

Race and the Participatory Effects of Redistricting

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ABSTRACT: Recent research has begun to examine the participatory effects of redistricting. There is evidence that voters redrawn into a district with an unfamiliar incumbent are less likely to cast a U.S. House vote than voters who remain in a district with a familiar representative. In this paper, we consider whether race conditions the effect of redistricting on participation, examining both whether voter roll-off in U.S. House elections varies by a community's racial composition and the race of the incumbent. Using voting tabulation data (VTD) from the state of Texas from 2002-2006, we find a fairly consistent pattern regarding the participatory effects of redistricting for these three straight elections held under altered district lines: Highly populated African American VTDs redrawn into a new incumbent's district had significantly higher rates of voter roll-off in the congressional election. Furthermore, this effect is restricted to districts represented by white incumbents. These effects were either inconsistent or non-existent in the case of VTDs with high white and high Hispanic populations.

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Recent work has shown that redistricting suppresses participation in House elections among individuals who are redrawn into new incumbents' districts (see Hayes and McKee 2009). The main explanation for this effect lies with the informational costs associated with redistricting. Because most redrawn voters are not familiar with their new representative, they are deprived an informational shortcut that facilitates a voting decision, and thus are less likely to vote in the U.S. House contest following a redistricting. In short, redistricting contributes to an increase in voter roll-off, or selective abstention, among those individuals who have a different representative due to a boundary change. These findings suggest scholars and policy makers need to take seriously the participatory consequences of congressional redistricting.

But that may be only part of the story. It is also plausible that there exists substantial variation in voting behavior within redrawn constituencies on the basis of race. Since information costs created by redistricting are unlikely to affect all individuals or groups equally, whites, blacks, and Hispanics, for instance, may vary in their likelihood of voting for the House contest. In addition, the race of an incumbent representative might also serve as a significant mediating factor in the likelihood of House voting, a possibility that is raised by recent research on minority political participation. Specifically, if redistricting “matches” racial groups with a co-ethnic representative, then this may nullify the otherwise negative participatory influence of redistricting. On the other hand, a lack of racial congruence between voter and representative as a consequence of a boundary change, could contribute to a reduction in the likelihood of voting in the House contest.

In this paper we investigate whether redistricting has differential effects on the participation of whites, blacks, and Hispanics in House elections. Using voting tabulation data (VTD) from the state of Texas from 2002-2006—elections that were contested after three separate redistrictings—we find in each contest that heavily African-American VTDs redrawn into a new incumbent's district had significantly higher rates of roll-off in the congressional election. But the effect is limited to

congressional districts represented by white incumbents, not Hispanic or black representatives. Our findings, though preliminary at this stage, indicate that redistricting creates an important trade-off between promoting competition and disproportionately reducing participation among redrawn VTs with large black populations. The asymmetric racial impact of redistricting on House voting is a notable finding that should not be overlooked by mapmakers as they gear up for the next decennial reapportionment.

Race, Political Participation, and Redistricting

In recent years, scholars have begun to evaluate the potential impact of redistricting on political participation (Hayes and McKee 2009; Sekhon and Titiunik 2009; Winburn and Wagner 2009), suggesting a new avenue for redistricting scholarship, a literature that has focused almost exclusively on questions of competition and representation. Using a combination of individual- and aggregate-level data, Hayes and McKee (2009) find that voters redrawn into a new incumbent's district are between 3 and 8 percentage points more likely to “roll off” in a House election—that is, fail to mark a choice after having cast a vote in a top-ticket contest—than citizens who were not redistricted. Having been severed from a familiar incumbent, a substantial number of voters appear to selectively abstain when faced with a choice between unfamiliar candidates. Redistricting, thus, can serve to suppress political participation.

We think this process may be understood more clearly by drawing on a growing literature that focuses on the importance of race and electoral context in explaining political participation across racial groups. There is an established and growing literature that evaluates racial differences in voting by placing the locus of attention on political context, such as the match between the race of the constituent and the race of a candidate/representative. And although there are mixed findings in the work that examines the intersection of race and participation, these literatures should give us leverage in considering how redistricting and race may interact to shape participation levels.

In studies that have examined differences in voter turnout and other forms of political participation across racial groups, variation in socio-economic status (SES) is a major factor (Verba and Nie 1972; Verba et al. 1995). White turnout tends to be higher than black turnout, which is higher than Latino voting rates, but in the absence of mobilization efforts, the differences are due largely to SES (Leighley 1995). Because minorities have, on average, lower levels of income and education than whites, minority participation rates are suppressed.

Once socioeconomic differences are controlled for, however, African Americans participate at the same or even a higher rate than whites. To explain this finding, scholars have turned to the notion of “group consciousness” as a psychological explanation for black participation rates (Miller et al. 1981; Shingles 1981). “In short, the idea was simply that members of minority groups who shared an identity would be more likely to participate if they saw their group as politically disadvantaged” (Barreto 2007, 427). Related to a strong sense of identification with one’s race/ethnicity, the presence of a co-ethnic candidate can also enhance minority participation.

The classic study of Bobo and Gilliam (1990) shows that African Americans who reside in major cities with black mayors attain a greater sense of political empowerment, positively affecting political efficacy and increasing black voter participation. According to Gilliam (1996, 60), “the presence of highly visible black elected officials raises group pride as group members receive broad psychic benefit[s] from the governing activities of black politicians.” In fact, numerous studies have found that black participation is boosted in large city mayoral races (see Gilliam 1996; Gilliam and Kaufmann 1998; Kaufmann 2003; Kleppner 1985; Nelson 1987). Likewise, political empowerment is seen as the reason for the mobilization of Latinos in recent major city mayoral races that had a Hispanic candidate seeking the office (Barreto 2007; Kaufmann 2003). Similarly, Tate (1991) found that shared identity and the presence of mobilizing agents like the black church, increased black participation in the 1984 presidential election when Jesse Jackson sought the Democratic

nomination. Even elections that feature non-candidate propositions, such as referendums, show a reduction in black roll-off when the particular issue has a salient racial component to it (Vanderleew and Engstrom 1987).

Indeed, it would appear that a key contextual factor responsible for enhancing minority participation is the salience of the election or issue. Mayoral elections in large cities and ballot referendums on what are most likely “easy” issues (Carmines and Stimson 1980) with a racial connotation to them, allow for enough information that minority constituents are mobilized to participate at higher rates than would be predicted from a simple SES model. The racial cues in these types of elections are fairly simple and provide the voter with a rationale to cast a vote (Popkin 1991). But is this the case for congressional elections?

A handful of studies have examined the relationship between race and political participation in congressional elections, but none of these also consider the intervening effect of redistricting.¹ The study by Voss and Lublin (2001) on three erstwhile majority-black districts (FL 3, GA 2, and GA 11) that were made majority white in 1996 to comply with court orders, found evidence for black mobilization. Examining a larger and more representative sample of districts represented by African Americans, Gay (2001) found no systematic evidence that black representation increases black turnout, but it consistently had the effect of demobilizing white constituents. In contrast to Gay’s findings however, Barreto et al. (2004) find strong support that Hispanic participation is positively affected for those Latinos residing in majority-Hispanic districts. And similar to Gay, Barreto et al. find that non-Latino constituents living in majority-Hispanic districts participate at a lower rate than their non-Latino counterparts who do not reside in majority-Latino districts.²

¹ The working paper on Texas congressional elections by Sekhon and Titiunik (2009, 26), which does consider the participatory effect of redistricting, finds that “when VTDs are moved from a white incumbent to a Hispanic incumbent even of the same party, there is a large and significant drop in turnout: -4.1% in 2004. But this effect diminishes by 2006, and it is in fact no longer significant.”

² Even more nuanced is the work of Griffin and Keane (2006), who find that political ideology is a crucial factor in determining which if any African Americans are mobilized to vote when they are represented by a black member of

From the few studies that assess the relationship among race, representation, and political participation in House races, there is mixed evidence regarding the voting propensities of minorities in districts with a co-ethnic representative. On the other hand, the evidence is stronger for a demobilizing effect on those constituents who do not share the same race/ethnicity of their incumbent. Perhaps a lack of descriptive representation makes it evident to these residents that their needs are less important, especially in majority-minority districts that were created specifically to elect minority candidates.

Congressional elections are typically low salience affairs and thus it is possible that the dearth of electoral information disadvantages lower SES minority populations. For instance, even after controlling for education and several other factors, African Americans are less likely than whites are to recall the name, or recognize the name of their representative (McKee 2008). This informational disadvantage may be even more pronounced with respect to redrawn minority groups since their lower SES amplifies the information costs associated with having a new incumbent running for reelection. But the presence of a co-ethnic representative could potentially mediate the negative participatory effects of redistricting, whereas the absence of a co-ethnic incumbent might enhance the likelihood of abstaining in the House contest. We consider these possibilities in the analyses that follow. We turn first to a discussion of our data used for investigating these propositions.

Data

We investigate the relationship among redistricting, race, and political participation by studying the 2002-2006 U.S. House elections in Texas. Texas provides an excellent venue for exploring the participatory effects of redistricting, because the state underwent separate redistrictings before each of the three contests. This gives us three cases in which to examine the effect of

Congress. Liberal African Americans are more likely to participate in a congressional election when they have a black representative, whereas conservative African Americans prove more participatory when their representative is not black.

redistricting while holding constant the geographic locale, the socioeconomic status of the state's population, and other factors that could influence participation rates.

Each redistricting took place under different circumstances. The first redrawing, which occurred in 2001, was part of the constitutionally mandated reapportionment following the 2000 Census. In broad strokes, the plan ultimately put into place was minimally disruptive, serving to shuffle only a relative handful of the state's residents (McKee and Shaw 2005). In all, 15.6% of the state's voting tabulation districts (VTD)—an electoral unit similar to a precinct—were placed into new incumbents' districts. The 2003 redistricting is well known even to many observers outside of the Lone Star State. Following the Republican takeover of the Texas Legislature in 2002, the new GOP majority set about redrawing the congressional boundaries again, arguing that the lines—and the U.S. House delegation, split 17-15 in favor of the Democrats—did not reflect the true partisan divide in the state, which had been trending Republican for decades. The fight ultimately led Democrats in both the state House and Senate to leave the state in a widely publicized, and unsuccessful, attempt to thwart a vote on the plan. It eventually passed, and the 2004 contests were contested under the new map. In contrast to 2002, many districts were altered this time, with 33.2% of the state's VTDs being placed into unfamiliar incumbents' districts. Finally, in 2006, a federal court ruled that portions of the 2003 redrawing had violated the Voting Rights Act, which necessitated a third redrawing. Five congressional districts were reconfigured before the midterms that year, redrawing 5.9% of the state's VTDs.

The VTD, of which there are roughly 8,000 in the state of Texas, serves as our unit of analysis in this paper.³ As in a precinct, election returns are aggregated at the VTD level, but that information is also fused with VTD-level demographic data. The data set yields two crucial benefits. First, because VTDs are the unit by which Texas' district boundaries are drawn, they are almost

³ Our data were compiled and provided to us by the Texas Legislative Council, the nonpartisan legal and research arm of the Texas Legislature.

never split by a congressional district line. This allows us to distinguish between VTDs that consist entirely of voters who have been redrawn into a district with a new incumbent and VTDs that consist entirely of voters who remain in a district with their same incumbent. In other words, within each VTD we refer to as “redrawn,” every voter in that VTD is facing a new incumbent. Though it does not eliminate the ecological inference problem (King 1997), that concern is ameliorated substantially. Since we know that every voter in a redrawn VTD has indeed been placed in a district with a new incumbent; we do not have to infer that some portion of the VTD was redrawn, while some portion was not.⁴ Second, because of the demographic data, we can investigate whether the effects of redistricting on political participation vary with a VTD’s racial composition.

Our measure of political participation in U.S. House elections is voter roll-off. Roll-off occurs when a citizen casts a vote for a top-ticket election but fails to mark a choice in a race farther down the ballot. Our measurement strategy follows that employed by previous research (e.g., Wattenberg, McAllister, and Salvanto 2000)—the ratio of the number of House votes cast to the number of votes cast in the top race on a ballot.⁵ In 2002 and 2006, the U.S. Senate race in Texas was the top item on the ballot; in 2004, the top item was the presidential contest. A voter is said to have “rolled off” if they voted for the top-ticket contest but not in the U.S. House contest.

To account for differences in the voting-age population across VTDs, we calculate this measure as a proportion, and subtract it from 1. The subtraction from 1 is necessary to create a measure interpretable in terms of non-voting—that is, the measure increases as the difference between the number of top-ticket votes and House votes increases. The measure is:

⁴ There are four VTDs that were split in the redistricting preceding the 2006 elections. Because we cannot identify which portions of the VTD ended up in new incumbent districts, we drop these cases from our analyses. Given that this represents less than one half of one percent of the VTDs in the state, their exclusion should not bias our findings.

⁵ An alternative measure would use as the denominator the total number of voters in each VTD who went to the polls. The roll-off rate would then represent the proportion of citizens who turned out but did not cast a vote in the congressional contest, rather than a measure based on a comparison of top-ticket votes to House votes. We have run our analyses using the alternative measure in 2002 and 2004—the years for which we have the total number of voters in the VTDs—but the results are substantively unchanged.

$1 - (\text{N of votes cast in U.S. House election} / \text{N of votes cast in top-ticket election})$

For example, a VTD with 1,000 votes in the U.S. Senate contest and 900 votes in the U.S. House election has a 0.90 “full voting” rate, and a roll-off rate of 0.10. To ease interpretation, we translate this value into a percentage—10%. It should be noted that this measure can theoretically range from -100% to +100%. If there are more House votes cast than Senate or presidential votes in a VTD, the measure takes on negative values. In more than three-quarters of the VTDs in 2002 and 2006, and in about 98% in 2004, the measure takes on positive values.⁶

We focus on roll-off, rather than turnout, because it allows us to tie House election participation directly to redistricting.⁷ Turnout—the act of showing up at the polls—is subject to a variety of influences, including mobilization efforts by presidential, senatorial, or other campaign activity unrelated to a House campaign. Given that we cannot fully account for the allocation of presidential or senatorial campaign resources to different parts of the state, we rely on a dependent variable that is subject only to the U.S. House-specific influence of redistricting. Thus, we can be more confident that any variation in participation we find is indeed due to redistricting, not other unobserved campaign activity.⁸

⁶ The Texas Legislative Council reports VTD-level election returns only for Republican and Democratic candidates, so our roll-off measure represents the difference between the number of major-party votes in top-ticket and House elections. Since the frequency with which third-party candidates appear on the ballot is higher in Senate and presidential contests than House contests, this makes our measure a conservative one: We are not accounting for voters who prefer a third-party candidate in a Senate or presidential race but do not have the same opportunity to cast a third-party ballot in a House election. Because of that, it may be that roll-off is actually higher than we can estimate. We have also run analyses to examine whether the presence of third-party candidates on the ballot affects roll-off rates. We find no relationship.

⁷ Nonetheless, it is worth pointing out that our findings are almost always identical when we run our analysis with turnout as the dependent variable.

⁸ The design of the Texas ballot is also advantageous, as it rules out voter fatigue an alternative explanation for any roll-off we find. Some research has suggested that items toward the bottom of a ballot are less likely to be voted on than top-ticket items, because voters become weary as they work their way down the ticket (e.g., Darcy and Schneider 1989). The Texas ballot, however, places federal elections at the top, with the House race in the second position, immediately following the top federal race (president or U.S. Senate) for that year. Roll-off rates, then, are unlikely to be the product of voter fatigue. Texas also provides a conservative test for the effects of redistricting on roll-off, since it includes a straight-ticket party option, which McAllister, Salvanto, and Wattenberg (2000) estimate reduces roll-off by about 2%.

Racial Composition and Voter Roll-off

Since our main aim is to examine the role of race in conditioning the effects of redistricting, we first present some basic analyses designed to discern whether simple relationships exist between voter roll-off and the racial composition of a VTD. To do so, we run a series of models in which we regress roll-off separately on each of three racial composition variables—the percentage of a VTD’s voting-age population that is white, Hispanic, and black. In other words, in each regression, the dependent variable is the roll-off rate in a VTD, and the independent variable is one of the racial composition variables. These bivariate regressions provide a simple, preliminary way to examine whether a consistent relationship emerges between roll-off and race. For the moment, we set aside the standard caveats about such a bivariate analysis—the need to control for electoral competitiveness, other contextual factors, etc.⁹

Since the question motivating our analysis is whether the level of roll-off is suppressed or amplified according to both racial composition and redistricting status—whether a VTD has been redrawn or not—we present the bivariate regressions for three types of VTDs: those that remain in a congressional district with a familiar incumbent, those redrawn into a new incumbent’s district, and those in open seat districts. The information costs associated with the elections in these districts are likely to be different. Our focus in this paper is not on open seat contests, but we present these analyses for the sake of comprehensiveness.

Each column in Tables 1-3 presents a single bivariate regression. For example, in Table 1, the first section of the table (“Same Incumbent”) presents three regressions for VTDs that were not redrawn before the 2002 elections. The first column shows the results of the model regressing roll-off on the percentage of a VTD’s voting-age population that is white. The coefficient (“Effect”) was -.05, indicating that as a VTD’s white share of the voting-age population increased, the roll-off rate

⁹ We also set aside the effects of the voting-age population from other ethnic groups, because those numbers are very small in Texas. We do, however, control for that population in the multivariate models.

declined. (The standard error, however, is large enough to render the effect statistically insignificant.) The two other columns present bivariate regressions between roll-off and the measures for the Hispanic and black voting-age population in each VTD. The same regressions are also shown for VTDs that were redrawn and in open seat contests.

We first consider the effect of the size of the white population. In the midterm years (2002 and 2006), roll-off tended to either decrease or not be affected as the white population increased, as evidenced by the either negative and significant or insignificant coefficients. Considering the effects in same-incumbent and redrawn districts, there appears to be no consistent relationship between white voting-age population and redistricting. In 2002, there is no effect in same-incumbent districts, but a negative and significant effect (indicating lower roll-off as the white population increases) in redrawn VTDs. In 2006, the pattern is reversed, with a null finding in redrawn VTDs, and a negative effect in same-incumbent districts.

[Insert Tables 1-3 here]

Turning to Hispanics, there is some evidence that increases in the share of the Hispanic voting-age population may increase roll-off (especially in 2002), but this does not seem to depend on redistricting. The effects are significant and positive in same-incumbent districts in both 2002 and 2006, and significant in redrawn VTDs in 2002 only. Overall, VTDs with larger Hispanic populations appear to have somewhat higher roll-off rates, though the effects are not enormous.

The findings for black VAP are similar to the findings for white voting-age population. The regressions show either null or negative effects for the black population. In 2002, the effect in same-incumbent districts was negative and significant: as the black voting-age population increased, roll-off went down. In 2006, the coefficient was again negative, but narrowly misses statistical significance ($p=.15$). Roll-off in open seats also tended to decline as the African-American population increased. These data run counter to the literature that finds higher levels of roll-off

among black voters (e.g., Darcy and Schneider 1989), but dovetail with the results of Wattenberg (2000), who does not find greater roll-off among African Americans in national survey data.

At the same time, there is a hint that redistricting might have stronger effects in VTDs with larger black populations. In each of the three elections, in VTDs that were redrawn into new incumbent's districts, the black voting-age population coefficient is positive, indicating higher levels of roll-off. None of the coefficients are statistically significant, but the consistency of this pattern across the three elections bears further attention. It is also important to note that racial composition appeared to play a limited role in influencing roll-off rates in 2004, a presidential year. It is possible that the higher levels of information about politics in presidential years, and greater mobilization efforts, served to equalize information costs across VTDs with different racial compositions.

As noted, this simple analysis ignores other factors that likely affect roll-off rates in VTDs. And a fuller specification is needed to identify the mediating effects of racial composition on redistricting while controlling for a host of other factors. Among others, this means accounting for factors such as competitiveness of campaigns and the race of incumbents, since candidate race can significantly influence participation among U.S. citizens of all races (Barreto 2007; Gay 2001).

Multiple Regression Analyses

We turn to multiple regression analyses to gauge the effect of redistricting and race on roll-off while controlling for a number of factors that could influence participation rates. The dependent variable in each model is again the roll-off rate in a VTD.¹⁰ Our key independent variables are

¹⁰ As one might suspect, the dependent variable is not normally distributed. There are few observations on the left-hand side of the distribution (roll-on), a fair proportion on the right-hand side (roll-off), and a substantial number centered around 0 (indicating no or small amounts of roll-off). With such a distribution, it is possible that OLS regression could yield biased or inefficient estimates. To address this concern, we have run a separate analysis after transforming the dependent variable to create a more normal distribution. To do so, we have added 1 to the variable and then taken its log. The addition of 1 is necessary because of the large number of observations at 0, and taking the log of those observations would cause them to be dropped from the distribution. By adding 1, we lose in each year just a handful of cases (those that were at -1) and are able to create a logged variable. After transforming the variable, we have run the models with the new dependent variable and obtain similar results. Because the results of these logged variable models

interactions between whether a VTD has been redrawn and three racial composition variables—the percentage of a VTD’s voting-age population that is black, Hispanic, and comprised of other ethnic groups.¹¹ We also include interactions between the race variables and a dummy for open-seat districts, since there are some differences in roll-off between open seat and other districts in Tables 1-3. We also include variables to control for the information environment in a district—the total amount of candidate spending; a dummy, coded 1, if the district is contested between a Republican and Democrat; and a measure for the competitiveness of the race. The measures are described in the Appendix.¹²

The results, presented in Table 4, suggest that redistricting’s effects on roll-off are significantly more pronounced as the size of a VTD’s black voting-age population increases. In models for each of the three election years, the coefficient *Redrawn X % Black VAP* is positively signed and statistically significant. Increases in the African-American share of a VTD’s population are associated with higher levels of roll-off when that VTD has been redrawn. We find no other consistent effects of race in the model, though the interactions between redrawn and Hispanic and Other VAP are significant in one election year each. Redistricting’s participatory effects appear most strongly to affect the House participation rates in VTDs where blacks are concentrated.

[Insert Table 4 here]

Because the 2006 redistricting occurred under unusual circumstances, we run a model in the final column of Table 4 that attempts to parse out the effects for different types of redrawn VTDs

are difficult to interpret—the dependent variable having lost its intuitive meaning—we present the standard models in the tables, with the assurance that the distribution of the dependent variable is not leading us to erroneous conclusions about the relationship between redrawn VTDs and roll-off rates.

¹¹ We use the white VAP as the omitted category because the white and Hispanic VAP are highly (negatively) correlated. When we enter both variables and their interactions in the model together, severe multicollinearity is introduced. Thus, we use Other VAP in the models, with white VAP as the reference category.

¹² We make two adjustments to the standard OLS model when we run the analysis. First, we weight the model by the voting-age population of the VTD in order to account for variations in the size of the VTDs. Second, we use Huber-White standard errors clustered on the congressional district to correct for the fact that the models include measures at both the VTD- and district-level. Alternative model specifications that allow for dependence among the observations reveal the same results.

in that year. Some Texans were redistricted in both 2004 and 2006, so the 2006 redrawing resulted in a category of VTDs we refer to as “re-redistricted”—those that were redrawn in two successive elections. In 2006, then, there are three different types of VTDs, each of which could be associated with different information costs.

First, we create a dummy to identify VTDs that were redrawn in 2006, but not 2004—*Redrawn in 2006 Only*. *Re-Redistricted back to Old Incumbent* accounts for areas that were redrawn in 2004, and in 2006 were returned to their former incumbent’s district. *Re-redistricted with Two New Incumbents* identifies VTDs that ended up with new incumbents in both the 2004 and 2006 redistrictings. Our expectation is that we find the strongest effects of redistricting in the first and third categories; people who were returned to their former incumbent had the incumbency information shortcut restored, perhaps leading to lower levels of roll-off compared to the other redistricted groups. We also include a dummy variable to identify VTDs in the five congressional districts with a *Special Election* because of an unusual ballot choice these voters faced.¹³

We then interacted each of the redistricting variables with the race measures. The results of these models are somewhat complicated, but the key result is that there is again evidence that the information costs of redistricting become more pronounced as the size of the black population increases. The interaction *Redrawn in 2006 Only X % Black VAP* is positive and significant. And, tellingly, *Re-redistricted back to Old Incumbent X % Black VAP* is negative and significant. This means that the when information subsidies are altered—either when they are increased by redrawing a voter into a new incumbent’s district, or when they are lowered by placing a voter back into a familiar incumbent’s district—the effect is strongest in districts with large numbers of African

¹³ Voters in the five reconfigured congressional districts faced House elections with multiple candidates, rather than the typical dichotomous choice between a Republican and a Democrat. In each of the five districts, at least three candidates appeared on the ballot, and voters in two contests faced a choice among seven and eight candidates, respectively. We expect this choice environment may have increased information costs for both redrawn and same-incumbent voters, since the ballot lacked the simple designation of a party nominee in the House race. Thus, we control for the special election in the 2006 analyses.

Americans. We do not find similarly consistent effects for the other race variables.¹⁴ Redistricting's participatory effects appear to be more pronounced when the black population increases.

Does the Race of the Incumbent Matter?

A key question is whether these effects vary by the race of the incumbents in office. Black political participation can be strongly affected by the presence of African-American candidates on the ballot, including reducing roll-off rates among African Americans (Vanderleeuw and Liu 2002; Herron and Sekhon 2005). This implies that the effects we identify in Table 4 may not be consistent across all electoral contexts—it may be that roll-off is only higher when blacks are redrawn into Hispanic or white incumbents' districts, and perhaps may even decline when they are redrawn into black incumbents' districts.

To explore the possible role of the race of the incumbent in shaping participation following redistricting, we ran separate regressions for each year, split by the race of the incumbent. In Texas, most congressional incumbents in each year were white, but there are a sizeable number of Hispanic representatives and two black incumbents in each year. This gives us a reasonable number of congressional districts (and a large number of VTDs) that are included each of the models.

The 2002 models are presented in Table 5. Just as in Table 4, the key variables are the interaction terms between a VTD's racial makeup and whether or not it was redrawn.¹⁵ The models show that the interactive effects of race and redistricting were restricted to districts represented by white incumbents. Both the interactive terms between black VAP and redrawn and Hispanic VAP and redrawn are positive and significant.¹⁶ As the percentage of the minority populations increased

¹⁴ We do find in 2006 that roll-off increases significantly as the Hispanic VAP increases in VTDs that were redrawn back to their old incumbent. This is a counterintuitive result, and we are not sure how to explain the finding.

¹⁵ Because we are focused only on incumbent districts, the models do not include VTDs in open-seat contests.

¹⁶ We also explored whether the effects of redistricting on roll-off in white incumbents' districts' were disproportionately due to high roll-off in heavily black VTDs that were redrawn out of a black incumbent's district. However, when we add a three-way interaction term to the model—*Redrawn X % Black VAP X Redrawn Away from Black Incumbent*—we find no

in redistricted VTDs with white incumbents, roll-off increased significantly. We find no evidence that blacks or Hispanics are more likely to roll-off when redrawn into districts with co-ethnic congressional representatives.

[Insert Tables 5-7 here]

The models in 2004, shown in Table 6, reveal no effects. This implies that the significant results for redistricting and black VAP in Table 4 were not restricted to districts with incumbents of a particular race. This is not surprising, since the 2004 analyses have tended to find weaker relationships between race and redistricting. Again, one possibility is that the information environment is equalized in presidential contests to a greater extent, which makes information inequities less pronounced.

Finally, the results in 2006, shown in Table 7, confirm what we found in 2002 for the black VAP: In white incumbent districts, redistricting's effects on roll-off are stronger in areas with large African-American populations. We find this in the basic model, as well as the more complicated model shown in the third column of Table 6. Interestingly, the effects for Hispanics is negative, a reversal from what we found in 2002, indicating the inconsistency of Hispanics' response to being redistricted into white incumbents' districts. Again, we find no similar effects for Hispanic incumbents. In 2006, there were no VTDs redrawn into black incumbents' districts; thus, we have no models for black incumbents.

Conclusion

Our findings suggest that redistricting's participatory effects have their strongest effects among African Americans. In the first three Texas U.S. House elections of this decade, voter roll-off was significantly higher in voting tabulation districts with large black populations that had been

significant effects. The influence of redistricting and race on roll-off in white incumbents' congressional districts does not appear to stem solely from a demobilizing effect among VTDs moved out of black incumbents' districts.

redrawn into a white incumbent's district. We did not find similar patterns among Hispanic or other voters. There appears to be a racial dimension to redistricting's participatory effects, but, at least in Texas, it is restricted to African Americans.

There are, of course, a number of important caveats to our findings. First, these analyses face the well-known ecological inference problem—the difficulty of making individual-level inferences from aggregate-level data. In the interest of prudence, we would describe these results as merely suggestive, pointing to the need for additional individual-level analyses to determine whether the findings are more than statistical artifact. Second, our analyses have equated racial composition with socio-economic status, rather than controlling for SES separately. Without a better measure of a VTD's SES (Sekhon and Titiunik 2009), it is impossible to disentangle the effects of racial composition from the effects of variations in income and education. Third, we have set aside the question of mobilization, which is central to explaining voter turnout (Leighley 1995; Rosenstone and Hansen 1993). Since the effect of redistricting on roll-off could be eliminated—or even reversed—by aggressive mobilization efforts, especially those targeted at particular minority communities (Shaw, de la Garza, and Lee 2000), this is another element of the participation process that deserves attention.

Nonetheless, we consider the findings here worthy of further consideration. Redistricting's effects do not appear to apply evenly across the electorate, with information costs being borne more heavily in communities with large African-American populations. Candidate race appears to be a critical feature of the electoral context, as we found these effects only in districts represented by white incumbents. While race and ethnicity have for decades been central to the legal, political, and scholarly debates over redistricting, they should also be part of the emerging discussion about redistricting's participatory consequences.

Appendix: Variables in Regression Models

Voter roll-off: $1 - (\text{N of votes cast in U.S. House election} / \text{N of votes cast in top-of-ballot election})$

Redrawn: 1=VTD was redrawn into a district with a new incumbent, 0=otherwise

%Black VAP: minimum=0, maximum=100

%Hispanic VAP: minimum=0, maximum=100

%Other VAP: minimum=0, maximum=100

Redrawn in 2006 Only: 1=VTD was redrawn into a district with a new incumbent in 2006 but not in 2004, 0=otherwise

Re-redistricted back to Old Incumbent: 1=VTD was redrawn into a district with a new incumbent in 2004 and was drawn back into the district of the former incumbent in 2006, 0=otherwise

Re-redistricted with Two New Incumbents: 1=VTD was redrawn into a district with a new incumbent in both 2004 and 2006, 0=otherwise

Special election: 1=VTD was included in congressional district with a special election in 2006, 0=otherwise

Total Candidate Spending: Sum of Democratic and Republican spending totals, scaled by \$100,000

Open seat: 1=no incumbent running for reelection, 0=otherwise

Contested: 1=seat is contested by both Republican and Democratic candidates, 0=otherwise

Competitiveness: 1=safe seat, 2=favors one party, 3=leans toward one party, 4=no clear favorite (Congressional Quarterly's measure of district competitiveness)

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Table 1. Bivariate Regressions of Voter Roll-off on Racial Composition in Texas VTDs, U.S. House Elections, 2002

	Same Incumbent			Redrawn			Open		
	<u>%White</u>	<u>%Hispanic</u>	<u>%Black</u>	<u>%White</u>	<u>%Hispanic</u>	<u>%Black</u>	<u>%White</u>	<u>%Hispanic</u>	<u>%Black</u>
Effect	-.05 (.04)	.08* (.05)	-.09** (.03)	-.21* (.12)	.19* (.11)	.12 (.14)	.02 (.01)	-.03 (.01)	-.02* (.01)
Constant	9.72** (3.18)	4.38** (1.73)	7.85** (2.11)	22.42** (9.8)	4.82* (2.41)	8.10** (2.72)	1.46 (.76)	2.95** (.72)	2.71** (.74)
N	6,923	6,923	6,923	1,275	1,275	1,275	924	924	924
R ²	.02	.04	.02	.14	.08	.01	.03	.04	.02

** $p < .05$; * $p < .10$, two-tailed

Cell entries are weighted least squares coefficients. Robust standard errors in parentheses.

Table 2. Bivariate Regressions of Voter Roll-off on Racial Composition in Texas VTDs, U.S. House Elections, 2004

	Same Incumbent			Redrawn			Open		
	<u>%White</u>	<u>%Hispanic</u>	<u>%Black</u>	<u>%White</u>	<u>%Hispanic</u>	<u>%Black</u>	<u>%White</u>	<u>%Hispanic</u>	<u>%Black</u>
Effect	-.00 (.03)	-.00 (.04)	-.00 (.04)	-.07 (.05)	.05 (.07)	.07 (.07)	.11 (.10)	-.11 (.10)	-.08 (.11)
Constant	9.45** (2.29)	9.55** (2.78)	9.45** (2.21)	13.72** (4.91)	7.95** (2.42)	8.16** (1.91)	4.82 (4.90)	14.95 (9.67)	12.82 (7.3)
N	5,620	5,620	5,620	2,760	2,760	2,760	1,258	1,258	1,258
R ²	.00	.00	.00	.02	.01	.01	.04	.03	.01

** $p < .05$; * $p < .10$, two-tailed

Cell entries are weighted least squares coefficients. Robust standard errors in parentheses.

Table 3. Bivariate Regressions of Voter Roll-off on Racial Composition in Texas VTDs, U.S. House Elections, 2006

	Same Incumbent			Redrawn			Open		
	<u>%White</u>	<u>%Hispanic</u>	<u>%Black</u>	<u>%White</u>	<u>%Hispanic</u>	<u>%Black</u>	<u>%White</u>	<u>%Hispanic</u>	<u>%Black</u>
Effect	-.07* (.04)	.09** (.04)	-.05 (.03)	-.01 (.05)	-.01 (.05)	.28 (.17)	.14** (.01)	-.03 (.02)	-.22 (.02)
Constant	8.39** (3.03)	2.11* (1.20)	5.26** (1.67)	9.31 (4.68)	9.26** (1.63)	7.37* (3.03)	4.74** (.85)	13.76** (.48)	15.30** (.32)
N	7,868	7,868	7,868	499	499	499	212	212	212
R ²	.04	.06	.01	.00	.00	.07	.34	.00	.32

** $p < .05$; * $p < .10$, two-tailed

Cell entries are weighted least squares coefficients. Robust standard errors in parentheses.

Table 4. The Effect of VTD Racial Composition and Redistricting on Roll-off in Texas U.S. House Elections, 2002-2006

	2002	2004	2006	
Redrawn	-3.34* (1.70)	1.92 (1.76)	-1.45 (1.59)	--
Redrawn X % Black VAP	0.13* (0.08)	0.19** (0.07)	0.34** (0.15)	--
Redrawn X % Hispanic VAP	0.15** (0.06)	-0.02 (0.03)	0.03 (0.04)	--
Redrawn X % Other VAP	0.25 (0.23)	-0.04 (0.17)	-0.80** (0.24)	--
Open seat X % Black VAP	-0.00 (0.03)	0.16 (0.11)	-0.17** (0.03)	-0.17** (0.03)
Open seat X % Hispanic VAP	0.02 (0.03)	-0.02 (0.04)	-0.03 (0.02)	-0.03 (0.02)
Open seat X % Other VAP	-0.12 (0.12)	-0.23 (0.15)	-0.32** (0.08)	-0.32** (0.08)
Candidate spending	-0.05* (0.03)	0.04 (0.04)	0.01 (0.08)	-0.01 (0.07)
Open seat	2.94** (1.33)	3.92 (2.40)	26.74** (5.88)	22.73** (4.20)
Contested	-22.67** (1.52)	-26.79** (2.19)	-23.44** (1.45)	-23.39** (1.45)
Competitiveness	-0.07 (0.24)	-1.26 (0.84)	-5.07 (4.09)	-2.60 (3.17)
% Black VAP	0.01 (0.03)	-0.18** (0.08)	-0.04 (0.03)	-0.04 (0.03)
% Hispanic VAP	-0.01 (0.03)	0.03 (0.03)	-0.02 (0.02)	-0.02 (0.02)
% Other VAP	0.26** (0.11)	0.25** (0.09)	0.13 (0.08)	0.14* (0.08)
Special Election	--	--	9.44** (2.34)	9.22** (2.28)
Redrawn in 2006 Only X % Black VAP	--	--	--	0.46** (0.14)
Re-redistricted back to Old Incumbent X % Black VAP	--	--	--	-0.23** (0.09)
Re-redistricted with Two New Incumbents X % Black VAP	--	--	--	-0.16

				(0.14)
Redrawn in 2006 Only X % Hispanic VAP	--	--	--	-0.05 (0.03)
Re-redistricted back to Old Incumbent X % Hispanic VAP	--	--	--	0.09** (0.03)
Re-redistricted with Two New Incumbents X % Hispanic VAP	--	--	--	0.05 (0.04)
Redrawn in 2006 Only X % Other VAP	--	--	--	-0.09 (0.50)
Re-redistricted back to Old Incumbent X % Other VAP	--	--	--	0.51 (2.54)
Re-redistricted with Two New Incumbents X % Other VAP	--	--	--	-0.42** (0.20)
Redrawn in 2006 Only	--	--	--	-4.63 (3.16)
Re-redistricted back to Old Incumbent	--	--	--	-3.43 (2.99)
Re-redistricted with Two New Incumbents	--	--	--	5.21* (2.97)
Constant	22.74** (2.39)	29.74** (3.26)	29.32** (4.30)	27.00** (3.48)
N	8,198	8,380	8,363	8,363
Adjusted R ²	0.67	0.71	0.64	0.66

** $p < .05$; * $p < .10$, two-tailed

Cell entries are weighted least squares coefficients. Robust standard errors in parentheses.

Table 5. The Effect of Racial Composition and Redistricting on Roll-off in U.S. House Elections, by Race of Incumbent, 2002

	White Incumbents	Hispanic Incumbents	Black Incumbents
Redrawn	-3.57* (2.05)	17.75** (6.71)	-0.32 (1.26)
Redrawn X % Black VAP	0.18* (0.10)	0.25 (0.69)	0.01 (0.01)
Redrawn X % Hispanic VAP	0.20* (0.11)	-0.09 (0.11)	-0.01 (0.01)
Redrawn X % Other VAP	0.23 (0.22)	-5.17* (2.06)	-0.16 (0.05)
Candidate spending	0.13 (0.11)	-1.47* (0.60)	4.32** (0.08)
Contested	-22.08** (1.34)	-24.16** (1.34)	--
Competitiveness	-0.44 (0.46)	19.12* (8.69)	--
% Black VAP	0.01 (0.03)	-0.18 (0.13)	-0.01 (0.01)
% Hispanic VAP	0.01 (0.06)	-0.25* (0.11)	0.03 (0.05)
% Other VAP	0.26* (0.14)	0.71* (0.34)	-0.01 (0.03)
Constant	19.78** (1.98)	29.65** (7.17)	-18.09* (2.39)
N	5,374	1,469	431
Adjusted R ²	0.70	0.75	0.45

** $p < .05$; * $p < .10$, two-tailed

Cell entries are weighted least squares coefficients. Robust standard errors in parentheses.

Table 6. The Effect of Racial Composition and Redistricting on Roll-off in U.S. House Elections, by Race of Incumbent, 2004

	White Incumbents	Hispanic Incumbents	Black Incumbents
Redrawn	2.94 (1.97)	2.96 (1.54)	-6.48 (3.39)
Redrawn X % Black VAP	-0.03 (0.08)	0.03 (0.09)	0.00 (0.02)
Redrawn X % Hispanic VAP	0.00 (0.04)	-0.03 (0.02)	0.15 (0.06)
Redrawn X % Other VAP	0.02 (0.18)	-0.54* (0.25)	-0.09 (0.37)
Candidate spending	-0.02 (0.02)	0.28** (0.06)	-7.30* (0.83)
Contested	-25.48** (2.80)	--	--
Competitiveness	-0.20 (0.66)	--	--
% Black VAP	0.11 (0.08)	0.02 (0.04)	-0.60* (0.05)
% Hispanic VAP	0.01 (0.04)	0.03 (0.02)	-0.33** (0.02)
% Other VAP	0.22** (0.09)	0.36* (0.14)	-0.08 (0.14)
Constant	26.60** (3.87)	-1.12 (1.91)	86.29** (6.08)
N	4,804	1,331	431
Adjusted R ²	0.75	0.07	0.87

** $p < .05$; * $p < .10$, two-tailed

Cell entries are weighted least squares coefficients. Robust standard errors in parentheses.

Table 7. The Effect of Racial Composition and Redistricting on Roll-off in U.S. House Elections, by Race of Incumbent, 2006

	White Incumbents		Hispanic Incumbents	
Redrawn	3.64** (1.14)	--	-1.28 (7.61)	--
Redrawn X % Black VAP	0.47** (0.02)	--	0.03 (0.15)	--
Redrawn X % Hispanic VAP	-0.08* (0.04)	--	0.04 (0.09)	--
Redrawn X % Other VAP	-0.78** (0.16)	--	-0.11 (0.85)	--
Candidate spending	0.02 (0.06)	0.02 (0.06)	0.19 (0.12)	-0.02 (0.10)
Contested	-26.10** (0.44)	-26.10** (0.44)	-8.87* (3.60)	--
Competitiveness	-2.52 (2.68)	-2.58 (2.76)	-21.52** (2.91)	-10.90** (2.84)
% Black VAP	0.01 (0.01)	0.01 (0.01)	-0.19 (0.17)	-0.18 (0.17)
% Hispanic VAP	-0.00 (0.02)	-0.00 (0.02)	-0.21 (0.13)	-0.22 (0.13)
% Other VAP	0.07* (0.03)	0.07* (0.03)	0.84 (0.58)	0.70 (0.69)
Special Election	5.30** (0.82)	5.30** (0.82)	--	-9.34* (3.59)
Redrawn in 2006 Only X % Black VAP	--	0.51** (0.02)	--	0.06 (0.11)
Re-redistricted back to Old Incumbent X % Black VAP	--	-0.40** (0.06)	--	-0.03 (0.17)
Re-redistricted with Two New Incumbents X % Black VAP	--	-0.02 (0.04)	--	-0.30 (0.16)
Redrawn in 2006 Only X % Hispanic VAP	--	-0.05 (0.04)	--	-0.03 (0.08)
Re-redistricted back to Old Incumbent X % Hispanic VAP	--	0.09** (0.02)	--	0.27 (0.13)
Re-redistricted with Two New Incumbents X % Hispanic VAP	--	-0.04 (0.02)	--	0.06 (0.10)
Redrawn in 2006 Only X % Other VAP	--	-0.59	--	0.51

			(0.43)		(1.47)
Re-redistricted back to Old Incumbent X % Other VAP	--	-2.75**	(0.47)	--	2.53**
Re-redistricted with Two New Incumbents X % Other VAP	--	-0.20*	(0.11)	--	-1.95**
Redrawn in 2006 Only	--	1.55*	(0.77)	--	-1.82
Re-redistricted back to Old Incumbent	--	0.75	(0.79)	--	-18.86
Re-redistricted with Two New Incumbents	--	11.08**	(1.90)	--	3.61
Constant	28.38**	28.43**	(2.40)	56.67**	48.00**
			(2.46)	(8.74)	(9.80)
N	6,312	6,312		1,263	1,263
Adjusted R ²	0.71	0.71		0.48	0.52

** $p < .05$; * $p < .10$, two-tailed

Cell entries are weighted least squares coefficients. Robust standard errors in parentheses.