contrast, in "back end" AVR, potential voters are offered the chance to opt out sometime *after* the agency transaction has taken place in a mail solicitation (McGhee and Romero 2019). Five states - Alaska, Colorado, Delaware, Massachusetts, and Oregon - employ the back end method (National Conference of State Legislatures 2021c). This paper compares the effect of AVR on party registration in one back-end state, Oregon, relative to one front end implementation, California.

Does AVR reduce party affiliation? As with most policy analysis research, the issue of causality looms large in attempts to answer this question. Comparisons between AVR and non-AVR registrants cannot provide a causal effect due to numerous and unobservable differences between these groups. This paper achieves a causal estimate by making use of a natural experiment: due to historical statute, individuals with certain birth years are more likely to be registered via AVR than other birth years. This exogenous variation, employed through an instrumental variable analysis, tempers concern for omitted variables. We calculate a significant negative effect on partisan registration in one state, Oregon, and offer inconclusive results for California. We

additionally track voters registered by AVR in Oregon over time to gauge the extent to which the absence of party registration is corrected over subsequent years. The conclusions of our paper have significant implications for participation in closed political primaries as well as wider partisan mobilization efforts.

Literature

Why do we care about the effect that AVR has on the probability that a registrant will affiliate with a political party? Although we remain agnostic on the normative question whether it is desirable for registrants to affiliate or remain independent, the act of party affiliation has important consequences for political behavior. First, party registration can affect how voters perceive themselves, which in turn may affect those individuals' actions. As Burden and Green's (2000) use of self-perception theory demonstrates, the act of party registration sometimes drives party identification rather than vice-versa. Party registration thus acts as an "anchor" for partisan self-identity, albeit one that can weaken over time (Thornburg 2014). Given the importance of party identification for all manner of political behavior (Campbell et al. 1960; Popkin 1991; Barber and Pope 2018; Mason 2018; Klar and Krupnikov 2016), institutions that drive or impede party registration merit inquiry.

Second, and possibly more important, an individual's affiliation status affects the extent to which, if any, political parties choose to engage with that individual. Parties may be viewed as "Rational Prospectors" (Brady, Scholzman & Verba 1999); recruiters who must decide whom to solicit and how to persuade the requested person to act. Party strategies respond to the electoral environment (Gershtenson 2003), and over the past twenty years parties increasingly have shifted from a strategy of persuading undecided or independent voters to a mobilization strategy of turning out party faithful (Holbrook & McClurg 2005; Panagopoulos 2016), particularly in battleground states (Beck & Heidemann 2014).

As Hersh (2015) explains, parties are not omniscient and make strategic decisions based on *perceived voters*—that is, individuals as conceived by the party based on the types of information available to it—and knowledge of an individual's party affiliation and party primary history are often the most important indicators (*Id*.). Frequently, a party's direct contact with an individual may be conditioned on whether that person is registered with the party. In the current era of mobilization strategies, being a registered voter makes it more likely that parties will reach out to you, but being a registered party member increases those odds even more. While there is a robust scholarly debate as to the most effective means of party contact (see generally Bennion & Nickerson 2011; Dale & Strauss 2009; Endres & Kelly 2018; Gerber & Green 2000; Gerber & Green 2001; Nickerson 2007; Nickerson 2015), party mobilization matters because it helps to drive voter turnout (Wielhouwer & Lockerbie 1994; but see Arceneaux 2007) and may possibly counteract institutional rules such as strict voter ID laws (Neiheisel & Horner 2019).

Given that the act of party affiliation can affect the behavior of both individuals and parties, we turn to our central question: How, if at all, does AVR alter the probability that the registrant will affiliate with a political party? Surprisingly, extant theories of voter behavior offer three competing possibilities. First, AVR may drive partisan affiliation. If one conceives of the decision to engage politically as a cost-benefit analysis (Downs 1957; Wolfinger and Rosenstone 1980; Sigelman and Berry 1982; Leighley and Nagler 2014), institutions which lower costs incentivize action. Precisely because AVR lowers the cost of registration—dramatically in many instances—it becomes all the easier for new registrants to affiliate. If the state has done most of the work for you, why not take a second and join your favorite team? A second possibility, however, suggests that AVR has no effect on party affiliation. By this reasoning, the types of people who are registered via AVR as opposed to other, more proactive methods of registration, may be the types of people who are politically uninterested and disengaged. If they weren't going to register in the absence of AVR, they wouldn't care enough to take the time to designate an affiliation. If true, AVR would increase the total number of registered voters, but would drive down the overall percentage of affiliated registrants. The third possibility is that AVR could actually reduce the absolute number of people who affiliate with parties. This somewhat counterintuitive result would occur if there are individuals who, absent AVR, would have registered via other means and specified a party affiliation, but, because they were registered via AVR, end up not designating a partisan affiliation. Again, we wish to emphasize that we are agnostic to whether this third situation would be normatively desirable. It is enough to recognize that a policy that effectively results in fewer registered voters being affiliated with parties could have important political consequences.

So which of these varied scenarios is most likely? We suspect that the result will be dependent on the type of AVR system implemented. In back-end systems, like Oregon, the easiest choice for the citizen is to ignore the mailer sent by the Secretary of State's office, which will result in registration with no party affiliation. Because voters that would have counterfactually registered traditionally may use AVR as a convenience, this could potentially lead to a net reduction in affiliated partisans following policy adoption. In contrast, in front-end systems, particularly those that used forced-choice user interfaces, inaction on party preference selection may not be possible. If one declines to opt-out of voter registration, the party preference selection becomes a forced-choice on digital screens, requiring a proactive selection of "No party preference" to decline. As both affirmative and negative party preference selection require action on part of the responder, it may be that this interface actually increases party selection, at least relative to paper forms where fields can easily be skipped.

The descriptive statistics of party affiliation partially bear out these predictions. In Oregon 2016, only 16 percent of voters registered by AVR affiliated with a political party, compared to 71 percent registered in 2016 by traditional means.[1] In contrast, the California partisan affiliations

[1] This includes both Phase 1 and Phase 2 registrants. Separately, the party registration rate for Phase 1 was 20%. The party registration rate for Phase 2 was 11%.

were more similar depending on registration type, 52% for new AVR registrants versus 63% for new traditional registrants. However, because individuals who register via AVR are potentially systematically different from those who registered via traditional means, perhaps by being younger or having recently moved, these raw statistics require further investigation.

Data and Methods

The challenge of causal inference in real-world settings is well known. Although randomized controlled trials are the gold-standard for evidenced based policy analysis, they are simply not feasible, or even ethical, for most democracy reforms. When well-designed experiments are not possible, researchers look at naturally-caused variation that mimics true randomization. For AVR, any phenomenon that drives visitations to the DMV but is not correlated with political behaviors may meet such criteria. In this paper, we argue that birth years among certain birth year cohorts predict the timing of driver license expiration but not voter registration interest and engagement. As such, birth years can be leveraged as exogenous variation associated with AVR and used to precisely estimate a causal effect on voter registration and party affiliation.

Why are birth years correlated with license renewal timing? In Oregon, the pattern can clearly be explained by prior statute. Specifically ORS 807.130(1), revised in 2001, expressly made driver license expiration contingent on birth year evenness, stating:

> Except as otherwise provided in this section, a license that is issued as an original license and not as a license that is renewed expires: (a) If issued to a person born in a year ending in an odd number, on the anniversary of the person's birthday in the second odd-numbered calendar year after the year of issuance. (b) If issued to a person born in a year ending in an even number, on the anniversary of the person's birthday in the second even-numbered calendar year after the year of issuance.

We expect that correlation seen in California, which as we will see occurs only every 4th birth year, has analogous statutory origins though this assumption remains presently unsubstantiated.

Voter file data confirms that birth years are predictive of voter registration patterns in both California and Oregon. Figure 1 displays this pattern visually for both states. Oregon's data includes all individuals who registered in AVR's Phase 1 implementation in 2016 for any DMV transaction. In California, data is limited to new registrants whose registration code was listed as resulting from driver license application or renewal in 2018 (Registration codes "DL44" for in-person transactions and "RMB" for by-mail renewals). The evident pattern from the data is that AVR is more likely to touch individuals in alternating birth years in Oregon and every fourth birth year in California, at least for certain generational cohorts. Specifically, this pattern is present in Oregon birth years until 1985 and California birth years from 1958 to 1981.[2] Predictive patterns hold examining other years of registration data as well. For example, in Oregon in odd-numbered years, there is a predominance of odd-numbered birth year registrants.

[2] The end of this pattern in Oregon can be traced to the amendment of the statute in 2001. Those born after 1985 would not have ever renewed their license under the prior statute.

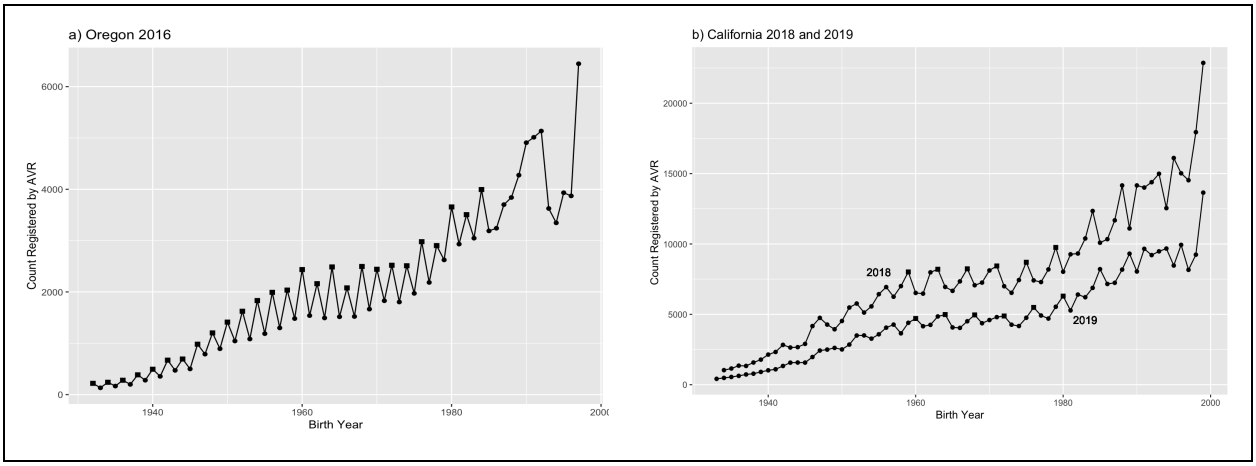


Figure 1.
Panel A depicts the frequency of phase 1 AVR registrants in Oregon 2016 by birth year. Panel B depicts the same data for California in 2018 and 2019. Birth years are limited to include only those older than 18 and younger than 85 at time of registration. The data points indicated with squares represent birth years following the predictable pattern of increased likelihood of being touched by AVR in alternating years in Oregon and every fourth year in California.

Examining only the relevant birth year cohorts for which this anomaly was detected, we find that even year birth years increase the probability of AVR registration in Oregon 2016 by 6.4%. In California, birth years in the relevant four-year cycle increase the probability of any new AVR registration by 4.6% in 2018 following the implementation of AVR. Estimates were derived from the marginal effects of logistic regressions.

Again, the predictive nature of birth years on the likelihood of being registered by AVR produces a natural experiment. Because birth years are not correlated with particular deviations in political behavior, we may use them as an instrument to gauge the application of AVR. Any randomness to uptake is useful causal leverage because it is, by definition, uncorrelated with endogeneity concerns. For example, although young people are far more likely to register by AVR, there will be no correlation between youth and our instrument. Additionally, movers are also more likely to visit the DMV, but this uptake will be uncorrelated with our instrument.

Our data comes from voter files collected from the state of Oregon in January 2017 and state of California in May 2019. We limit the observations in the voter file in a variety of ways in order to maximize the predictive power of our instrument. Specifically, we limit our data only to registrants with birth years between 1932 and 1985 in Oregon and 1958 and 1981 in California. We also limit the data to include only voters that register to vote in proximity to AVR implementation. Specifically, to maximize the power of the instrument, we include registrants in

2015 and 2016 in Oregon and only those who registered following AVR implementation in April 2018 in California. In the state of Oregon, we exclude Phase 2 AVR registrants, those who went to the DMV in 2014 and 2015 but were retroactively registered en masse in summer 2016. Finally, we limit our data to new registrations. New registrations are specifically demarcated in the California voter file. We proxy new registration in Oregon by excluding all registrants in 2016 that have a voter history in the 2014 general election (both affirmative and negative voting histories are recorded if registered at the time of the election). All of these limitations have the dual benefit of increasing the predictive power of our instrument and making registrants generally more comparable by excluding longstanding voters.

Our instrumented variable is a dichotomous variable coded as one if the voter is registered to vote by AVR. Our primary instrument is a dichotomous indicator for birth years with higher probabilities of AVR transactions. In Oregon, this variable represents even birth years, which are predictive of AVR registration in 2016 and traditional registration in 2015, the year prior to AVR implementation. In California, high probabilities of registration are predicted by every fourth birth year starting with 1959 for 2018 registrants. The dependent variable is a dichotomous variable coded as one if the voter has a party affiliation listed in the voter file, zero otherwise. Since there is no two-stage least squares estimator for dichotomous outcomes, the estimates are derived from linear probability models in both stages

A valid instrument must meet an exclusion restriction wherein it is not correlated with the outcome variable except by means of the instrumented variable. Our instrument is neither correlated with race nor gender imputations. Minor differences based on age do exist, originating from the demographic artifact that the last birth year included will always be the largest in size. This can be accounted for by controls for age as well as robustness tests that alter the birth years included in the analysis.

We controlled for several demographic variables. We code for residency in a populous county dichotomously, coded as one if you live in a county with over 150,000 residents, and zero otherwise. We control for race and gender using imputations produced by the wru and gender R packages. Finally, we include a continuous variable that counts the age of the potential voter.

Our estimation appears in Table 1. Diagnostic tests confirm that our instrument has sufficient strength. Following the rule of thumbs put forward by Stock and Watson (2007), the F-tests comparing the sum of squared residuals from first-stage models with and without our instrument is above 10, F=2,091 in Oregon 2016 and F=584 in California 2018.

Table 1: Instrumental Variable Analysis of Partisan Registration in Oregon and California

Dependent variable: *Any Partisan Affiliation*		
	Oregon	California
AVR	-0.657***	-0.004
	(0.023)	(0.040)
Age	0.004***	0.006***
	(0.0001)	(0.0002)
Populous County	0.023***	-0.005
	(0.002)	(0.004)
White	0.037*	0.014
	(0.023)	(0.033)
Black	0.056**	0.022
	(0.023)	(0.033)
Hispanic	0.002	0.008
	(0.023)	(0.033)
Asian	-0.062***	-0.144***
	(0.023)	(0.033)
Female	0.025***	0.025***
	(0.002)	(0.002)
Gender Unknown	-0.055***	-0.055***
	(0.003)	(0.003)
Constant	0.489***	0.334***
	(0.024)	(0.035)
Weak instruments	2091.8	584.5
Observations	385,448	359,437
R^2	0.220	0.027

Note: Robust Standard Errors in Parentheses; *p**p***p<0.01

Instrumental variable analysis produces an estimate of the Local Average Treatment Effect (LATE). The LATE is the treatment effect for the subset of the sample that takes the treatment if and only if they were assigned to the treatment, or the group Imbens and Angrist (1994) refer to as “compliers”. The treatment in this analysis is registration by AVR specifically. Compliers will include both individuals who would and would not register to vote by other means in a counterfactual world where AVR was not available.

The results show a dramatic difference between the effect of AVR on partisan registration in California and Oregon. Whereas partisanship is not reduced in California, there is a large 66% reduction in Oregon. Again, because this is a LATE, the effect is limited to those whose AVR registration is contingent on birth year status. This will include both people who would and would not register to vote in 2016 counterfactually if there was no AVR. Additionally, because leverage is gained only by individuals renewing their licenses, the effect cannot necessarily be extrapolated to other DMV transactions, notably applications for new licenses. The models predict base rates of partisan registration in the absence of AVR of 59% in California and 76% in Oregon. By comparison, the raw estimates of partisan affiliation among traditional registrants during these time periods was 69% in California and 73% in Oregon. The model fit in Oregon is much stronger, not unexpected given the additional strength of the instrument in that state.

Party Considerations

The overall effects on partisanship could be masking important variations by individual party selection. Here we re-estimate our model, changing the dependent variable. Specifically, we re-run the model with dependent variables coding Democratic, Republican, or Third party affiliation. We retain all observations in the model, coding these variables as zero if each affiliation is not selected. Because the first stage of the instrumental variable regression is maintained from our original model (the effect of high probability birth years on AVR registration), the strength of the instrument for each state remains unchanged.

The results, displayed in Table 2 and illustrated visually in Figure 2 show variance in the effect of AVR between political parties. Surprisingly, the overall null effects in the state of California are shown to be a function of differential positive and negative effects of Republican and Democratic party preference selection. Specifically, Republican affiliation increases by 23% while Democratic registration decreases by 20%. We make two notes of caution in the interpretation of these results. First, the overall fit of the California models are relatively poor, particularly for the Republican party preference. Although the instrument passes traditional tests of strength, it is relatively weaker than in the state of Oregon. One indication that the model might not be trusted is the predicted rate of Republican affiliation in the absence of AVR. The model predicts traditional affiliation at 8%, which is substantially below the descriptive average rate of Republican affiliation by traditional registrants in that year, 21%.

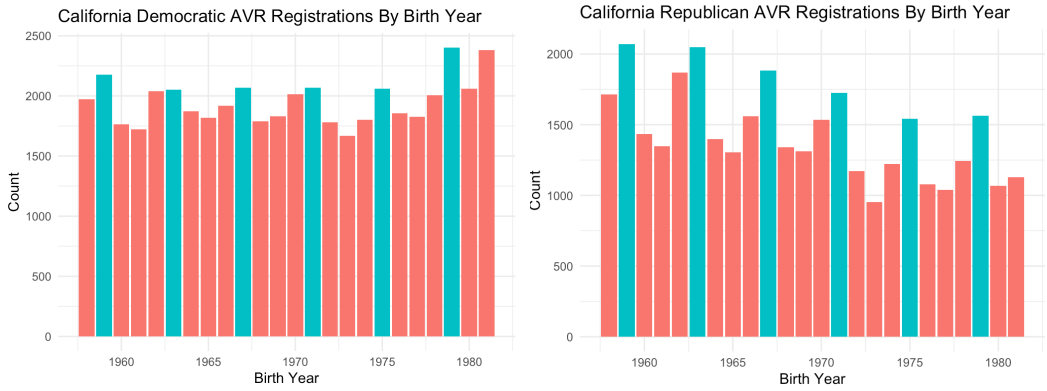
Table 2: Instrumental Variable Analysis by Party Choice

	Oregon			California		
Dependent Variable:	Democratic	Republican	Third Party	Democratic	Republican	Third Party
AVR	-0.287***	-0.264***	-0.107***	-0.198***	0.226***	-0.032
	(0.023)	(0.021)	(0.015)	(0.038)	(0.035)	(0.020)
Covariates	Included	Included	Included	Included	Included	Included
Constant	0.259***	0.115***	0.115***	0.299***	-0.045	0.080***
	(0.025)	(0.020)	(0.014)	(0.033)	(0.030)	(0.018)
Weak instruments	2091.8	2091.8	2091.8	584.5	584.5	584.5
Observations	385,448	385,448	385,448	359,437	359,437	359,437
R^2	0.084	0.059	0.016	0.040	-0.064	0.010

Note: Robust Standard Errors in Parentheses *p**p***p<0.01

That said, visual inspection of the raw data indeed confirms *relatively* larger rates of Republican partisanship associated with high probability birth years following the implementation AVR. We conclude that further analysis is necessary to confirm this asymmetric finding in the State of California.

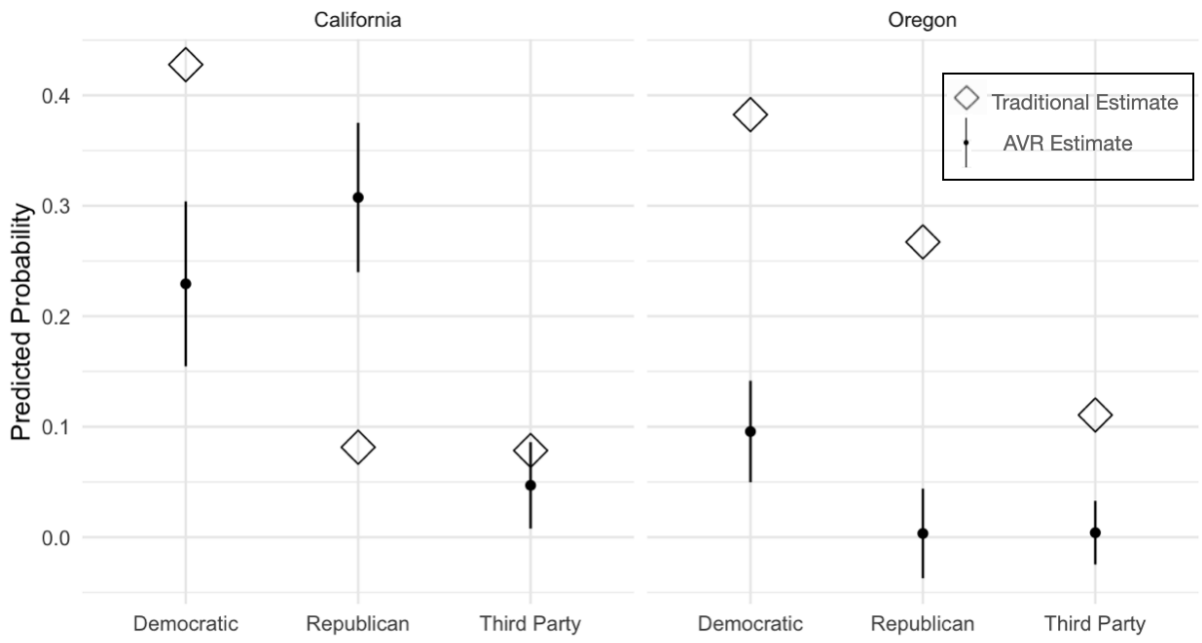
Figure 2: AVR Democratic/Republican Registration by Birth Year in California



Note: High Probability birth years highlighted in Blue

The stronger model fit in the state of Oregon gives more confidence. The model suggests that AVR has, in terms of raw percent reduction, the biggest effect on Democratic affiliation. Whereas traditional registrants in that state are 38% likely to affiliate with the democratic party, AVR registrants are only 10% likely. Republican affiliation likewise declines substantially, from 27% to 1%. Finally, third party affiliation is reduced from 11% to less than 1%. Notably, the base predictions of affiliation for traditional registration very closely match the descriptive means for traditional registrants from that year.

Figure 3: Predicted Probabilities of Partisan Registration from IV Model



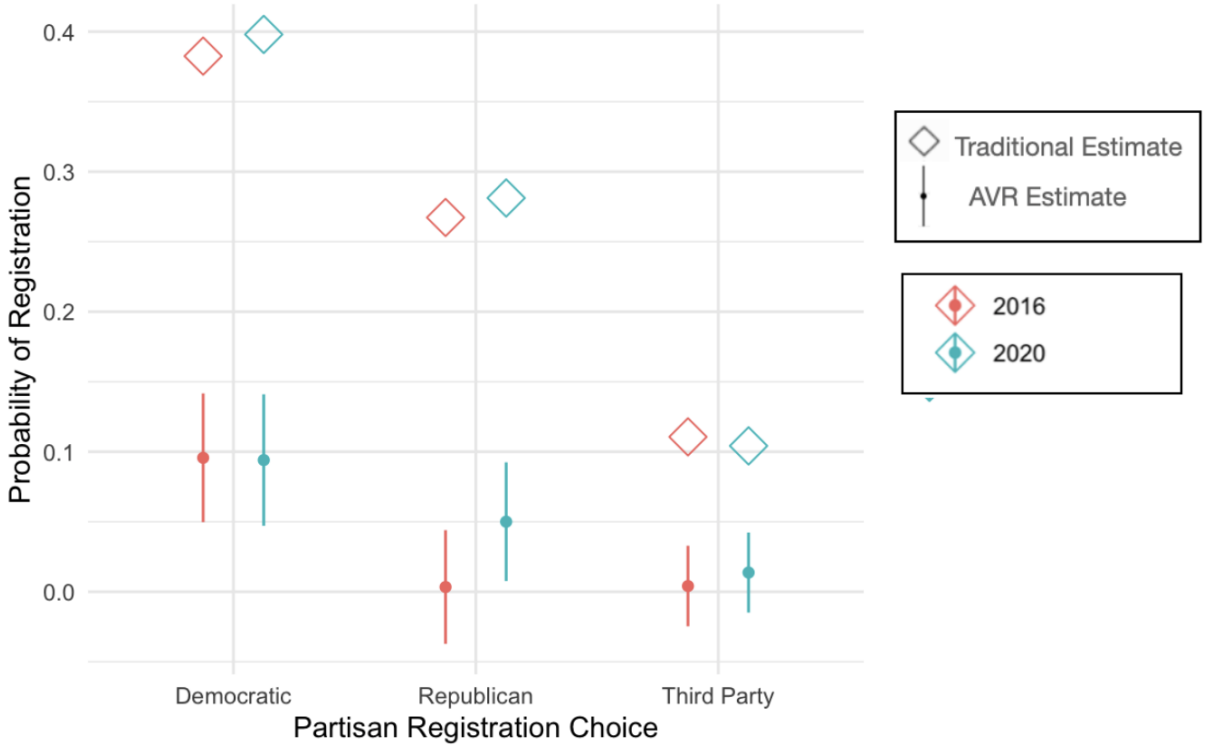
Oregon Followup

One's initial voter registration is not the only opportunity for party registration. In both states analyzed, a voter can update their registration easily using online portals or by submitting a hard copy voter registration form to one's county election office. Using the online interfaces, California voters require either one's State ID or Driver's License number or the last 4 digits of a Social Security number. Oregon registrants must have their State ID or Driver's License number.

Given the ease of this process, it is possible that the negative effect of AVR on registration found in Oregon is short-lived. Individuals may update their registration on their own accord, or could be mobilized by political parties prior to elections. To test for this possibility, we update partisan registration records using a newer version of the Oregon Voter file from January 2021. This four year time span includes a relatively competitive Presidential primary, which, like all primaries in the state of Oregon, is limited to registered partisans.

Figure 3 visually presents the results of this additional analysis. As evidence in the figure, very little partisan mobilization occurred between 2016 and 2020. Indeed, the estimates for Democratic affiliation got slightly worse, reflecting partisans who have dropped from the voter

rolls[3]. The biggest gains are for Republicans, with an increase in partisan registration rates of 3.3%. Overall, we reject the premise that the declines in partisan affiliation are short-lived.



Conclusions

The results in this paper suggest that back-end Automatic Voter Registration has a significant, negative effect on partisan registration in the state of Oregon. Results for California's front-end implementation are more inconclusive at this stage and require further analysis.

Indeed, Oregon's strong, negative effect occurs across all demographic groups (results not shown), and persists over time. And yet, as of December 2020, the state of Oregon had 2,004,432 registered partisans, compared to only 1,641,956 in December 2015[4]. Does this mean that AVR has been net positive for partisanship in the State of Oregon? Here we briefly consider this query.

In total, between 2016 and 2020, AVR registered 813,592 individuals with new registrations. More specifically, including both updates and new registrations via AVR, government reports

[3] The number of observations in this analysis drops from 385,448 to 362,805, reflecting voters who are no longer present in the Oregon Voter roll

[4] https://sos.oregon.gov/elections/Documents/registration/2020-december.pdf;

suggest that AVR is responsible for a gain of 112,898 partisans. But is this truly a net positive? It is very likely that some of these nonaffiliated AVR registrants may have registered traditionally in the absence of AVR, and in that instance would have been more likely to select a party. Mathematically, taking the 73% affiliation rate of traditional registrants, Oregon would be subject to a net loss of partisans if 18% of AVR registrants counterfactually would have registered traditionally.