Election Systems and Voter Turnout: Experiments in the United States

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ABSTRACT

Theory suggests that majoritarian/plurality elections depress voter participation and that proportional election systems encourage greater voter mobilization and turnout. We examine the effect cumulative voting (CV) has on turnout in local elections in the US. Variation in social/ cultural context is largely held constant by our design while election system varies, allowing us to identify the unique effect CV has on turnout. We test if turnout is higher when CV is used in the same context as plurality rules. Consistent with expectations about institutional effects, turnout is about 5 percentage points higher under CV than in similar plurality elections.

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How much do political institutions affect levels of voter participation? Typically, this question has been addressed by predicting turnout in the major industrialized countries with models that include measures of electoral rules (Powell 1986; Jackman 1987; Jackman and Miller 1995). Within these studies, the US stands out as a case of exceptionally low turnout. This has generated varying degrees of concern. For some, low or declining levels of turnout are lamentable but not seen as a dramatic threat to democratic processes (Berelson et al 1950; Polsby 1963). Others, however, believe that low turnout endangers the very legitimacy or fairness of American elections (e.g. Lijphart 1997; Amy 1993, Teixeira 1992; Piven and Cloward 1988).

There are at least two broad, complementary explanations for low participation in the US. Individual-level (behavioral) explanations emphasize characteristics correlated with participation, and suggest that a sizeable proportion of the electorate lack qualities that might cause them to vote (eg, Leighley and Nagler 1992; Abramson and Aldrich 1982; Wolfinger and Rosenstone 1980; Verba and Nie 1972). A second category stresses the effects of registration barriers, weak parties, and other rules have on depressing turnout (eg, Jackson et al 1998; Rosenstone and Hansen 1993; Nagler 1991; Caldeira, Patterson and Markko 1985; Rosenstone and Wolfinger 1978; Rusk 1970; Alford and Lee 1968).

Our study expands on this by testing if semi-proportional elections are associated with higher turnout when used in the US. A number of cross-national studies have found that proportional representation (PR) elections are associated with higher turnout than

plurality elections (Powell 1986; Jackman 1987; Blais and Carty 1990; Jackman and Miller 1995; Blais and Dobrzynska 1998). These important studies leave room for further tests of this effect. First, there are too few degrees of freedom to control for many of the place-specific factors that co-vary with plurality rules in cross-national settings. For example, the Powell and Jackman studies use cases that share historical, social, or cultural traits that covary with relevant electoral arrangements.[1] This is problematic since one explanation of different rates of turnout is that nations have distinctive "political cultures" that affect their citizens' "subjective orientation to politics" (Verba 1965:513). Important questions of research design must be addressed in order to demonstrate more conclusively that electoral systems, rather than place-specific factors such as culture, affect turnout. Second, cross-national studies cannot tell us what would happen to participation if a US jurisdiction adopted PR.

What would be ideal, then, is the presence of variation in electoral rules within the same social and cultural context. Current experiments with local elections in the US provide us with such a setting. Moreover, they also provide an opportunity to employ a quasi-experimental research design with a large number of cases. We test if turnout is higher in US jurisdictions that use cumulative voting (CV), a semi-proportional election system, than in US places using plurality rules. Our research design is structured so that we control for place-specific factors that may confound the impact of electoral system rules. We do this by combining a quasi-experimental case selection with cross-sectional and longitudinal statistical analysis of turnout.

Although nearly all federal, state and local elections are contested under plurality rules, after the late 1980s numerous US local jurisdictions began experimenting with CV.

CV combines multi-member districts with a semi-proportional[2] translation of votes to seats, and lowers the proportion of votes required to win a seat (Still 1984; Engstrom, Taebel and Cole 1989). At present about 80 jurisdictions (cities, counties and school districts) have adopted CV, with most concentrated in a handful of southern states[3] (Brischetto and Engstrom 1997; Pildes and Donoghue 1995; Cole and Taebel 1992; Engstrom and Barrilleaux 1991; Cole, Taebel and Engstrom 1990).

CV was adopted on a case-by-case basis locally in response to actual or threatened actions under Section 2 of the Voting Rights Act (VRA). In the vast majority of cases where plaintiffs bring VRA challenges against local election rules, the remedy (reached by consent or by court order) is single-member districting (SMD). However, in a small number of cases, plaintiffs and defendants (local jurisdictions) have agreed to use CV.[4] There is no single reason why some places adopted CV rather than SMD as a remedy, but contributing factors include the preferences of individual attorneys handling the plaintiff's cases, differences between defendants and plaintiffs over potential districting plans, and local minority-group leaders' willingness to use an experimental system (see Pildes and Donoghue 1995; Taebel, Engstrom and Cole; 1988).

Mobilizing Effects of CV Elections

CV elections could have the same effects on turnout as PR by eliminating disincentives plurality rules have on turnout. One probable disincentive for voters in plurality jurisdictions is that some perceive that their votes will be wasted. CV, like PR, allows voters from smaller (if not more) groups the possibility of voting for a winning candidate. CV could also increase voting by raising individual-level political efficacy,

particularly among supporters of minority candidates. Cross-national opinion studies illustrate that citizens in PR nations are more satisfied with democracy (Anderson and Guillory 1997), and a panel study of the effects of changing from plurality to PR rules in New Zealand found that minor party supporters demonstrated significant increases in efficacy after the nation's first PR election (reference deleted).

Voters in noncompetitive races can also realize the futility of voting (Guinier 1994:94-97; Amy 1993; Cox and Munger 1989), and CV elections may be more competitive than plurality elections. For example, SMDs drawn with a majority concentration of any one group could discourage minority candidates from seeking office, since they would have a poor chance of winning.[5] Fewer candidates, moreover, might reduce the mobilizing effects of campaigns in plurality jurisdictions. At-large, "first past the post" rules that allow a majority group to sweep all seats (Engstrom and McDonald 1981; Taebel 1978) can also have the same effects by discouraging minority candidates from contesting races. But with a lower proportion of votes required to win a seat, CV systems could increase the incentives for candidates to seek office. Key (1949:307) and others (eg. Cox 1999) have theorized that elites respond to such electoral competitiveness by trying to mobilize more voters.

Recent scholarship presents theoretical and empirical reasons for expecting an increase in voter mobilization efforts under PR (Canon 1999:357; Cox 1999), and by extension, semi-PR systems such as CV. One key link between election system and turnout, according to Cox, are variations in the mobilization incentives that systems create for elites (Cox 1999:411, see also Lander and Milner 1999:248). Lower thresholds of exclusion mean more candidates from non-plurality groups might seek office.

Furthermore, unlike majority-minority SMDs, CV can only produce descriptive representation of minorities when minority voters turnout a high rates relative to white voters (Brischetto and Engstrom 1997). As noted of CV in Texas, it requires "lots of shoe leather" for a candidate to be elected. "If there is not sufficient local mobilization to get out the minority vote...the minority candidate is not likely to win" (Brischetto 1995:8).[6]

Research Design and Methods

Data on turnout in local elections was requested from the largest jurisdictions in the United States that employed CV. We sought data from all CV places having a 1990 population over 1000 persons (n=44). Each place adopted CV in response to conflict over limited (or non-existent) representation of minorities, and all have sizable minority populations. We received turnout data from 28 CV places (64%).

Data was also obtained from communities using plurality elections. This set of cases was selected in order that each plurality jurisdiction closely matched a specific CV place in terms of key geographic and social characteristics. The 1990 U.S. Census allowed us to identify community-level measures of race and ethnicity, population size, percent of residents having a high school degree, and median income.[7] Each CV place was matched with a plurality place that was similar on each trait. For example, Rockford, IL (1990 pop. 139,426; 16% African American, median income $28,282) is the plurality jurisdiction matched with the CV city of Peoria, IL (1990 pop. 113,504; 21% African American, median income $26,074). In the end, we obtained turnout data for 21 of the 28 plurality jurisdictions matched with the CV places we received data from.

These matched cases supply a control group of plurality places having demographic factors highly similar to the CV places. Each control city is located in the same state and generally in the same county as the "experimental" CV city it was matched with. If CV school districts or counties were being matched with control cases, then similar in-state jurisdictions were identified in close proximity to the experimental place.[8]

Between 1997 and 1999, local officials in the experimental and control places were contacted by telephone and mail to obtain turnout data from recent elections. Officials in CV places were asked to supply data from their elections held under CV, and from their final three plurality elections. This allows us to conduct a longitudinal analysis of change in turnout within the set of "experimental" communities (pre and post adoption of CV), in addition to the cross-sectional analysis of differences in turnout between the experimental (CV) cases and the control (plurality) cases. Overall, 49 different jurisdictions (28 CV and 21 plurality) supplied turnout data on 215 elections.[9] Table 1 reports mean turnout levels for each group of cases, and reports means for key independent variables. Cases represent a jurisdiction's election in a specific year.[10] Apart from slight variation in median income, the jurisdictions in each group are nearly identical. Our control group (from the matched places) includes results from 72 plurality elections.[11] We also have turnout data for 74 at-large elections held in CV places prior to their adopting CV, and 69 subsequent CV elections from those places.

(Table 1 about here)

The plurality (control) cases had slightly lower but statistically insignificant difference in mean turnout levels when compared to plurality elections held in the

experimental (CV) places. Previous to their adoption of CV our experimental communities averaged 17.9% turnout, which is comparable to 17.1% turnout for other plurality jurisdictions in our study. In keeping with expectations about the effects of semi-PR rules on participation, turnout was 5.6% higher (23.5%) in the experimental cases after their adoption of CV. An ANOVA test determined that there are significant differences in turnout between these three categories ($F(2,212)=3.85$, $p = .02$). A dependent samples t-test of the difference between mean turnout levels in the experimental places before and after changing to CV indicates a significant difference ($t = 2.91$, $p = .005$). There is no significant difference between the control and pre-experimental groups.

Hypotheses and Model Specification

We estimate cross-sectional regression models of turnout across all places (control, experimental pre-CV, and experimental post-CV) as well as longitudinal models focusing on places experimenting with CV. Our discussion suggested several testable hypotheses. Clearly, if semi-PR election rules increase elite incentives to mobilize voters, make contests more competitive, or increase voter efficacy -- then turnout should be higher under CV. Although we cannot specify the actual mechanism that operates in CV elections to affect turnout, we can isolate the general effect of election rules in a regression equation by using a dummy variable, where 1 = a CV election, and 0 = a plurality election. The coefficient for this term represents the difference in turnout between plurality and CV elections.

Given the controls built into our research design, we can be rather confident that this dummy variable captures differences that stem from election rules. However, since we anticipate that communities with a larger proportion of minority residents might have lower turnout, independent of election system, our models include a variable that represents the proportion of voting age residents who are non-white. In addition to the relative size of the minority population, the specific type of minority is also relevant. Language barriers or citizenship status may mean that Latinos did not turnout at the same rate as other voters. Indeed, studies have found that Latinos turnout at relatively lower rates than whites and African Americans in various elections (Stanley and Neimi 1995:79; Uhlaner, Cain and Kiewiet 1989). We include a dummy variable that represents places where Latinos were the largest minority group.[12] To control for variation in the social composition of these places, we also include a measure of median income. We assume that places with higher median incomes have more residents who have the resources to participate in politics.[13] Since voters may take less interest in school elections, we also include a dummy variable that distinguishes school board from city and county council elections. Participation might also be lower in larger communities for a number of reasons (see Key 1949; Verba and Nie 1972:231). Since there are few cases in our analysis with populations over 100,000, there is an extreme rightward skew in the distribution of this variable. As a result, we found it necessary use the log of population as a control.

Cross-Sectional Results

Table 2 reports the results of a set of cross-sectional estimations of turnout that compare plurality places (control and experimental pre-CV cases) to CV places. The first column reports an OLS estimation using data from all 215 elections - 72 from plurality control places, 74 plurality elections held in experimental places prior to adopting CV, and 69 from experimental places after adopting CV. The second column lists estimates from a set of cases limited to elections from the experimental and control jurisdictions that were matched demographically. [14] This set includes 63 plurality elections from the control group, 50 plurality elections from places that would end up adopting CV, and 51 CV elections. Cross-sectional comparisons are further refined in the third column with an estimation limited to CV and plurality elections matched by place as well as time. [15] This includes 41 CV elections and 41 plurality elections held in similar places at the same time.

(Table 2 about here)

The primary variable of interest is the dichotomous measure that indicates whether an election was run under CV. According to each of our cross-sectional estimates, elections held under CV do result in a turnout rate significantly higher than elections ran under traditional plurality schemes. The effect of CV ranges from 4.7% to 5.2% depending on the set of cases being assessed. [16] The substantive impact of CV elections appears modest when we consider that an increase in national turnout of 5% would be a relatively small proportionate change in participation. The effect is more impressive, however, when the range of local turnout across these cases is considered.[17] For a jurisdiction having the mean turnout (19%), a 5% increase is, proportionately, a substantial gain.

Several coefficients for control variables are also significant. In the estimation including all elections, there is an independent effect of the type of office being contested. When school board elections are held separately, fewer voters turnout. The log of population is also significant in the first two estimations, with larger jurisdictions having lower turnout. Jurisdictions with Latinos as their primary minority group had lower turnout rates, and the coefficient representing Latino communities is both substantively as well as statistically significant in each estimation. Finally, no estimation demonstrates a significant effect of median income, although the direction of the coefficients suggests wealthier communities have higher participation.

Longitudinal Results

Thus far we have assumed that plurality and CV places were matched on all relevant variables but election system. With perfect matching, the term for CV elections would capture the unique effect of election type. Despite care in matching, however, it is possible that the CV term also captures other factors. Given this limitation, we also estimate longitudinal models of turnout. By looking only at the jurisdictions that experimented with CV, we test for change over time in places that are directly affected by the adoption of CV. Table 3 reports these longitudinal estimates. The CV term represents the intervention of the adoption of CV, and thus reflects the increase in turnout after elections were conducted under CV. The first estimation makes use of turnout data from 143 elections in the experimental places - 74 were plurality contests and 69 were conducted after switching to CV.

Heilig and Mundt (1984) found that the adoption of new SMD systems can be associated with a short-term surge in turnout due to increased electoral competition, but participation may drop after the first election. A similar effect could occur with CV contests. Likewise, mobilization efforts by local groups could be "one-shot" educational affairs that produce an increase in turnout only after initial CV elections. The second estimation in Table 3 excludes the first two CV elections in each jurisdiction to test if increased turnout is sustained after the first two CV contests.

Table 3 about here

Most of the coefficients in Table 3 appear similar to the estimates from the cross-sectional analysis (Table 2). Of primary interest here is that the effects of CV in Table 3 are largely consistent with those reported in Table 2, ranging between a 4 - 5.1% increase in local turnout after a jurisdiction adopted CV. Overall, the results in Table 3 demonstrate that when a fixed set of jurisdictions in the US switch from plurality to semi-PR election rules, we do see a significant, sustained increase in turnout.[18] Estimates in the second column illustrate that turnout remains 5% higher than under plurality elections after the second CV contest.[19]

Conclusion

Our analysis demonstrates that CV is associated with higher turnout than plurality elections in the US. CV thus offers the promise of increased representation of minorities coupled with increased participation. The size of the effect appears to be a modest but noteworthy 4 to 5% boost in participation. The jurisdictions examined in this paper adopted CV because their at-large plurality voting plans created barriers to descriptive representation

of minorities. When actions are taken against these plans under the VRA, courts typically accept other plurality systems that produce minority representation (e.g. SMDs). Semi-proportionate alternatives to these systems, such as CV, have been found to facilitate minority representation at levels approaching what is found under districting (Brischetto and Engstrom 1997; Pildes and Donohoue 1995; Cole and Taebel 1992). Our results illustrate that the institutional effects of these alternative electoral rules extend beyond just facilitating descriptive representation.

Our quasi-experimental design, controlled case selection, and model estimations demonstrate that the effect of CV on turnout is not an artifact of an analysis that fails to control for place-specific (cultural, social, political or geographic) factors. All of this suggests quite strongly that some underlying processes associated with CV act to mobilize more voters than plurality elections do. If political reformers are interested in increasing participation in US elections, these findings could be taken as evidence that PR or semi-PR rules could stimulate greater participation, at least in local elections where the potential problem of low turnout is most severe.

Advocates of electoral reform might find satisfaction in the link we find between institutional rules and participation. Yet the findings could also cast a minor shadow over claims advanced by proponents of PR. If we can generalize from local elections in these mostly small jurisdictions, increased proportionality in electoral formula does not appear to be a magic bullet that will resolve problems of low participation in the US. Turnout increased, but it remained low. As noted above, there are numerous behavioral, structural and institutional factors a play here. Election rules, however, are one of many small pieces of the puzzle of low turnout in the US.

The results of this study do lend support to cross-national findings identifying that institutional rules affect turnout. We find that even when cultural and social factors are largely controlled, plurality rules continue to demonstrate a deleterious effect on participation. Indeed, we find about the same effect that Blais and Dobrzynska (1998) identify with cross-national data, and find results close to the 3 - 7% effect that Ladner and Milner (1999:249) find PR has on local contests in Switzerland. Given this, and the modest effect that semi-PR election rules have on turnout within the US, we suggest that attitudinal, behavioral, and other institutional differences explain much of the participation gap between the US and nations that use PR.

Table 1: Descriptive Characteristics: All Cases, Control, and Experimental Groups.

Variable	All elections	Continuous plurality elections (control)	Plurality elections prior to CV (Exp Pre)	CV elections after switch from plurality (Exp Post)
Turnout %	19 (14)	17 (16)	18 (12)	23 (13)
Minority %	38 (14)	38 (14)	37 (14)	38 (16)
High School Education %	56 (10)	56 (09)	55 (10)	55 (11)
Median Income	$19,756 ($3877)	21,210 (3910)	18,807 (3308)	19,263 (3989)
Total Number of Elections	215	72	74	69

Note: Main entries are means, standard deviations in parentheses. Control groups: Places using plurality elections continuously, matched with demographic and geographic traits of CV places. Experimental pre: Places using plurality contests prior to using new CV system. Experimental post: CV places after switching from plurality.

Table 2 : Cross-Sectional Models of Turnout in Local Elections

	All Elections	Matched by Place	Matched by Place & Time
CV Election System	.052** (.015)	.050** (.019)	.047* (.028)
Minority % of Population	-.123* (.075)	-.098 (.093)	-.030 (.144)
School Board Election	-.028* (.016)	-.026 (.021)	-.007 (.034)
Latino Community	-.267** (.032)	-.223** (.039)	-.264** (.061)
Population (logged)	-.028** (.008)	-.029** (.010)	-.023 (.014)
Median Income	.00002 (.00002)	.00002 (.00003)	.00004 (.00003)
Intercept	.692** (.080)	.605** (.097)	.526** (.141)
R^2 (adjusted)	.449	.318	.333
Number of cases	215	164	82

Note: Dependent variable = turnout a percent of voting age population.

** = significant at $p<.01$ (one-tail)

* = significant at $p<.05$ (one-tail)

Table 3 : Longitudinal Models of Turnout in Local Elections

	All CV elections, before & after	Excluding first two CV elections
Adoption of CV Election System	.040** (.016)	.051** (.023)
Minority % of Population	-.125* (.077)	-.093 (.098)
Latino	-.247** (.039)	-.248** (.046)
School Board Election	-.036** (.018)	-.027 (.022)
Population (logged)	-.050** (.011)	-.047** (.014)
Median Income	-.00001 (.00003)	-.00002 (.00003)
Intercept	.889** (.091)	.793** (.112)
R^2 (adjusted)	.447	.446
Number of cases	143	98

Note: Dependent variable = turnout as percent of voting age population.

** = significant at $p<.01$ (one-tail)

* = significant at $p<.05$ (one-tail)

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[1] For example, plurality SMDs are found in the English-speaking US, UK and commonwealth states (5 of the 19 cases, with an average turnout of 72.4% from 1971-1980). PR is present in Scandinavian states (5 of the 19 cases, with a turnout of 83.4% for this period).

[2]CV is a multi member district system. In multi-member districts, a greater district magnitude increases proportionality (Lijphart 1994). In practice in the US, CV places have district magnitudes between 3 and 7, causing them to be less proportional than STV and other party-list PR systems used in many national elections.

[3] Nearly all of the CV jurisdictions in this analysis are all found in Texas and Alabama. There is one CV jurisdiction in these data from New Mexico and Illinois, respectively.

[4] In a number of Texas cases, plaintiffs included LULAC. In Alabama, they included a black political group, the Alabama Democratic Conference (ADC). Attorney's working for these groups filed cases on behalf of individuals with standing in various communities. LULAC and the ADC in particular each had attorneys who worked to promote semi-PR systems. Local plaintiffs working with different attorneys may have been much less likely to adopt CV. These attorney's ability to "sell" CV to a local group was one factor affecting if it would be considered for adoption.

[5] This would be even more certain if we assume that voting is polarized along racial and ethnic lines, as is typically the case in places where VRA actions.

[6] In Atlanta, TX, for example, African Americans organized get-out-the-vote drives in African American communities to elect a candidate under CV. In several CV towns with Latino communities, the Southwest Voter Registration Education Project trained activists for local voter mobilization strategies. In another Texas town, a group called Concerned Citizens for Voting began mobilizing voters under the first CV election (Brischetto 1995:9).

[7] Demographic data were either drawn from the 1990 U.S. Census, or, in the case of school districts, from the School District Data Book on CDROM published by the U.S. Dept. of Education.

[8] The vast majority of elections follow the municipal model of holding elections in off-year and in odd months. For example, all Texas city council and school elections included in this analysis are held in early May of each year. Guin, Alabama, which does hold their elections every four years corresponding with presidential elections, does so in August, not November. There are no elections in this analysis that correspond with a national or statewide general election. The practical implication of this is that there are no national or statewide influences on turnout in these data.

[9] Most jurisdictions would provide information on turnout from recent elections. Refusals were greater when data from older elections were requested. Thus, from some places, we have longer time series than others. The majority of these jurisdictions stagger the election of seats, with elections for 3 or 4 seats held annually or every two years in many places

[10] For example, case 1 = $election_{ij}$, where $_i$ is an individual election year, and $_j$ is the jurisdiction.

[11] 54 of these were conducted under at-large rules, while 18 were conducted under districted elections.

[12] Given the nature these data, all communities had a sizable minority population. However, no jurisdictions had a large Latino and African American population simultaneously. The dummy variable thus = 1 (Latino the largest minority) or = 0 (African American the largest). The majority of elections (86%) were contested where Latinos were the predominant minority group.

[13] Likewise, aggregate levels of education could also affect participation. Our measures of income and education, however, are highly correlated (.80) and both are strongly correlated with population (each over .65). To avoid problems of multicolinearity, we omit the measure of education. When education is substituted for income, the substantive results do not change.

[14] This first estimation in Table 2 includes elections from 7 CV places we obtained turnout data from that lack matching data from plurality jurisdictions.

[15] Since time series for places vary in length, cases are lost when the estimation is limited to when time of election and place are both matched.

[16] The size and significance of the effect of election system reported in each estimate in Table 2 remains largely unchanged when dummy variables for year are included in the models.

[17] The dependent variable (turnout) has a mean of .19 and a standard deviation of .14. It ranges from .017 to .682. The distribution has a noticeable but not severe right tail, with only one case lying further than three standard deviations from the mean.

[18] Models omitting only the first CV contest produce similar results. The size and significance of the effect of election system 3 also remain largely unchanged when dummy variables for year are included in the models.

[19] We also estimated models using data from the CV elections held in places that had at least two or more contests under CV. We replaced the term for election system with a variable representing the number of times a place had a CV election. Results illustrated that the coefficient for election iteration was trivial (-.009), and not at all significant (p = .52). Thus, the increase in local election turnout demonstrated here does not appear to be the function of some short-lived novelty effect.