The University of Colorado at Boulder

The Department of Political Science

Hues and cues of voting behavior on ballot initiatives:

Party affiliation and direct democracy in Colorado

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How do voters behave when faced when faced with direct democracy measures? What informational cues do voters rely on when, unlike candidate races there is no explicit labeling of an "R" or a "D" on the ballot? I used election results from the 2014 midterm and 2016 presidential elections in Colorado to determine 1) if people do indeed vote on initiatives according to their political affiliation, 2) to what degree people vote in a partisan manner, and 3) what factors within and outside of an initiative impact the partisanship of their vote. I found that, to a high degree, a person's vote on almost all direct democracy measures largely depends on their political affiliation. This partisan loyalty was strongest during the presidential election, but only slightly less strong during midterms. Democratic and Republican activity both had a significant effect on the partisanship of voting. This effect differed depending on the party and upon the affiliation of the precinct. I also found that people seem to view direct democracy measures in general (or an affirmative vote on them) as partisan in the liberal direction. Another general trend was libertarian/anti-authoritarian sentiments, both on the right and the left. My findings suggest that people tend to view all issues through a partisan filter, and the cues informing those categorizations may be intuitive or signaled through party activity. They also suggest that direct democracy is viewed by default as a departure from the status quo, and that the states that have the most success with direct democracy will be Democratic ones or those with libertarian tendencies.

1.0 Introduction: the roots of voter behavior

One of the most fascinating cases of atypical (or at least politically-counterintuitive) voter behavior was the passage of Proposition 64 in Colorado in 2012. A citizen-initiated ballot question, Proposition 64 legalized recreational marijuana in a state notoriously friendly to direct democracy. Naturally, the Colorado Republicans came out in opposition to the measure. With legal recreational marijuana being relatively far outside the establishment Democratic platform, the state party opted to take no official position. The Democratic governor John Hickenlooper opposed it and other Democratic lawmakers took varying positions. The fact that the amendment passed with 55% of the vote is a testament to Colorado's rebellious political identity and to obstinately independent voting behavior. Despite having no support from either major political party, the passage of Amendment 64 was proof that many voters made a decision autonomous

from their affiliation. Libertarian-leaning Republicans were almost certainly largely responsible for this victory.

Most importantly, this singular event embodies a plethora of the elements at play in nonpartisan elections and voting on ballot initiatives. The sometimes-unexpected behavior of voters is fertile ground for understanding partisan identity and how it informs supposedly issue-based decisions. For every time, such as with Amendment 64, partisanship seems to matter less, there are even more times that it matters a great deal. In fact, partisanship is such a strong determinant of voting on most ballot initiatives that political parties can use direct democracy measures as a way to turn out their base voters. This is exactly what the Republican campaign intended to do during the 2004 presidential election when they used initiatives banning same-sex marriage in Michigan and Ohio to increase voter turnout for George W. Bush, betting that voting on the initiative would be so partisan that Republican voters would show up more for the measure than for their own candidate (Smith 2006). We can see that voters behave more independently of party at some times than others, and it is a worthy endeavor to ask "why."

The following paper will ask how voters behave when faced with a nonpartisan choice in an election, and in answering, will inquire as to the particular effects of type of election, political affiliation, and voter cues including positions taken by the two major parties. Of the many choices on a ballot that can appear absent a conspicuous "(R)" or "(D)" or even "(L)" beside them, ballot initiatives will serve as our observatory vehicle for a type of voter behavior that has been widely studied for its implications about the fundamental principles of voter behavior. One aspect I will examine in particular is how political affiliation affects voting decisions on ballot initiatives, specifically, the *partisanship* of those decisions. That is, what factors affect how much voters' choices defect from their affiliation when faced, not with a political party, but with

an issue? The answer to this question will be telling in terms of how adept voters are at determining partisanship under murky circumstances. Ballot measures offer neither explicit party cue nor are they always concerning partisan issues. In their absence, the choices voters make on ballot measures with respect to their own partisan affiliation can show us if they are indeed able to sort presumably apolitical content into ideological categories. If they are, this will indicate that today's hyper-partisan political landscape has been successful in not only politicizing people, but policy as well.

Three factors I will examine that may affect voting on initiatives will be party elite activity, year/type of election, and the fiscal nature of ballot initiatives. Party elites will be defined as state legislators, U.S. legislators, state-level office holders, and notable national-level party elites. Because elites can associate themselves with an initiative by endorsing or opposing it, I will ask if/how party activity on an initiative shifts support for that initiative and the partisanship of the voting on it. Using 2014 and 2016 as my election cases allows me to compare voter behavior within midterm and presidential elections respectively.

The content of the ballot measures themselves may also affect how partisan voting behavior on them is. Testing the relationship between party affiliation and voting on these initiatives will show if and how voters perceive certain issues as intuitively political and how they categorize them ideologically. Because ballot measures of a fiscal nature (raising taxes, etc.) are more technical and convoluted in their wording than issues of, for example, a social nature, I will also ask if voters perceive them as any less ideological.

The following investigation will add to two primary categories of election research. The first, voting behavior on nonpartisan decisions, has been more thoroughly studied in the cases of nonpartisan candidates and less for direct democracy measures. The relationship between direct-

democracy initiatives and political parties is a related-but-separate category that has been subject to qualitative research and case studies. This project will expand the research to ask if the decisions voters make on ballot initiatives with either an implicit partisan-leaning or explicit official endorsement/opposition defect from their political affiliation. In other words, I am asking if a choice that is technically nonpartisan is actually subject to political biases and if voters will treat initiatives as independent from political party or as simply an extension of their political affiliation.

1.1 Voter cues

A voter cue is a type of information that an individual uses to make a voting decision. These can range from the substantive and meaningful (a candidate's affiliation) to the superficial (how foreign-sounding a candidate's name is). In the case of elections, voter cues can come from within an initiative or be externally-sourced. Voter cues from within an initiative can be whether or not it pertains to a highly-politicized issue like abortion. The inclusion of the word "abortion" in the text of the measure will signal to the average voter where an affirmative vote for the initiative would fall on the political spectrum. The strength of the cue will depend on the strength of the ideological association within the voter's mind. Measures with technical and abstruse wording will therefore have a weaker cue than more obviously ideological ones.

External informational cues can include positions taken by party elites, other content on the ballot, advertising campaigns for and against the measures, opinions of friends, and access to information. While perhaps not intuitive, type of election is a voter cue because different types of elections (midterm and presidential) create different informational environments for voters, each essentially containing a unique set of cues within themselves. Whether or not visible members of one of the two major parties associate themselves with a ballot issue can be a powerful signal to

a voter of 1) the measure's ideological content and 2) if a measure is establishment or anti-establishment in nature. Official positions taken by elites can be communicated and accessed by voters via interviews, campaign press releases, statements on campaign websites, and statements issued on social media.

It is this type of atypical voter behavior (or lack thereof) that it will be important to identify and then discover which factors allow it to occur.

Ballot measures can originate from one of two sources. Initiatives are the most grassroots-direct democracy and are initiated by citizens (usually via interest group organizations or PACS). Referendums are measures that are introduced in the state legislature before being put before voters. Therefore, on the supply-side end, political parties are only *formally* the source of ballot referendums. Historically, many referendums in Colorado have had bipartisan co-sponsors. Interest groups and PACs are increasingly taking the lead in creating and campaigning for initiatives in the areas of education, tax reform, and social issues (Magleby 1984). Political parties might take official positions on initiatives that align or conflict strongly with their platform. Elites from either party may also take official positions, potentially with members within the same party taking opposing sides.

1.2 Within the canon of research

This paper will try to answer the question of why the Progressives fell short of their goal of decreasing the power of political parties through direct democracy measures. Inevitably, the answer will likely involve the unprecedented levels of political polarization in the modern U.S. Further work on this topic should look into methods of civic engagement that can be implemented to make the choices of voters (on initiatives and otherwise) more reflective of their

personal preferences instead of a blind, tribal party preference. Making democracy more accessible and understandable to more people will create a more informed electorate that may no longer have to lean so heavily on the informational heuristic of party.

Political operatives from both parties can benefit from results regarding the effectiveness of elite activity on amendments. Consultants working for interest groups and PACs that are the source of most direct democracy measures can benefit from learning what types of initiatives are most successful, as well as how certain content with seemingly politically-neutral ideology can still be perceived as partisan by voters.

One might take away from the story of Prop. 64 that Colorado is a unique state, governed by libertarians and anarchists bent on upending the political establishment, so much so that any study on its electoral behavior would be impossible to expand to other states. In actuality, Colorado is an ideal state for investigating direct democracy as it relates to voter behavior. There are seven broad forms of direct democracy available to states: legislatively referred statutes, legislatively referred amendments, citizen-initiated statute, citizen-initiated amendments, veto referendums, and recalls. Colorado is one of the few states that enables all seven. This is coupled with its current identity as a purple state, meaning that Colorado voters represent a diversity of political opinions. Unlike other states friendly to direct democracy like Washington, Colorado has counties with high enough populations with which to do meaningful quantitative research.

1.3 Ballot measure descriptions

The following ballot measures are described by what an affirmative vote for them would mean:

Amendment 67	Unborn children will be considered persons under the Colorado Criminal Code and Wrongful Death Act
Amendment 68	An education fund will be established with revenues from expanded limited horse race gambling
Proposition 104	Collective bargaining negotiations during school board meetings must be open to the public
Proposition 105	Processed or raw agricultural product foods that contain GMO ingredients must be labeled as such.
Amendment T	The section of the state Constitution which allows forced, unpaid labor by prisoners will be removed
Amendment U	Possessory interests of less than $6,000 will not be taxed
Amendment 69	Colorado will establish a state-run healthcare system
Amendment 70	The minimum wage will be increased incrementally until it is $12.00 in 2020
Amendment 71	There will be stricter rules regarding distribution and requirement for a higher threshold of signatures for citizen initiatives to make the ballot
Amendment 72	Cigarette taxes will increase by $1.75 per pack
Proposition 106	Medically-assisted death will be legal in some situations
Proposition 107	Colorado will have open presidential primaries
Proposition 108	Unaffiliated voters can participate in a party's presidential primary

1.4 Hypotheses

In general, I expect people to vote according to their partisan affiliation on all ballot initiatives, with their party loyalty increasing the more intuitively ideological the content of the initiatives is. Social issues with strong political connotations should have the most partisan voting, while economic issues or those with technical and convoluted wording might not provide enough partisan cues to inform voters how to make their decision.

When comparing the election years of 2014 and 2016, I am also comparing election type of midterm and presidential. Presidential elections have an increased amount and intensity of information available to voters, which I expect to increase the partisanship of the voting on ballot measures. However, because midterm elections have a lower turnout of primarily party-loyalists who are likely more politically informed than the presidential electorate(source?), this effect may be dampened.

Because party elites take the time to vocalize their support or opposition to measures via their social media or public statements and risk their association with potentially failure-fated measures, I expect their activity on issues to affect the partisanship of initiative voting. Accordingly, strong activity on behalf of party elites should increase partisanship of voting to a greater degree than weak activity.

2.0 Previous work

The principles of my research are informed by works that roughly fall into the following categories: voting behavior, partisan voting on non-partisan races, ballot initiative voting, partisan voting on initiatives, and elite activity.

As a product of the Progressive Era that was intended to counter the power of political parties, ballot initiatives are one of the most direct ways for voters to manifest their policy preferences. Ballot initiatives and referenda are similar direct democracy measures in that they both require the final approval of the majority of the electorate via a choice on the ballot. Ballot initiatives are the most grassroots of the two, being citizen-initiated and requiring a given number of signatures in order to make it on the ballot. Referenda are proposed by the legislature and can serve as a way to advance policies or agenda. Colorado is unique in that any policies

made in the legislature that have the effect of raising taxes must be approved by voters, according to the Taxpayer Bill of Rights (TABOR).

Direct democracy proponents that ballot initiatives give citizens a greater sense of power in their own representation and subsequently increase voter turnout. Normative scholarship on the relationship between direct democracy and voter turnout would suggest that the presence of ballot initiatives has the ability to increase voter turnout. However, there is little evidence for that causality, at least on an aggregate level over the 20th and into the 21st century. It takes little more than common sense to see that voter turnout has declined and continues to decline, while at the same time direct democracy measures have been adopted by more states. However, a study using voting data for races in the period of 1970 to 1996 for all 50 states found that voter turnout increased with the use of direct democracy measures in the states that adopted their use, suggesting the overall lack of correlation may be due to disparities existing in the laws between states (Tolbert and Smith 2001).

2.1 Voting behavior

One the most foundational theories in the political science of elections is that political affiliation is the single greatest predictor of a person's vote choice (Campbell et al. 1960). In the case of candidates, it may still seem intuitive that deferring to the partisan affiliation of a candidate instead of actual policies would lead to voters making decisions that are not aligned with their actual beliefs. However, partisan affiliation of a candidate is a useful heuristic that carries an entire set of policies within a single letter.

Voting on ballot initiatives is informed by the same principles governing voting in general, which can usually be distilled to heuristics and snap decisions. Because being the ultra-informed voter envisioned by the founding fathers would a time-consuming enterprise, almost all

people make voting decisions based on a small number of informational cues without knowing the full facts of a candidate's policies or an initiative content. Because humans are limited information processors, they only process only a small amount of information to which they are exposed. Perception and storing of incoming data are structured by prior expectations and cognitive schemata, and hence humans have developed a vast array of cognitive heuristics that allow them to make good decisions based on limited information (Lau, Redlawsk 1997).

That is not to say that such informational shortcuts result in "bad" decisions and an effectively non-democratic system. In fact, they don't even result in seemingly-uninformed decisions. According to the concept of correct voting, people vote "correctly" if they make the same voting choice that they would have made if they were fully informed about the subject of the choice. Because it has been shown that voters vote correctly (on candidates) 75% of the time, it is less a case that we live in a non-democracy than that we live in a sufficient democracy, since the time investment required to be truly informed is all but impossible to achieve (Lau, Redlawsk 1997).

The concept of correct voting carries through to ballot initiative vote. When a slew of complicated ballot initiatives related to insurance appeared on the ballot in 1988 in California, voters with little factual knowledge used insurance industry preference shortcuts to make decisions similar to voters who were factually informed (Lupia 1994a). This suggests that efficiency need not lead to significantly lower-quality decisions. Additionally, it has been shown in an experimental setting that knowing about the source of funding for initiative can be used by uninformed voters to make the same choices as voters fully informed about the initiative (Lupia 1994b).

2.2 Partisan voting on non-partisan races

In examining how people make choices on nonpartisan ballot measures, this paper will address the misperception that removing explicit partisanship from a ballot will result in decision-making that is completely independent from party affiliation. Progressives in the early 20th century were instrumental in advancing nonpartisan elements on the ballot under the presumption that this would force voters to make decisions based on personal preferences beyond affiliation. This belief, while fundamentally intuitive, is also idealistic and misleading since it presumes that voters will not fall back on another shorthand to determine partisanship even if an explicit one is unavailable.

Studying these nonpartisan races in general can be useful when many of the principles at play in initiative voting are also present in races with non-partisan candidates, since in both races voters must rely on information cues besides a visible "D" or "R" on the ballot. Again, they also have similar origins, both being measures favored by Progressives in the late-19th and early-20th century with the goal of weakening what they believed to be the corruptive power of political parties. Work done in the mid-20th century found that nonpartisan elections weaken political parties in the immediate area they are held, and that nonpartisan elections "frustrate" protest voting, since dissatisfied voters usually use the protest vote on a party basis (Adrian 1952).

In the case of judicial retention elections, the fact that they are nonpartisan has been shown ineffective in removing political affiliation in voter choice, especially when campaign spending is high and when a reasonable amount of information is available to voters. In these races, voters have been shown to be able to infer political affiliation from ideological and issue-based cues. This may also be the result of the modern tendency to sort people and candidates along strict ideological and party lines (Bonneau and Cann 2015).

Information availability is important here. The more information of a partisan nature that voters are provided about a judicial retention race, the more likely they are to vote in a partisan manner. For instance, if voters knew that a judge was nominated by a Democratic governor, they would most likely cast their vote in line with their respective affiliation (Squire and Smith, 1988).

There is some evidence to the theory that races with nonpartisan candidates can *lessen* the effect of political party even if they cannot remove it entirely. One study using nonpartisan candidate voting data (including results from candidate races in a city that switched from partisan to nonpartisan) found that in nonpartisan races, voters voted less according to political party than incumbency (Schaffner, Streb and Wright 2001). This suggests that yes, the effect of party can be weakened, but voters are still falling back on yet another decision-making shorthand (incumbency) rather than other information.

This behavior may also be distinctive depending on affiliation. "Party defection," or not voting with one's affiliation, was more common among well-informed Democrats than well-informed Republicans in nonpartisan state supreme court races (Baum 1987).

2.3 Partisan voting on initiatives

While there is mostly a consensus on whether or not partisanship affects initiative voting, the field of research is still evolving. According to one theory, because ballot initiative campaigns are run by actors with different incentives than political parties, political party cues are more or less absent from direct democracy elections (Gerber and Lupia, 1995; Magleby 1984). However, there is a great deal of evidence that this is rarely the case. According to established theory, partisanship is likely to be one of the strongest indicators of voting on initiatives (Tolbert and Smith, 2001). With ballot initiatives, informational cues communicating

ideology must be achieved either through the association of either party with the initiative, or the content of the initiative being strongly associated with a liberal or conservative ideology. The case of the official English movement in California illustrates two possible principles for partisan voting on ballot initiatives. A proposition making English the official language of California split voters along ideological lines, with Republicans voting "yes" by a much greater margin than Democrats (Citrin et al. 1990).

2.4 Elite activity

In terms of supply-side motivations, research suggests political parties exert their influence on ballot initiatives in three primary ways: 1) to use increased turnout for the initiative for the election of their candidate; 2) to use the initiative as a wedge issue to divide the other party; 3) if there is a great deal of overlap between the initiative and the party's platform or vice versa (Smith and Tolbert, 2001).

Elite's have wielded their power of influence in the past to varying degrees of success. In 2004, Republicans were highly active in supporting (and drawing attention to) initiatives on the ballots in Michigan and Ohio that banned same-sex marriage, with the dual purpose of increasing Republican turnout for the presidential election. The presence of the initiatives on the ballot increased voter turnout compared to 2000, with George Bush winning the race in Ohio (Smith *et al.* 2004). Less successful were elites in influencing voting on the official English movement in California, where Republicans overwhelmingly voted for the measure despite almost the entire state legislature (including Republicans) opposing the initiative (Citrin et al. 1990). This might align with the general principle that it is easier to get someone to vote against something than for it (Magleby 1984).

3.0 Methodology

3.1 Ecological inference

Even though I am studying individual-level voting behavior, I will be using precinct-level election results. This is a case of ecological inference, where the behavior of an aggregate is used to determine the behavior of individuals in the aggregate. One might reach incorrect conclusions about the behavior of individuals by determining aggregate behavior if the group behavior is not reflective of individual behavior. For instance, a 1919 paper on how women voted on a referendum in Oregon used precinct-level data to determine correlation between how many women were in a precinct and that precinct's proportion of the "yes" vote (Ogburn and Goltra 1919). However, the assumption that women would vote a certain way and would show a certain correlation if one existed invalidated the results. If individual men within the precincts voted in an unexpected direction, there would be no way to know this from the precinct-level data, hence the ecological inference problem (King, 1997). My paper, however, is testing the correlation between the proportion of a precinct voting Democrat and the proportion voting "yes" on a measure. The relationship between partisanship and initiative voting has been well-enough established in political science that I would not be reversing the real individual behavioral trends by using ecological inference. In a more general sense, precincts are a sufficiently small unit of people to use ecological inference with a high degree of confidence. And, because precincts are small and relatively homogenous in terms of demographics and political makeup, I can expect their behavior to reflect that of the individuals within them (King, 1997).

4.2 Data collection

I obtained election results from 2014 and 2016 from six Colorado counties: two majority-Democratic voters (Boulder and Denver); two majority-Republican voters (Morgan and Douglas); and two historically "swing" counties (Arapahoe and Jefferson). Each of the three years represents a unique category of elections. 2014 is a midterm, with state and national-level candidates running under a party banner but without the relentless informational cues present in presidential elections. 2016 is a presidential election that dominated the headlines for well-over a year, and involves even greater party involvement and spending than the midterms.

Most counties provided precinct-level election results in the form of PDFs or Microsoft Excel documents in the Elections sections of their websites. I emailed county clerks to obtain election results not posted on the county website.

4.3 Scoring

Political affiliation of individual precincts was determined by the way the entire precinct voted in the U.S. Senate races from 2014 and 2016, ie. the proportion that voted Democrat and the proportion that voted Republican. Because this paper is testing party loyalty, and because ideology tends to line up on a political binary, only the votes for the Republican and Democratic candidates were included. By standardizing the proportions to Democrat, I will assign each precinct a Democratic proportion of the vote. For 2014, that will be the proportion of votes for Mark Udall out of total votes for Mark Udall and Cory Gardner, and in 2016 it will be the proportion of votes for Michael Bennet out of the total votes for Michael Bennet and Darryl Glenn. I used voting on Senate races to determine affiliation for two reasons: 1) Partisan affiliation is the most accurate determinant of how someone votes on a candidate (Campbell et

al. 1960) and 2) People know less about Senate candidates than they do about Presidential candidates and are therefore more likely to vote according to their ideology and the "D" or "R" informational cue on the ballot than more specific personal preferences.

In order to see the extent of partisanship in votes on initiatives, the expectation is that the initiatives themselves must have a discernible partisanship. Many of the initiatives I analyzed had issue content where a "yes" or "no" vote aligned clearly with a political ideology. Amendment 67 was a pro-life constitutional amendment with a "yes" vote clearly aligned with a Republican/conservative ideology.

However, some initiatives have no clear ideology behind an affirmative vote for them. Proposition 108 opened up primary elections to unaffiliated voters. Since allowing unaffiliated voters to participate in the primaries of established parties has neither been taken up by either Republicans or Democrats as a major issue nor draw upon issues with a highly partisan connotation, it is difficult to code them as Republican/conservative or Democratic/liberal. Without coding these initiatives, I was unable to do statistical analysis to determine if voters behave politically should if I could not determine what a political vote would look like on them.

To solve this problem, I ran individual regressions for all 13 initiatives, propositions and referenda to determine 1) if there was indeed a partisanship to the way people voted, and 2) in which direction of ideology did the correlation point. I used proportion Democrat in the precinct as the independent variable and proportion of the precinct voting affirmatively on the measure as a dependent variable. All initiatives showed enough correlation between proportion Democrat and proportion voting "yes" ($p<0.0000$) to warrant assigning them a partisanship. The sign of the coefficient determined if they were conservative (negative) or liberal (positive). I created the variable "alignpct" to describe the proportion of the vote on the initiatives that went in the

direction that Democrats would typically vote. If the coefficient of the regression was positive, this alignpct would equal the proportion of the voters voting affirmatively on the initiative (yes proportion=alignpct). If the the coefficient of the regression for the initiative was negative, Democrats would vote in the "no" direction, so the alignpct variable would equal the proportion voting no (1-yes proportion=alignpct).

For the pooled regressions, I used proportion of the precinct voting Democrat for my independent variable and alignpct for my dependent variable. Elite activity on the Democratic and Republican sides was a dummy independent variable as was whether or not the initiative content was a fiscal issue. Measures of a fiscal nature were scored 1 and all others were scored 0.

I scored elite activity on ballot initiatives using Ballotpedia data. When no Democratic elites took a position on an initiative, the initiative received a score of 0. Initiatives where less than five Democratic elites did not take a position *and* no state-level elite (Governor, U.S. Senator, Secretary of State, national Democratic figure) *but* at least one elite did take a position received a "demeliteactivity" score of 1. When either a state-level elite took a position or at least 5 elites took a position, the initiative got a score of 2. The same applies for Republican activity. Referendums (legislature-initiated measures) received an automatic score of 2 for whichever parties the legislators sponsoring the measure were affiliated with.

2.0 Results

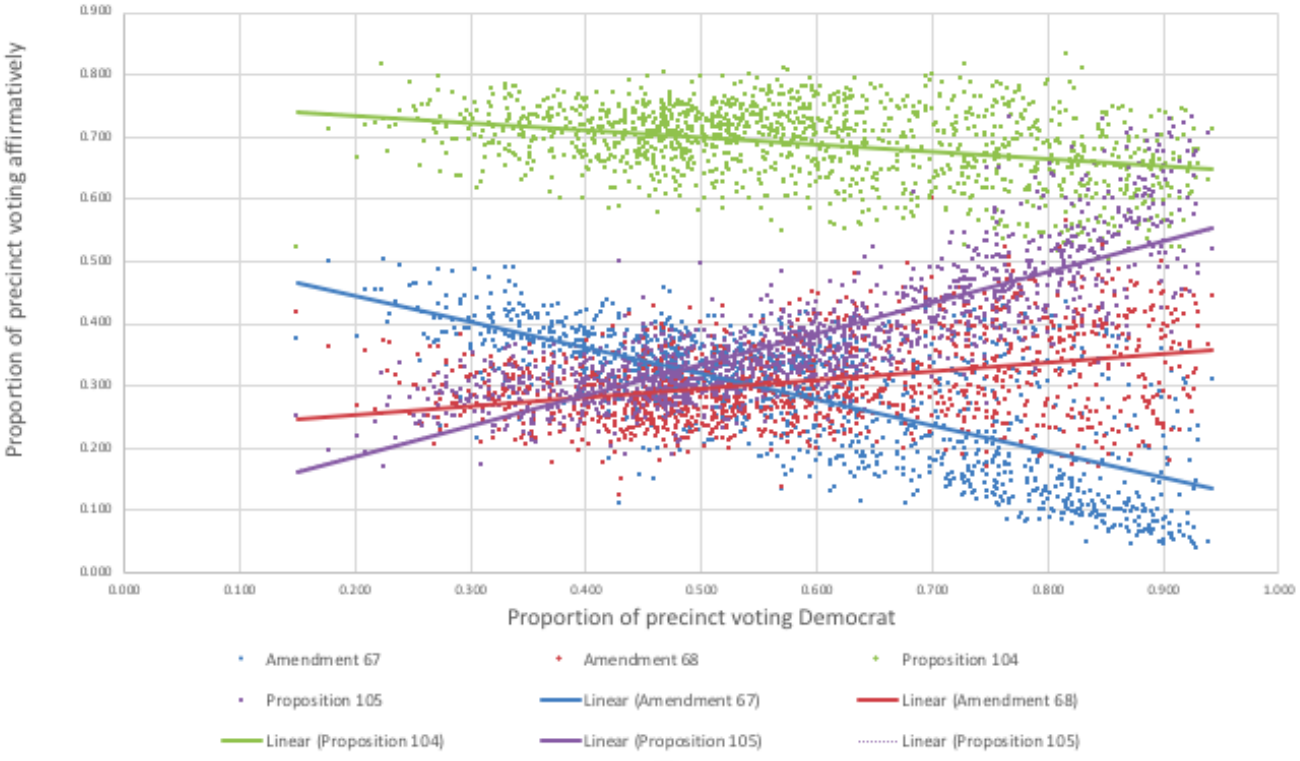

Figure 1. Precinct-level voting results from 2014 midterm election by ballot measure

Figure 1. Lines of regressions for all ballot initiatives for 2014 general election. Proposition 104 has the highest overall support (y-intercept) but lowest correlation (slope of trendline) between Democratic affiliation and voting "yes" on the measure. Democratic affiliation and voting "yes" on Amendment 67 has a strong inverse relationship, while affiliation and voting "yes" on Proposition 105 has a strong positive relationship. Voting "yes" and affiliating as "Democrat" have a weaker, but positive relationship for Amendment 68. Proposition 105 has the lowest y-intercept of all the measures.

Table 1: Affirmative voting on ballot measures as a function of Democratic affiliation in 2014

	Coefficient	*t-value*	R^2	*Adj.* R^2	*F-test*	*y-intercept*
Am. 67	-0.417	-37.49***	0.509	0.508	1405.24	0.529
Am. 68	0.139	13.88***	0.124	0.124	192.71	0.227
P. 104	-0.117	-13.73***	0.122	0.121	188.43	0.758
P. 105	0.494	55.08***	0.691	0.691	3034.30	0.087

**p < .05, **p<.01, ***p<.001*

4.1 Individual regressions

Proposition 104 (open collective bargaining school board meetings) had the weakest relationship between the variables of the measures with a coefficient of -0.117 and was the measure with the worst linear fit (R^2=0.121). There may be little correlation between partisanship and voting on this particular initiative for several reasons. School board meetings might be considered such an institutional issue that voters have a hard time assigning ideology to the measure. Where ideological cues exist, they are contradictory. An affirmative vote for the measure acknowledges some degree of suspicion towards collective bargaining, which suggests a Republican ideology. However, an affirmative vote is also in favor of government transparency, which is a cause championed both by those in the libertarian right and left. Voters may not be politically-informed enough to associate collective-bargaining rights with a liberal perspective.

The small negative correlation does suggest that overall, voters perceived the measure as partisan in nature. Amendment 104 was not technical or convoluted enough in its wording to suggest the weak relationship in variables was due to a lack of comprehension.

Amendment 67 (establishing personhood for fetuses) had a strong relationship between partisanship and voting, a negative correlation between the variables, and a relatively linear relationship (R^2=0.509), suggesting that it was universally viewed as conservative. It takes little nuance to realize that a pro-life initiative further to the right than position taken by most establishment Republicans would be perceived as such. Interestingly, the intercept of the line of regression was 0.529, meaning that even in the most conservative precincts with the fewest Democrats, rarely more than 50% of voters voted affirmatively for Amendment 67. This may have been because Amendment 67 was too extreme and far-right in its rethinking of existing law to be appealing even to Republican voters and because it was extreme in its authoritarian implications, which is unappealing to Colorado Republicans with libertarian leanings.

Amendment 68 (revenues from increased racetrack gambling) had a coefficient of 0.139, suggesting that people perceived it to be liberal in nature, but only by a small margin. Expanded legalization of a previously illegal activity has a clear libertarian alignment and new taxes has a clear liberal one. Partisanship may have had less of an effect on voting (R^2=0.124) for this measure due to the technical nature of fiscal issues.

Proposition 105 (GMO food labeling) had the highest coefficient of all the initiatives at 0.494 and the best linear-fit model (R^2=0.691), suggesting that partisanship is a strong determinant of vote on this initiative, and that voters view GMO labeling as highly ideological and highly liberal at that. GMO labeling is not part of establishment Democratic dogma or platform. However, Colorado in particular hosts significant liberal *cultural* associations with

anti-GMOs, as evidenced by the battles over GMO sugar beet farming in certain areas. The low y-intercept of 0.087 suggests that the measure had a low overall appeal due to its nanny-state implications.

Figure 2. Precinct-level voting results from 2016 presidential election by ballot measure

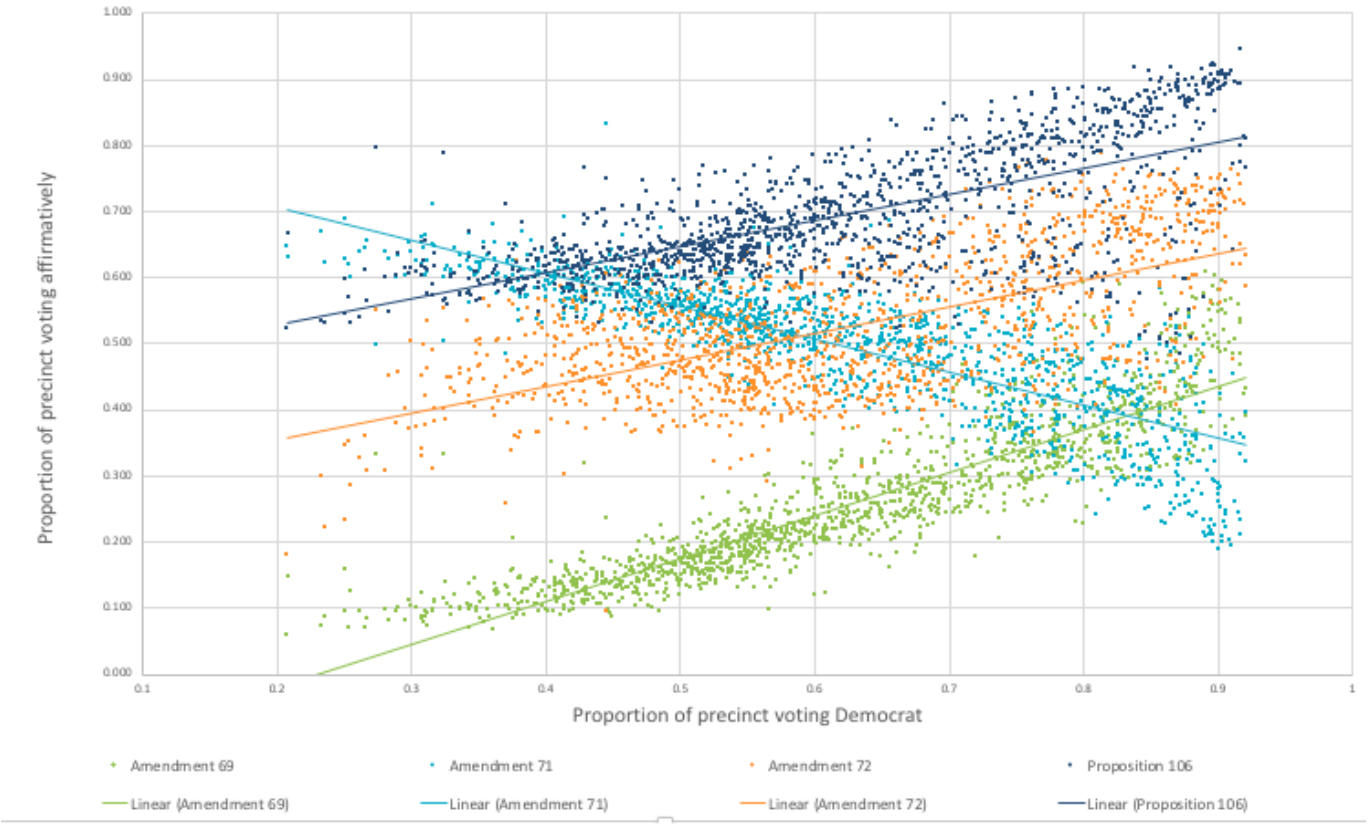

Figure 2. Data points and their lines of regressions for ballot initiatives for 2016 general election, omitting Amendment 70, Amendment T, Amendment U, Proposition 107, and Proposition 108 for visual simplicity. Amendment 69 has the lowest y-intercept and a high slope, with voting "yes" correlating strongly with a Democratic affiliation. Amendment 71 is the only ballot measure from 2016 (including the omitted measures) with a negative relationship between the two variables. Democratic affiliation and voting affirmatively have a positive correlation for both Proposition 106 and Amendment 72.

Table 1: Affirmative voting on ballot measures as a function of Democratic affiliation in 2014

	Coefficient	*t-value*	R^2	*Adj.* R^2	*F-test*	*y-intercept*
Am. T	0.605	74.95***	0.802	0.802	5617.68	0.192
Am. U	0.133	20.34***	0.230	0.230	413.68	0.373
Am. 69	0.649	78.22***	0.816	0.816	6118.71	-0.148
Am. 70	0.755	123.04***	0.916	0.916	15139.73	0.144
Am. 71	-0.501	-55.17***	0.824	0.823	1072.45	0.807
Am. 72	0.400	29.07***	0.379	0.379	845.33	0.275
P. 106	0.395	33.49***	0.448	0.447	1121.57	0.449
P. 107	0.186	21.53***	0.251	0.250	463.40	0.536
P. 108	0.136	16.74***	0.169	0.168	280.17	0.456

**p < .05, **p<.01, ***p<.001*

Amendment T concerns prison reform, a traditionally liberal cause. This fairly intuitive categorization was reflected in the strong positive correlation between partisanship and an affirmative voting on Amendment T, with the second-highest coefficient of 0.605 (R^2=0.802*).*

Amendment U, which would have stopped taxation of possetory interests under a certain value, was perhaps the most technical and least accessible to the average voter in terms of language and content of any measure I studied. Partisan affiliation was not a strong determinant of voting on Amendment U, with a relatively low coefficient of 0.133 (R^2=0.230). The weakness of the relationship is likely due to the amendment's content being technical and fiscal in nature, leading to voters being unable to find any partisan cues within the text and hence being unable to cast their vote in a partisan manner. The slight positive relationship could be attributed to liberalism being associated with rejecting the status quo, ie. an affirmative vote on a direct democracy measure in general.

Amendment 69, which would have established a state-run healthcare system, had a coefficient 0.649 (R^2=0.816), showing that Democratic partisanship of a precinct has strong positive effect on how the precinct voted affirmatively on the amendment. State-run healthcare is an intuitively extreme-left (by U.S. norms) proposal, but it also lies to the left of establishment Democratic platform or dogma, which is reflected in its y-intercept of -0.148.

Amendment 70, which created an increase in the minimum wage, had the highest coefficient of 0.755 (R^2=0.916) for any measure studied for both years. Increasing the minimum wage is clearly an element of Democratic ideology, and seen by voters as such. The fiscal nature of the amendment was also relatively simple to comprehend, and likely very accessible to the average voter.

Amendment 71 (creating stricter requirements for direct democracy initiative signature thresholds) had a negative coefficient of -0.501 (R^2=0.824) and subsequently a strongly-perceived conservative connotation. An affirmative vote on this measure was essentially an acknowledgment of distrust in citizen-initiated direct democracy measures by making it more

difficult to bring them to the ballot. The negative relationship suggests that voters overwhelmingly view direct democracy itself as having a liberal or Democratic ideology.

Amendment 72 (an increased cigarette tax) had a moderate coefficient of 0.400 (R^2=0.379). This relatively weak relationship might attributed to a tax in general being seen as a liberal proposal and the concept of a "sin tax" on cigarettes viewed overly authoritarian, with the two effects canceling each other out to a degree.

Proposition 106 legalized euthanasia in some cases, which has a liberal association due to much of the legalized euthanasia movement's opposition coming from religious groups. Its moderate coefficient of 0.395 (R^2=0.447) could either mean that voters do not perceive the issue as being strongly ideological, or that libertarian-leaning Republicans were in favor of the measure.

Propositions 107 and 108 together created Colorado presidential primaries open to unaffiliated voters. Presidential primaries would vastly simplify the convoluted caucus process, and few besides elites within the two major parties themselves would oppose allowing unaffiliated voters to participate in presidential primaries. The overall popularity of these types of political reform can explain relatively low coefficients of 0.186 and 0136, respectively.

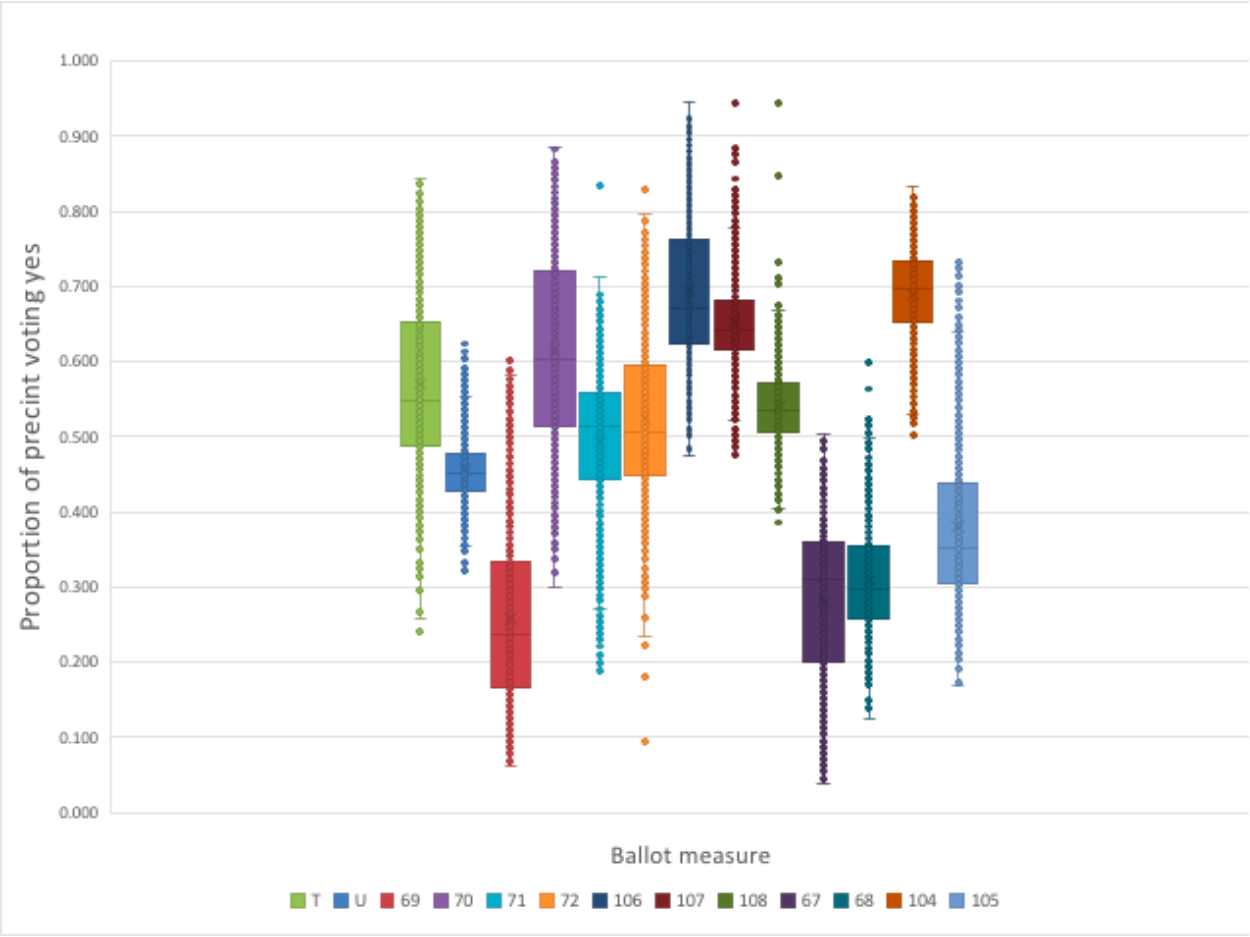

Figure 3: Distribution of voting results for 2014 and 2016 ballot measures

Figure 3: Box-and-whisker plot showing relative spread and distribution of proportion of a given precinct voting "yes" on ballot measure. The boxplots from left-to-right are the ballot measures as they appear on x-axis from left-to-right. Proposition 105 and Amendment 72 have the two largest spreads in voting, while Proposition 108 and Amendment U have the smallest spreads.

4.2 Distributional characteristics of amendments

Examining the distributional characteristics of ballot measures can lend insight into whether voters were starkly divided over measures or whether they were more or less aligned in their voting patterns. Amendment 72 shows the greatest spread in voting, with a minimum and maximum differential of approximately 0.72 proportion of the vote and an interquartile differential of approximately 0.15 proportion of the vote. Because this was a smoking tax, it may be that this spread has resulted from one's status as a smoker being a primary determinant of vote on this initiative, with some precincts having extreme proportions of either one. Proposition 105's spread can likely be explained by strong opinions on GMO's being held on both sides, with agricultural communities (eg. Grand county) having precincts overwhelmingly opposing it and urban communities (Denver, Boulder) having precincts overwhelmingly in support.

General agreement about the content of the measure is less likely to explain the narrow spread of Amendment U than is relatively even voting across precincts. By their nature, the distribution of individuals within a given precinct are not likely to vote in an extremely high proportion one way or another on a possessory tax issue. Proposition 108's spread is likely due to the same phenomenon.

The two measures with the greatest spreads also had the greatest degree of partisanship in their voting, while the two with the smallest spreads both had relatively low coefficients in the individual regressions. The presence of precincts with extreme proportions of votes in either

direction can be another indicator of strong party loyalty by showing a distinct variation in preferences that can largely be explained by the overall political makeup of the precinct.

4.3 Effects of year

The coefficient of the pooled model measuring overall to what degree to people cast their votes in-line with their partisanship and the perceived partisanship of the initiative was 0.370 in 2014 and 0.407 in 2016. The stronger effect of political affiliation on vote in 2016 compared to 2014 could be due to several factors. First, candidate campaigns in presidential elections are more visible and unavoidable than in midterm elections, making people more aware of their own partisan identification and therefore more likely to vote in alignment with it. Second, the general atmosphere of presidential elections is more hyper-partisan in general in terms of the degree to which opposing parties are vilified by eachother, again creating a more partisan framework through which voters see direct democracy measures. Third, there was a much greater aggregate of elite activity from both parties in regards to opposing/supporting initiatives and amendments, which adds an explicit partisanship to an affirmative or negative vote for direct democracy measures.

4.4 Elite activity in 2014

In 2014, Republican elites did not take any public positions on any initiatives on the ballot. However, the Democratic activity in terms of taking a position on initiatives in this year had a coefficient of 0.252 compared to when party elites were silent. There was also only one degree of Democratic activity taken in 2014. The T-value of 62.9 ($p<0.000$) suggest that when Democrats were active in associating themselves with an initiative, they were successful in affecting the partisanship of the voting on that initiative.

4.5 Elite activity in 2016

Republican activity occurred in two degrees in 2016. When Republican activity was present but not strong (less than 5 party elites and no statewide-party official activity), the coefficient was 0.072. When Republican activity was present and strong (greater than 5 party elites and/or statewide party official activity), the coefficient was -0.300. This suggests that activity in association with initiatives had a more significant effect the stronger that activity was, likely by creating a greater amount of or more intense partisan informational cues for voters to use as voting heuristics.

When Democrats did take positions on measures in 2016, they did so with a high degree of activity every time. Hence, there were not two levels of degree of Democratic activity for 2016, since they were very active on all. This was because the only times Democrats associated themselves with an amendment in either direction, either more than 5 Democratic elites and/or state-wide party officials were active in endorsing/opposing a given measure. The coefficient of 0.037 for when Democratic elites were active in associating themselves with a measure compared to when they did not could suggest a few things. Either the activity of Democratic elites means far less to Democrats or the electorate in general than the activity of Republican elites, or Democratic elite activity may have affected voter behavior but not necessarily in only one direction. The second option is almost certainly the case, perhaps entirely because of the inclusion of the polarizing state-run healthcare measure in the model. Democratic activity was extremely high, but with greater than 5 elite officials taking positions on opposing sides and

state/national elites taking positions on opposing sides. For example, while the moderate Democratic governor came out in opposition to the measure, Vermont Senator and former Democratic candidate Bernie Sanders came to Colorado publicly campaigning for the passage of the amendment. This result may be more a case of Democrats canceling each other's activity out than an illustration of the ineffectiveness of that activity. The higher coefficient in 2014 might reflect the same principle, since Democrats were not split in their support for any of the initiatives they were active around.

4.6 Fiscal issues

In 2014, the coefficient for whether an initiative was a fiscal issue was -0.072 compared to whether it was unrelated to fiscal economics. This suggests that simply being related to economics affects how partisan is the vote on the measure.

In 2016, the coefficient for whether an initiative was economic in nature was even smaller, at -0.013.

4.7 Controlling for county

Table 3. Controlling for county in pooled regression for 2014

County	Coefficient	t-value
Denver	0.102	18.20

Jefferson	0.099	20.03
Boulder	0.119	20.39
Grand	0.141	7.90
Douglas	0.135	20.66

Table 3. Results are standardized to the county coded as 1, Arapahoe county. Arapahoe is historically a swing county, so deviations should reflect a county's ideological makeup.

Table 4. Controlling for county in pooled regression for 2016

County	*Coefficient*	*t-value*
Denver	0.003	1.31
Jefferson	0.001	0.63
Boulder	0.042	16.15
Grand	0.023	2.78
Douglas	0.024	8.04

Table 4. Results are standardized to the county coded as 1, Arapahoe county. Arapahoe is historically a swing county, so deviations should reflect a county's ideological makeup.

Controlling for county can confirm that Republicans and Democrats tend to vote the ways previously described. Because the pooled regression is standardized to the dependent variable being a vote in the liberal *direction* for any given initiative (determined by individual regressions) and not just an affirmative vote, higher coefficients indicate more partisan liberal voting. Boulder has the highest coefficient for both years, suggesting it votes in the liberal direction to a greater degree than Arapahoe. Likewise, the county with the smallest coefficient is the other historically-swing district, Jefferson county.

4.7 Sources of error

The R-squared values generated in the individual and pooled analysis were suspiciously high, even when looking at the adjusted R-squared values. In the case of my data, these are probably due to either overfitting or problems with data aggregation. R-squared values tend to increase at high levels of aggregation, like people in precincts numbering in the hundreds. Access to individual-level data would remove much of this error attributed to ecological inference problems.

Related again to ecological inference, it was impossible to determine the vote roll-off for how many people voted on the Senate race and not on some or all down-ballot measures. Actual Democratic-voting proportion of the people who also voted on the measures would have differed based the political affiliation of people only voting on the Senate race.

The problems of ecological inference were discussed previously, and any resulting error could be minimized with shrinking units of measurements but never eliminated until individual-level data were used.

5.0 Discussion

There seems to be a strong tendency towards libertarianism in the Colorado electorate that might be able to traverse ideological divisions. The pro-life amendment and the amendment adding threshold requirements to direct-democracy measures were both authoritarian in nature even though they were ideologically opposite. The first had a low y-intercept suggesting libertarian Republican opposition, and the second had a low coefficient that could have indicated disagreement among liberals. The proposition legalizing euthanasia, the amendment expanding racetrack gambling, and the proposition requiring open collective bargaining meetings were all libertarian in terms of an affirmative vote, with none having very high coefficients and all having relatively high y-intercepts, suggesting a bipartisan enthusiasm for measures decreasing the power of the government over people's' lives. The exception to this was Amendment 72, which was authoritarian and where support was highly partisan.

A rejection of extremism on both sides is also evidenced by voting results on the measures. Amendment 69 and Amendment 67 both were more extreme than the platforms of either of two major parties. People voted for them in a highly partisan manner, since the ideological content of both measures was so plainly political that it amounted to an effective "R" or "D" label on the ballot. However, the low y-intercepts of both Amendments show a rejection of extremism even in the most Republican and Democratic strongholds.

Direct democracy as a principle seems to be perceived by voters as an ideological issue, and in the liberal direction at that. Amendment 71 was viewed as a solidly conservative policy shift, even though citizen-initiated direct democracy is no longer associated with the Progressive movement of the early 20th century for the vast majority of the electorate. It may be that as a default departure from the status quo, citizen-initiated direct democracy is intuitively liberal in

nature to the Colorado electorate. This is also evidenced by the fact that 11 out of 13 ballot measures were perceived by voters as having a Democratic ideology.

Efforts by Democratic elites in 2014 differed from those in 2016 by being smaller in degree but more united in nature. The division of Democratic elites over Amendment 69, Proposition 107, Proposition 108 and Amendment 71 likely resulted in their high degree of activity still having less of an effect than that of Republicans in 2016. The fact that weak Republican activity had a positive effect on Democratic voting and that strong Republican activity had the expected negative result on Democratic voting suggests that Democrats are responding to the weak levels of Republican activity. This may indicate that in the face of conflicting voting signals within their own party, Democrats turn to the other party for signaling in how to vote on a measure.

Overall, voters seem to be in agreement about how even the most apolitical issues are categorized ideologically, and they seem to deviate little from their own partisan affiliation when voting on those issues. On its face, this result seems to contradict the conclusions of earlier work (Schaffner, Streb and Wright 2001) that finds partisanship is at least lessened in nonpartisan candidate races, but in theory it is actually largely consistent. In order to find out the political party of a nonpartisan candidate, a voter will have to put in the effort to find out their affiliation through public records or other means, an endeavor that many voters will be unwilling to undertake. In the case of ballot measures, the effort needed is substantially less for any that can be understood upon reading their text, with such effort consisting of an automatic, intuitive ideological sorting. In the case of measures with technical content that may require additional resources to first understand them, the extra effort will likely be reflected in a less partisan vote,

which was consistent with my results. This is analogous to the voting behavior with nonpartisan candidates, suggesting the existence of a "more effort, less partisanship" principle.

If we consider the purpose of direct democracy measures to be creating an opportunity for citizens to decide on policies and issues independent of their political party, then the high degree of partisan loyalty people show to their party is disconcerting. If we consider the purpose of direct democracy measures to be forcing people to make decisions on actual issues that can be theoretically independent from ideology, the ability of voters to sort almost any issue (regardless of presence of obvious partisan informational cues) is also disconcerting. If we consider the purpose of democracy measures to be showing direct democracy measures themselves to be a legitimate and sound alternative to representational democracy, then they might only succeed in strongholds of liberalism, unless the measures themselves tap into libertarian or other ideology that allow them to aggregate statewide support. Continued research on partisan voting on ballot initiatives should be conducted in states with less libertarian tendencies like Alabama as well as libertarian-and-strongly-liberal states like Vermont. More work would also do well to expand on the behavior of unaffiliated voters and those affiliated with a party besides the two major ones, especially in areas where Libertarian or Green parties hold actual power. The initiative voting behavior in the presence of third party voters and established parties is a notable gap in the canon of research.

Appendix A

A note on the success of ballot initiatives

I ran two regressions to test what factors make ballot measures more or less likely to succeed overall independent of how the voting correlated with partisanship.

Table 5. Ultimate success of ballot measures for 2014 and 2016

Contest	*Yes*	*No*	*Contest*	*Yes*	*No*
Am. 67	0.351	0.649	Am. 71	0.557	0.443
Am. 68	0.296	0.704	Am. 72	0.469	0.531
P. 104	0.701	0.299	Am. T	0.497	0.503
P. 105	0.345	0.655	Am. U	0.439	0.561
Am. 69	0.212	0.788	P. 106	0.649	0.351
Am. 70	0.554	0.446	P. 107	0.641	0.359
			P. 108	0.533	0.467

Table 5. Statewide voting results for all ballot measures in 2014 and 2016 by proportion voting “yes” and “no.”

The independent dummy variables were whether or not the measure was fiscal, the activity taken by Democratic elites around the measure and the activity taken by Republican elites around the issue. The previous dummy variables were scored the same way as in the pooled regression. I also included a dummy variable of whether the measure was liberal or not (as determined by the independent regressions discussed earlier), with liberal measures receiving

a score of 1 and conservative measures receiving a score of 0. The p-values for all the variables proved to be insignificant. However, I believe a greater sample size would have had significant results.

I also ran a regression of the overall affirmative vote of a measure as a function of the absolute value of the coefficient of the individual regressions for each measure to see if strength of partisan voting (or how ideological a measure was perceived) impacted its passing. The p-value was also insignificant here, even though I still suspect that at least 10 years-worth of measures would show a significant effect.

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