Choosing the less convenient way to vote:  
An anomaly in vote by mail elections

1. Introduction

Efforts to reform the way we vote have expanded significantly in the last fifty years. A greater number and share of voters now cast their ballots in ways that were intended to be more convenient and less costly, presumably increasing voter participation (McDonald 2018; Burden et al. 2014; Leighley and Nagler 2013). However, some unexplained anomalies in the electorate’s response to efforts to reduce their costs of voting have accompanied these reforms and have persisted over time. In this paper, we seek to understand the motivations behind the variation in how vote by mail (VBM) voters choose to return their mailed ballot. Nearly two-thirds of persons who receive an unsolicited ballot in the mail before Election Day choose to travel out of their way to return their ballot in-person, rather than through the less costly and more convenient U.S. Postal Service (Pew 2015).

How and when voters choose to return their mail ballot is consequential to voter participation, the administration of elections, and the confidence voters have in the outcome of elections. VBM elections have been touted a means of increasing voter turnout, especially among under represented populations including non-Whites and younger voters. Research (Burden et al. 2014; Funk 2010; Gerber et al. 2013; Gronke and Miller 2012; Berinsky et al. 2005; Fitzgerald 2005) however, suggests that turnout effects from VBM elections have been modest, variable and in some instances non-existent. Lower than expected turnout rates in VBM elections may partially be explained by the large share of VBM voters who choose not to take up
the less costly way of returning their ballots through the postal service. Understanding why voters in VBM elections choose the more costly means of returning their ballots may provide insight into why VBM elections have not fulfilled their promise of higher voter turnout.

The method of ballot return also has consequences for election administration. Ballots that are mailed in are also usually returned and received earlier (Menger and Stein 2018), which can help election officials by spreading out the verification and counting process. The rush of last-minute ballot return presents an obstacle to the efficient implementation of vote by mail elections because it adds personnel costs to verifying and counting ballots and undermines the likelihood that all ballots are accurately counted and reported on Election Day. The latter can have significant consequences for the confidence voters have in the legitimacy of election outcomes (Sances and Stewart 2015). Why do voters in VBM elections choose to return their ballots in-person and just before Election Day rather through the more convenient method of the U.S. Postal Service? What might this behavior tell us about how and why persons vote?

We offer and test four explanations for this behavior including voter distrust of the postal service, a desire to ballot at the end of the election campaign, the costs and convenience of voting, and the social rewards associated with voting. We find supporting evidence for each explanation, but the effects of two factors—a preference for voting at the end of campaigning and a preference for voting with others—are conditioned by voters’ prior voting history. The method frequent voters choose for returning their VBM ballots is shaped by their preference for the social rewards of voting with others, their trust (or distrust) of the US postal service, and to a lesser degree by their preference for greater convenience and lower costs of voting, but not by their preference for voting after campaigning ends. Conversely, infrequent voters’ choices of how to return their ballots are impacted by their preferences for greater convenience, a desire to
cast their ballots after campaigning ends, and a (dis)trust in the postal service to return their mail ballots, but not by their preference for a social voting experience. These differential effects are observed when frequent voters are defined either as consistent general election voters or those who cast votes in past party primary elections.

Our paper proceeds in the following way. In the next section, we briefly review the history of vote by mail elections, the inconsistency with which VBM voters choose to return their ballots, and why this anomaly might be important for the conduct and administration of elections. In section three, we detail four explanations for how voters choose to return their mail ballots. We describe our data and hypotheses drawn from our explanations in sections four, and test these hypotheses in section five, concluding in section six with a discussion how our findings might inform election administration of vote by mail elections and other modes of voting.

2. Vote by Mail Elections

Three states—Oregon, Colorado, and Washington—conduct all their elections by mail. Twenty-two other states have provisions to allow certain elections to be conducted entirely by mail. Others states including California have adopted VBM elections on an optional county-by-county basis. Another 27 states and the District of Columbia permit any qualified voter to vote absentee without offering an excuse (National Council of State Legislatures 2019), and eight of these states allow voters to sign onto a permanent absentee list to receive a mailed ballot for every future election. In the 2016 Presidential election, voters who received and/or returned their ballot by mail cast 24% of all votes (Election Assistance Commission 2017).

While in VBM elections every registered voter receives a ballot by mail (usually with pre-paid postage for returning the ballot), this does not preclude the voter from returning their ballot in-person or even choosing to vote in-person. In the three states that conduct all their
elections by mail, Colorado, Oregon, and Washington, between 40% and 70% of all mailed ballots are returned in-person and not by mail (Pew 2015). Even in states with only absentee voting, 25% of all requested absentee ballots were returned in-person, rather than by the more convenient and less costly postal service (Pew 2015).

Mail-centric voting systems and especially VBM elections pose a challenge for local election officials (LEOs). Elections conducted by mail allow LEOs to save money by cutting down on equipment, staff, and location rental costs. However, the late return of paper ballots presents an obstacle to the efficient implementation of vote by mail elections. Since these ballots have to be signature-verified and counted, receiving the bulk of ballots in the last few days can add personnel costs for LEOs. This rush can also undermine the likelihood that all ballots are accurately counted and reported on Election Day. Late reporting of the election results is associated with lower voter confidence in the accuracy and legitimacy of election outcomes, especially in close elections (Atkeson and Saunders 2007; Sances and Stewart 2015). In Colorado, election officials have addressed this problem with advertising aimed at increasing early ballot return by mail and at in-person ballot drop-off locations. The efforts of election officials in one Colorado county increased the proportion of ballots returned in person, but also resulted in fewer ballots returned three or more days before Election Day, (Menger and Stein 2018), which demonstrates the connection between in-person and late ballot return.\(^3\)

3. **Reasons for how voters return their VBM ballot**

One of the intentions behind the adoption of VBM elections was to reduce the costs of voting, making the process more convenient so that more persons would be able to vote easily. By mailing every eligible voter a ballot weeks before Election Day with pre-paid postage for returning the ballot, voters no longer had to find the time to travel to polling locations to cast
their ballot. The costs of in-person voting extend beyond just the time and distance voters have to travel in order to vote. The time to check-in and cast a ballot is consequential and decreases voter participation and ballot completion (Stein et al. 2019; Menger and Stein 2018). Due to their effects on the time voters must spend at the polling place, the location, staffing, equipping, and operation of in-person polling locations have independent effects on voter participation (Stein et al. 2019; Barreto et al. 2006). There is supporting research to show that VBM elections increase voter turnout, especially among infrequent voters (Gronke et al. 2007; Southwell and Burchett 2000; Gerber et al. 2013; Larocca and Klemanski 2011; Richey 2008) who might be more easily deterred from voting due to time and travel costs. However, a voter may not experience all of the reductions in the costs of voting that VBM elections cause when they return their mailed ballot in person instead of by mail. Returning a ballot in person still requires traveling to a balloting location and potentially waiting in line to return a completed ballot.

Our expectation is that the reduced costs and greater convenience of VBM elections will be consequential to when and how infrequent voters choose to return their ballots in that voters who have stronger preferences for convenience should be more likely to return their mailed ballots through the postal service. We do not expect a preference for avoiding voting costs to have an effect for frequent voters since we expect frequent voters to be less susceptible to the convenience of returning their ballots by mail than less experienced voters. By definition, frequent voters have a proven record of bearing the alleged costs and inconveniences of voting over several elections, demonstrating that these voters may receive more perceived emotional, social, or civic duty benefits from casting a ballot. This is prima facie evidence that frequent voters may be less deterred by the costs of voting when choosing where and when to vote.
Another potential factor that may influence voters’ method of ballot return is a preference for waiting until the last day of campaigning is over to vote. There is considerable evidence that many voters make up their minds late in the campaign season (Nir and Druckman 2008; Zaller 2004). For example, “the number of National Election Studies respondents who knew their presidential candidate of choices ‘all along’ has dropped from approximately 40 percent in 1940s and 1950s to well under 20 percent in the 1990s and 2000s” (Nir and Druckman 2008:326).

Chafee and Rimal (1996) identify “campaign deciders” as voters who make their candidate selection(s) during primaries, conventions and debates. These voters are more likely to wait to cast their ballot until Election Day due to their preference for waiting until campaigning is over before making candidate choices. Chafee and Rimal identify voters whose candidate selections are made before campaigns begin as “pre-campaign early deciders.” The vote choices of these voters are anchored to their strong partisan attachments, reinforced by prior voting. When given the opportunity, these voters are more likely to cast their ballots well before Election Day (Stein 1998; Lyons and Scheb 1999; Berinsky et al. 2001).

In VBM elections, we expect “campaign voters” to be more likely to return their ballots in-person since submitting a ballot by mail requires more lead time to ensure it reaches the county election office before Election Day. Conversely, “pre-campaign deciders” are expected to be more likely to mail in their ballots before Election Day, as their candidate choices have been made well before the start of active campaigning. We further suspect that infrequent voters are more likely to be “campaign voters” and more likely to return their ballots on or close to Election Day than frequent voters. We also expect that since last-minute campaign events may have more of an impact for the voting choices of this group, infrequent voters who express a desire to wait until campaigns are over to vote should be more influenced by this preference than
frequent voters who express the same preference. There is ample evidence (Iyengar and Krupenkin 2018) in the literature that shows frequent voters are strong partisans, whose preferences for candidates are largely shaped by their partisan attachments. Their strong attachment to political parties leads frequent voters to make their ballot selections well in advance of the campaign.

Since one of the methods of ballot return depends on using the U.S. Postal Service to deliver one’s ballot, trust in this institution may be relevant to ballot return method. Three-fourths of Americans rate the performance of the U.S. Postal Service as “good” or “excellent” according Gallup polls conducted since 2012 (Gallup 2019). The public’s high regard for the postal service is uniform across a several demographic and social groups. More than two-thirds of Republicans (69%) and Democrats (75%) rate the job done by USPS as “excellent” or “good.” (Gallup 2019). Even among younger populations (i.e., persons under 35) who are less engaged with the postal service, positive ratings of the postal service were well above 60% and comparable to ratings for older populations (OIG 2018).

The Postal Service has been subject of considerable financial problems (Kosar 2015) that might undermine public confidence in the ability of the Postal Service to deliver the mail and especially mail ballots securely and on time. We expect VBM voters who lack confidence in the Postal Service’s ability to transmit mail ballots securely and on time should be less likely to return their ballots by mail. We have no reason or prior research to suggest voter confidence in the Postal Service is conditioned on either prior voting frequency or other demographic traits. We expect confidence in the Postal Service has a positive effect on the likelihood that all VBM voters will return their ballots by mail, independent of other explanations of this behavior.
Another factor that may influence voters’ ballot return method is their desire for a social voting experience that mail ballot return cannot deliver. Downs (1956) and others (Riker and Ordeshook 1968) extended the rational choice explanation of voting beyond economic vote instrumentality by identifying psychological benefits from voting. These benefits can be considered both intrinsic and extrinsic (Gerber, Green, and Larimer 2008). The intrinsic benefits from voting are those that are associated with fulfilling one’s civic duty, independent of the consequences of their vote (i.e., who is elected and policies that flow from that candidate’s election). Extrinsic benefits of voting include the positive reputation that a voter acquires from others knowing they voted as well as avoiding the potential shame from others knowing they did not participate. Shame and disrepute from friends and neighbors are the negative extrinsic consequences that flow from not voting (Panagopolous 2010). Gerber et al. hypothesize that “a citizen becomes more likely to vote with increases in the perceived probability that his or her participation will become known to others” (2014: 35).

There is considerable observational and experimental research to support the hypothesis that the anticipation of social consequences of voting or not voting can affect participation (Gerber, Green, and Larimer 2008; Panagopoulos 2010). These findings are closely related to expectations of others in the voters’ social network (Abrams, Iverson, and Soskice 2010; Bobo and Gilliam 1990; Dawson 1994; Uhlaner 1989), with higher norms of participation increasing the social pressure to participate (e.g., Rosenstone and Hansen 1993; Uhlaner 1989). Research (Gerber, Green, and Larimer 2008) demonstrates “the profound importance of social pressure as an inducement to political participation (2008:33).” Observational research documents that individuals believe others monitor their behavior and can discern how their participation deviates from social norms (Elaad 2003; Gilovich, Medvec, and Savitsky 2000). Gerber, Huber, Doherty,
and Dowling (2014, 2017) demonstrate that individuals positively view voters over non-voters and will take costly action to reward political participation. People often divulge that they voted or engaged in other socially desirable activities to others in expectation of boosting their social standing (Gerber et al. 2015:19). Moreover, the scope of these disclosures are not limited to immediate family members (Gerber et al. 2015:19).4

The effects of the social forces in play to the benefit of voting may be mediated by individuals’ frequency of voting. Frequent voters are more likely to be tied to social networks with high norms of political participation (Abrams et al. 2010). Due to their placement in social networks with high norms of voting, frequent voters should be more likely to be motivated by receiving social benefits or avoiding social shaming. These extrinsic parts of civic duty should be less applicable to infrequent voters, who are more likely to have networks lacking voting norms (Gerber et al. 2014:19).

If frequent voters are more influenced by the social benefits of voting, would they be more likely to express a stated preference for voting with others than infrequent voters are? Or would their stated preferences be the same, but they are more likely to act on their preferences? These two explanations are not mutually exclusive but distinctive. Just because frequent voters maintain social networks with other frequent voters that reinforce the norms of voting does not presume that they have expressed preferences for being seen and seeing others vote. The first explanation relies on frequent voters being more likely to value social voting; that is, they are more likely to want to be seen fulfilling their civic duty by others. If frequent voters are not more likely to express a preference for social voting, the second explanation allows that those frequent voters who are aware of the benefits of social rewards are more likely to act on these preferences than infrequent voters due to the higher salience of these social networks to them.
Infrequent voters who express a preference for voting with others have not had many experiences that demonstrate the social benefits to them. Additionally, due to their placement in social networks with weaker participation norms, they are not under the same pressure from their peers, family, coworkers, and neighbors as frequent voters are. We expect that infrequent voters will be less likely to express a preference for voting with others than frequent voters due to their relative unfamiliarity with the experience and lack of social pressure to be seen as a voter. We also expect that frequent voters who express a preference for voting with others are more likely to act on this preference than infrequent voters since their higher potential social benefits make this preference more salient to them.5

In summary, we expect that distrust in the USPS should make all voters more likely to return their ballots in person, and we do not expect past voting frequency to drive this perception or mediate its’ effect. We also expect that a preference for waiting until campaigns are over to ballot will increase in-person return, and this preference should have a larger effect and be more prevalent among infrequent voters since they are more likely to be “campaign deciders.” Furthermore, we expect infrequent voters to be less likely to state a preference for voting with others, and for this preference to be more salient for frequent voters as seen by increasing their probability of returning their ballots in person. Finally, we expect that infrequent voters are more likely to express high voting costs and their method of ballot return should be affected by a preference for convenience, which should not affect frequent voters.

4. Research Design

As part of a larger study of VBM elections in Colorado, we conducted a survey of Colorado voters before and after Election Day for the 2014 general election to assess voters’ experiences with the new VBM election system adopted in 2013. The telephone survey was
conducted between October 22 and November 10 to capture voters who returned their ballot before and on Election Day, as well as those persons who registered to vote on Election Day or within 21 days of the 2014 election. Interviews were conducted with 1,560 verified voters randomly selected from throughout the state. This information was supplemented with verified voting records from the Secretary of State for Colorado, including the method of ballot return for the 2014 election. We were able to verify the voting history and method of ballot return for 1,428 voters who used mailed ballots. Missing data on the dependent variable arose from voters who did not use a mailed ballot to vote and instead cast their ballots in-person at a voter center. This group includes registered voters who moved since their registration and did not change their address before ballots were mailed on September 24, 2014. These voters could have changed their registration and voted on or before Election Day, but there is no record that any of these voters did so. It also includes those who may not have registered to vote until Election Day and chose to cast a ballot in-person at the same time that they registered. Our sample is further reduced to 1,119 cases due to respondents who answered “don’t know” or “refuse” to one or more of our independent measures. Some researchers choose to report “don’t know” responses as a mid-point value on an ordinal scale (Durrand and Lambert 1988). We consider this choice inappropriate and not justified for our dataset since it is not clear that non-response to these questions is equivalent to ambivalence. For most of the measures there is little evidence that respondents who answered don’t know to our covariate measures are significantly different on either our dependent variable or history of prior voting.

Among voters who received a ballot in the mail, a little more than a third (36%) were observed returning their ballot by mail, with 64% returning their ballot in-person on or before Election Day at either an unmanned drop-off location or a voter service center. This trend
suggests that many voters do not view returning ballots by mail as a significant convenience, or have another reason for choosing to return their ballot in-person.

To identify the costs, social rewards, and other factors that might influence voters’ decisions on how to return their mailed ballots, we asked respondents how strongly they agreed with several questions about features of voting by mail including:

*The costs and inconveniences of voting*
- I don’t like changing my daily routine to vote (+)

*Campaign and pre-campaign deciders*
- I like waiting until campaigns are over before I vote (-)

*Trust in the U.S. Postal Service*
- I trust the U.S. Postal Service to deliver mail ballots securely and on time. (+)

*Social rewards of voting*
- I like voting together with other people. (-)

The sign in the parenthesis indicates whether the preference provides an incentive or disincentive to vote by mail. We expect that persons who do not like to change their daily routine will be more likely to return their ballot by mail, as these preferences express avoidance from the costs of voting. For these voters the costs of voting in-person, on or before Election Day, are thought to be greater than for individuals who do not share this preference. As stated earlier, we expect this preference will have a significant effect only for frequent voters.

Voter trust in the U.S. Postal Service to deliver mail ballots securely and on time should be a strong positive predictor of returning one’s ballot by mail (range: 1-4). We interpret low scores on this trust measure to indicate distrust in the mail system for ballot return as well as for
the initial sending of the ballot by the county. We expect trust in the USPS to have a positive effect on mail ballot return for all voters, both frequent and infrequent.

Voters who like voting with other people (range: 1-4) are expected to eschew returning their ballot by mail (with pre-paid postage) for the more socially rewarding in-person mode of ballot return. While it is difficult to measure peoples’ level of social benefits from voting, we consider expressing a preference for voting with others to be a good proxy for seeking a socially rewarding voting experience. As described earlier, we expect this preference to only have a significant negative effect on mail ballot return for frequent voters.

Finally, we identify voters who prefer waiting to cast their ballot until after campaigning ends (range: 1-4) as campaign deciders; those who eschew this preference are identified as pre-campaign deciders and are expected to return their ballots in-person just before Election Day. This preference should only be salient and have a significant negative effect for infrequent voters.

We measure respondents’ frequency of voting with the annotated voting history of each respondent for the two federal general elections that preceded the adoption of VBM elections in 2013, i.e., 2010 and 2012. Frequent voters are identified by a dummy variable with a value of 1 for those registered voters who were eligible to vote\textsuperscript{10} and voted in both the 2010 and 2012 general elections (76%). For comparability of the frequency measure, those who were not eligible to vote in the 2010 and 2012 elections are excluded from this analysis. In appendix B, we use an alternative measure of primary voters, which marks eligible registered voters who voted in at least one of three federal primary elections including 2010, 2012, and 2014 (48%). We include controls for education, contact with candidates and campaigns, partisan affiliation, gender, nonwhite race/ethnicity, and age in our estimates of how voters chose to return their
VBM ballot\textsuperscript{11}. Since the effects of campaign contact could be different for frequent voters who tend to receive more messages from campaigns, we interact the “contacted” control variable with the frequent voter dummy variable.

5. **Empirical Findings**

Since some of our expectations relate to the level of expressed preferences between infrequent and frequent voters, examining descriptive statistics on these measures and observed behaviors is in order. Table 2 reports the mean scores for each of our main independent measures for all voters grouped together as well as separately for frequent and infrequent voters from our Colorado voter survey. The preferences of frequent and infrequent voters are significantly different on the perceived costs of voting (a dislike for changing one’s routine in order to vote) and their preference to vote after campaigning has ended. As expected, infrequent voters are significantly more likely than frequent voters to prefer voting after campaigning has concluded. Frequent voters are slightly less likely to perceive voting as costly and inconvenient (i.e., prefer not changing one’s daily routine) than infrequent voters, reflecting either that their costs of voting are lower or that bearing these costs is not as burdensome for them. Both frequent and infrequent voters equally expressed a preference for voting with others, which was surprising in that we expected fewer infrequent voters to hold this preference. Similarly, both populations of voters (i.e., 80% +) trust the U.S. Postal to securely deliver their ballots in a timely manner.

It is noteworthy that although nearly two-thirds of all voters return their ballots in-person, frequent voters are significantly more likely to return their ballots by mail (37\%) than infrequent voters (31\%). This difference could arise from their past experiences with mail balloting since Colorado gradually increased the availability of mail ballots over the last decade. However, it
may also be due to the differences in preferences between these groups, or the differing saliency of these preferences between the two groups of voters.

We turn next to the impact of these preferences on the likelihood that respondents returned their ballots by mail (i.e., 1 = by mail, 0 = in-person). Table 3 reports the logistic regression coefficients for the effects of the factors described above on the method by which infrequent and frequent VBM voters returned their mailed ballots in the 2014 midterm Congressional election. We interact our covariates with the dichotomous measure of frequent voters to estimate the effect of different explanations of mail ballot return for each population of voters. The models are estimated with random effects for counties to control for the interdependency among respondents from the same county, possibly as a result of county election administration factors or other county-level differences. These factors could include campaign messaging, demographics, population density, and differences in county election administration like the number of ballot drop-off locations. Since the impacts of coefficients from logistic models with interactions are not easily interpretable from regression tables, we provide figures of the substantive impacts of both one-unit and full range (from 1 to 4) changes in these factors on the probability of returning one’s ballot by mail. To generate these figures, we use a decomposed form of Clarify (Tomz, Wittenberg, and King, 2003) to estimate the means and 95% confidence intervals for the changes in predicted probabilities.

Figure 1a and 1b shows the substantive effect of a change in one’s preference for “not changing one’s daily routine to vote” on the probability of returning one’s ballot by mail. Contrary to our expectation, both frequent and infrequent VBM voters who do not like changing their daily routine to vote were significantly more likely to return their ballots by mail in the 2014 midterm election. The effect of a preference against changing one’s routine appears to be
stronger for infrequent voters, although since the confidence intervals overlap this is not a statistically significant difference. On a four-unit scale from “strongly disagree” to “strongly agree,” a one-unit increase in a voter’s preference against changing routine increases their probability of returning their ballot by mail by around .05 for infrequent voters and .03 for frequent voters. Moving from a 1 to a 4 on this scale increases the predicted probability of returning one’s ballot by mail by .15 for infrequent voters and by .09 for frequent voters. Although those who have strong preferences for convenience are more likely to use the less costly method of mailing their ballots, this effect is relatively weak compared to some of the other factors influencing voters’ method of ballot return, and the 95% confidence intervals for its predicted effects touch zero.

Figure 2a and 2b shows the substantive effect of a change in one’s preference for “waiting to vote until after campaigns have ended” on the probability of returning one’s ballot by mail. For frequent voters, the preference to cast one’s ballot after electioneering has ended had an insignificant effect on how they returned their ballots. However, consistent with our predictions, infrequent voters who strongly prefer to wait for campaigning to end before casting their ballot were significantly less likely to return their ballots by mail. For infrequent voters, a one-unit increase in the preference to vote after campaigning had ended decreased their predicted probability of returning their ballot by mail by approximately .10. Moving from a 1 to 4 on the “strongly disagree” to “strongly agree” scale decreases the predicted probability of an infrequent voter returning their ballot by mail by 0.31. It is interesting that even though some frequent voters report a preference to wait until campaigns are over to vote, this preference does not seem to change their ballot return method like it does for infrequent voters. This difference in effects may be because this preference to wait until the last day of campaigning is more salient for
infrequent voters, who are less likely to have strong partisan preferences. While some frequent voters report that they prefer waiting until the end of campaigning, they may be demonstrating through their actions that they already made their minds up long before the final day of voting.

Figure 3a and 3b shows the substantive effects of a change in one’s “trust in the USPS to deliver mailed ballots securely and on time” on the probability of returning one’s ballot by mail. Both frequent and infrequent voters were significantly and substantially more likely to return their ballot by mail if they trusted the U.S. Postal Service to return their ballot securely and in a timely manner. As trust in the USPS increases by one unit, the predicted probability of returning one’s ballot by mail increases by around .08 for both subgroups of voters. Moving from a 1 (strong distrust) to a 4 (strong trust) increases the predicted probability of a voter returning their ballot by mail by .34 for infrequent voters and by .32 for frequent voters. As noted earlier, a substantial majority of voters in Colorado (80% +) agreed or strongly agreed that the Postal Service could be trusted to return their mailed ballots in a safe and timely manner. However, those voters who do not trust the USPS are clearly substantially less likely to mail their ballots. In its large effect magnitude this factor rivals the preference for waiting until campaigns are over to vote for infrequent voters.

Figure 4a and 4b displays the substantive effect of a change in one’s preference for “voting with other people” on the probability of returning one’s ballot by mail. For both frequent and infrequent voters there are no significant effects of this preference at conventional levels of significance ($p < .05$). However, these is a marginally significant ($p < .10$) and negative interaction term for frequent voters, and Figure 4 shows that the 95% confidence intervals for the effect of this preference for frequent voters does not cross zero. Increasing agreement with the statement “I like voting together with other people” by one unit decreases the predicted
probability that a frequent voter returns their ballot by around .03. Moving from a 1 to 4 on the “strongly disagree” to “strongly agree” scale decreases the predicted probability of a frequent voter returning their ballot by mail by around .12. This estimated substantive effect matches our prediction that only frequent voters are affected by a preference for voting with others, suggesting that even though many infrequent voters stated this preference it is not salient to their decision of how to return their ballots. However, even for frequent voters the magnitude of this effect is small, comparable to the substantive effect of a preference against changing one’s routine to vote.

Table 3 shows that a few control variables have statistically significant effects on voters’ method of ballot return. The first interesting finding is that independently of a voter’s preferences, demographics, and trust in the USPS, being a frequent voter does not have a significant effect on one’s method of ballot return. Also notable is that being contacted by a campaign has a significant and negative effect on returning one’s ballot by mail that is much stronger for infrequent voters than for frequent voters. This difference may be due to different the nature of the mobilization messages these groups received or a result of the comparative rarity that infrequent voters are contacted vs. frequent voters who are bombarded with campaign literature and canvassing.

Demographics also influenced voters’ method of ballot return. Independently of voting frequency, men were slightly less likely to mail their ballots in, although this effect is only marginally significant ($p < .1$). Interestingly, non-white voters were significantly less likely to return their ballots by mail. This may be due to the higher percentage of these respondents who live in urban areas where the proximity of ballot dropbox locations makes in-person return easier. Finally, older voters were significantly more likely to return their ballots by mail. We
attribute this effect to their prior experience using mailed ballots since Colorado slowly increased the accessibility of mail-assisted voting over the last decade.

6. Discussion

When all voters are considered together, the strongest determinant of how they return their ballot, by mail or in-person, is trust in the USPS. This effect is substantial (over .3 in magnitude) and mostly undifferentiated by frequency of voting. However, given the paucity of voters who distrust the Postal Service (i.e., < 20%), this effect is limited to a small portion of the population and therefore does not explain much of the variation in ballot return method. Additionally, both frequent voters and infrequent voters are slightly more likely to return their ballots by mail if they have strong preferences against changing their routine to vote. This effect appears to be stronger for infrequent voters, but the difference is not significantly different. It seems that all voters are affected by a preference for avoiding the costs of voting that come from traveling to a polling location or ballot dropbox.

However, for a couple of other factors, how VBM voters return their ballots is strongly conditioned by prior voting history. The effect of preferring to wait until campaigning is over shows a marked differentiation by past voting frequency. Frequent voters who state a preference to wait until campaigning is over are just as likely to return their ballots by mail as those who do not have this preference. On the other hand, for infrequent voters this preference has a strong negative effect on the probability of using the postal return method. We attribute this difference to the salience of this preference for infrequent voters who may wait until the very end of campaigning to make their final voting decisions.

As expected, frequent voters are slightly less likely to return their ballots by mail when they prefer to vote with others. Though a near equal proportion of frequent and infrequent voters
prefer to vote with others, this preference is unrelated to how infrequent voters choose to return their ballot. For infrequent voters, who may lack the experience of voting with others, this preference lacks salience for their decision-making process. However, the effect of desiring a social voting experience is rather small, perhaps because returning a mailed ballot does not offer as much socializing potential as waiting in line and casting a ballot in a voting booth.

As noted earlier, the adoption of VBM elections is increasing because of the cost savings to local and state governments, the expectation that VBM elections will increase turnout and ballot completion and impose fewer costs to voters (Vote at Home 2019). Our findings suggest that as VBM elections spread, the likelihood that voters will wait until Election Day to cast their ballots and return them in-person will continue and likely increase, off-setting some if not many of the savings associated with VBM elections. It is likely that one of the consequences of VBM elections, increased voter turnout, is a source of the problem with late in-person return of VBM ballots. Many infrequent voters want to wait until the last day of campaigning to make their voting decisions. When the voting period stretches over several weeks, those who lack strong preferences may wait until the very end of this period to avoid casting their ballot and regretting their choice due to a last-minute scandal or some other campaign development. Another possible cause is that frequent voters may acquire a taste for voting with others and being seen voting, leading voters to both return their ballots in-person and on or just before Election Day.

Our findings suggest that different messaging to frequent and infrequent voters might persuade these voters to return their ballots well before Election Day. For example, touting opportunities to return mail ballots in-person at locations close to voters’ homes provides the frequent voter some of the social rewards of seeing and being seen voting, while assuring that ballots are received in sufficient time to be counted before Election Day. For infrequent voters a
reassurance that no major changes will occur in the last few days of campaigning may help mitigate their preference for waiting until the last minute to submit their ballot, and could be sufficient to motivate them to return their ballot by mail by mail before Election Day.

Finally, we should note the implications of our findings for the larger question of why persons vote. Note that infrequent voters are not indifferent to the preference of voting with others, only that this preference is not salient to them and therefore does not affect their behavior. They may lack experience with social voting in part due to the infrequency with which they vote and it may be less important due to the social networks they are in. Future research in the area of social shaming and the social rewards of voting should consider that social benefits differ based on the social networks in which individuals reside. Branching off this idea, scholars might use techniques like social network analysis to see what types of networks are more likely to lead to this preference or to its higher salience.
Table 1: Hypothesized relationships between voters’ preferences and their likelihood of returning a VBM ballot by mail

<table>
<thead>
<tr>
<th></th>
<th>Infrequent Voters</th>
<th>Frequent Voters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dislike changing routine</td>
<td>positive</td>
<td>null</td>
</tr>
<tr>
<td>Wait until campaign is</td>
<td>negative</td>
<td>null</td>
</tr>
<tr>
<td>over</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust Postal Service</td>
<td>positive</td>
<td>positive</td>
</tr>
<tr>
<td>Prefer voting with others</td>
<td>null</td>
<td>negative</td>
</tr>
</tbody>
</table>
Table 2: Descriptive Statistics on Key Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>All Voters</th>
<th>Infrequent Voters</th>
<th>Frequent Voters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dislike changing routine</td>
<td>2.27</td>
<td>2.35</td>
<td>2.25&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>(Range: 1-4)</td>
<td>(0.82)</td>
<td>(0.83)</td>
<td>(0.83)</td>
</tr>
<tr>
<td>Like voting with others</td>
<td>2.16</td>
<td>2.18</td>
<td>2.11</td>
</tr>
<tr>
<td>(Range: 1-4)</td>
<td>(0.77)</td>
<td>(0.73)</td>
<td>(0.77)</td>
</tr>
<tr>
<td>Trust in USPS</td>
<td>1.91</td>
<td>1.93</td>
<td>1.91</td>
</tr>
<tr>
<td>(Range: 1-4)</td>
<td>(0.75)</td>
<td>(0.69)</td>
<td>(0.77)</td>
</tr>
<tr>
<td>Wait until campaign is over</td>
<td>2.14</td>
<td>2.24</td>
<td>2.06&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>(Range: 1-4)</td>
<td>(0.77)</td>
<td>(0.80)</td>
<td>(.75)</td>
</tr>
<tr>
<td>Contacted by campaign</td>
<td>0.55</td>
<td>0.55</td>
<td>0.60</td>
</tr>
<tr>
<td>(Range: 0-1)</td>
<td>(0.50)</td>
<td>(0.50)</td>
<td>(0.49)</td>
</tr>
<tr>
<td>Returned ballot by mail</td>
<td>0.36</td>
<td>0.31</td>
<td>0.37&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>(Range: 0-1)</td>
<td>(0.48)</td>
<td>(0.46)</td>
<td>(0.48)</td>
</tr>
</tbody>
</table>

Table displays mean values for the variables listed, with standard deviations in parentheses. 1 - Mean values for frequent and infrequent voters are significantly different ($p < .05$).
### Table 3: Logistic Regression Coefficients forReturning Ballot by Mail

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>Standard Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent voter</td>
<td>-0.122</td>
<td>(1.206)</td>
</tr>
<tr>
<td>Wait until campaign is over</td>
<td>-0.606***</td>
<td>(0.200)</td>
</tr>
<tr>
<td>Frequent * Campaign over</td>
<td>0.470**</td>
<td>(0.227)</td>
</tr>
<tr>
<td>Vote with others</td>
<td>0.176</td>
<td>(0.223)</td>
</tr>
<tr>
<td>Frequent * Vote with others</td>
<td>-0.449*</td>
<td>(0.248)</td>
</tr>
<tr>
<td>Trust USPS</td>
<td>-0.701***</td>
<td>(0.240)</td>
</tr>
<tr>
<td>Frequent * Trust USPS</td>
<td>0.0294</td>
<td>(0.267)</td>
</tr>
<tr>
<td>Dislike changing routine</td>
<td>0.387**</td>
<td>(0.192)</td>
</tr>
<tr>
<td>Frequent * Routine</td>
<td>-0.161</td>
<td>(0.214)</td>
</tr>
<tr>
<td>Contacted by campaign</td>
<td>-1.017***</td>
<td>(0.304)</td>
</tr>
<tr>
<td>Frequent * Contacted</td>
<td>0.694**</td>
<td>(0.343)</td>
</tr>
<tr>
<td>Education</td>
<td>-0.0465</td>
<td>(0.0494)</td>
</tr>
<tr>
<td>Democrat</td>
<td>-0.0382</td>
<td>(0.184)</td>
</tr>
<tr>
<td>Republican</td>
<td>-0.0686</td>
<td>(0.183)</td>
</tr>
<tr>
<td>Male</td>
<td>-0.270*</td>
<td>(0.144)</td>
</tr>
<tr>
<td>Non-white</td>
<td>-0.436**</td>
<td>(0.196)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0109**</td>
<td>(0.00473)</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.340**</td>
<td>(1.131)</td>
</tr>
<tr>
<td>Var(Constant) by county</td>
<td>-2.406**</td>
<td>(0.955)</td>
</tr>
</tbody>
</table>

Observations: 1,022  
Number of counties: 49

Standard errors in parentheses. Model includes random intercepts for counties.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
Figure 1a: 1-unit substantive effect

Figure 1b: Full substantive effect
Figure 2a: 1-unit substantive effect

Figure 2b: Full substantive effect
Figure 3a: 1-unit substantive effect

[Diagram of Figure 3a showing effect of trusting USPS on the change in the probability of returning by mail for infrequent and frequent voters.]

Figure 3b: Full substantive effect

[Diagram of Figure 3b showing full substantive effect of trusting USPS on the change in the probability of returning by mail for infrequent and frequent voters.]
Figure 4a: 1-unit substantive effect

Figure 4b: Full substantive effect
Bibliography


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National Conference of State Legislatures. 2019. “All Mail Elections (aka Vote-By-Mail),”

http://www.ncsl.org/research/elections-and-campaigns/all-mail-elections.aspx


Endnotes

1 The most prominent anomalous finding in the literature is that in-person early voting, intended to increase voter turnout has a significant and negative effect on voter turnout (Richey, 2008; Larocca and Klemanski, 2011; and Burden et al., 2014).

2 For example, despite the fact that all registered voters in Colorado are mailed a ballot, voters can choose to cast a ballot at an in-person vote center during the early voting period or on Election Day (or drop off, or mail, their ballot back).

3 Colorado voters were highly familiar and experienced with voting by mail well before VBM elections were first used statewide in the Colorado 2013 coordinated election. Since 2008 Colorado afforded their voters no-excuse permanent absentee voting, where voters could permanently request a ballot be mailed to them before each election. In 2010 and 2012 the share of the vote cast by mail was 59% and 64%, respectively. In 2014 the share of the vote cast by mail rose to 96%. The 2014 midterm Congressional election in Colorado featured partisan contests for governor, attorney general, state treasurer, secretary of state, U.S. Senator, and the state’s entire congressional delegation. There were four measures on the ballot dealing with abortion, gambling, collective bargaining and food labeling. We do not believe any of the
measures or contests on the 2014 ballot conditioned how preferences for waiting to vote until campaigning ends influenced how VBM voters returned their ballots.

4 “[a]lmost 80 per cent of respondents to a module fielded as part of the post-election 2008 CCES reported sharing their vote choices with at least one other person, and over 30 per cent reported sharing their choices with more than ten people (2015:19).”

5 In their reanalysis of 11 GOTV field experiments Arceneaux and Nickerson (2009) find that low propensity voters (i.e., infrequent voters) can be mobilized through various messaging including appeals to social rewards, but only in high-turnout elections.

6 County clerks began mailing ballots to all registered voters in their respective counties starting on October 18, 2014. Three waves of interviewing were conducted with a sample of registered voters beginning October 23-26, October 31- November 1-3 and November 5-7. Records of persons who cast a ballot on or before Election Day as well as those who registered and cast a ballot within 21 days of Election Day or on Election Day were obtained from the Colorado Secretary of State’s (SOS) office. Respondents were sampled based on their having submitted a ballot in the 2014 general election prior to the survey wave. Phone numbers for these voters were obtained from SOS’s list of registered voters and a national telephone registry database with a 78% rate of successful matching. The APPOR #4 Response Rate for the survey was 34%.

7 105 respondents reported not receiving a ballot in the mail, possibly explaining why they chose to vote in person. These voters already needed to travel to a voter service center to receive their ballot, so filling it out and returning it at the polling place was most convenient for them. Nearly all of these respondents (N = 83) reported registering to vote in 2014. It is possible that these people registered after ballots were mailed to all registered voters.
A potential concern with our survey is that querying voters about their preferences for how, when, and where they cast their ballot may have primed respondents to provide *post hoc* justifications for how they returned their ballot. We assess the likelihood that respondents were primed as low for two reasons. First, we never asked the respondents how they returned their ballot, i.e., by mail or in-person. Our measure of how a voter returned their ballot, by mail or in-person, is obtained from the official voting records from the Secretary of State for Colorado, not self-reported behavior from our survey respondents. Second, we ask our questions about voter preferences for how they prefer to vote early in the survey, avoiding priming effects on these questions from others asked in the survey.

Strongly agree (4), Agree (3), Disagree (2) and Strongly Disagree (1).

Thirty-four respondents were not eligible to vote in both the 2010 and 2012 general elections.

The Colorado voter file contains information on voters’ age, gender, party registration, and past voting. Other measures such as race and ethnicity were obtained from our survey.

Approximately the same substantive results are retrieved when a standard logistic model is run without random effects. Alternatively specified models with dummy variables for counties and clustered standard errors also produce similar results.