A Texan VRA Claim: Race, Party, and Maps Covered in Salamanders

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Introduction

Redistricting is a necessary but often exploited process in American politics and the biased nature of the cracking and packing of districts on partisan lines can oftentimes harm minority voters. One must wonder what motivated the Texas Legislature to draw bizarre spindly districts that connect downtown San Antonio with east Austin, nearly a hundred miles away, or why another district stretches from San Antonio all the way to the outskirts of McAllen (Texas 2023). These maps, challenged as being racially biased, justified as only "partisan", likely harm minority voters (Fair Maps Texas Action Committee 2021). This map has been challenged in the courts as violating Section 2 of the Voting Rights Act, which prohibits gerrymandering, but a determination has yet to be made as to whether this map is acceptable. A good comparison for the Texas map is the Alabama map recently struck down in Allen v. Milligan, a case which recently reaffirmed the legality of racial gerrymandering claims under the Voting Rights Act (Roberts 2023a). The Voting Rights Act requires that whenever voting is racially polarized, districts cannot be drawn in such a way where minorities cannot elect their preferred candidates (Okonta 2018). Given that Texas' map is heavily gerrymandered, and that partisanship and race are still highly correlated (demonstrated later), these maps may constitute an undue burdening of the rights of minorities impermissible under the VRA regardless of original partisan intention.

Therefore, simulating a VRA claim is an important piece of analysis that must be done before any inferential research on causes of racial gerrymandering. In Texas, this means adjudicating VRA claims for both Hispanics and Black voters, who both may be harmed by current maps. Also, given that the U.S. congressional map has only 38 districts compared to the State House map's 150, all maps are considered in this analysis.

This paper continues as follows:

The Dependent Variable section explains the history of racial gerrymandering, the test put forth in the Gingles case, and explains high and low level concerns when measuring racial gerrymandering. The Independent Variable section is a literature review of all present methods in measuring both partisan and racial gerrymandering, including map-based analyses, global analyses, and ensemble analysis. The theory section further builds on the literature review section by creating testable hypotheses and reviewing the specific methods used in the precedent of Singleton v. Merrill. The research design section lays out how racial voting estimates are made using iterative ecological inference and how ensembles are made to test the allocation of majority minority districts, and the many limitations in the design. The findings section includes the analyses described in the research design section and finds that all Texas maps are not racially gerrymandered under the VRA because Hispanics do not vote cohesively, Black people cannot constitute a majority in a State Senate or Congressional district, and Texas maps have more majority-minority districts than most of the computer-generated ensembles. The implications are that racially diverse states can effectively avoid VRA claims by awarding the modal number of districts to minorities while maximizing White-majority districts. It also shows that the VRA can fail to protect minorities from gerrymandering.

Dependent Variable

Racial gerrymandering, a process meant to reduce minority representation in elections, has a long history in the United States. As an example, for more than a hundred years, the state of Alabama drew racially gerrymandered districts that made sure that no Black person could be elected to the U.S. House of Representatives from that state (Roberts 2023b, 6). This was the status quo in the Jim Crow South until the passage of the Voting Rights Act (VRA), which was meant to remedy barriers to voting that minorities faced (Okonta 2018, 274). Section 2 of the VRA prohibits states from diluting minorities' votes through districting plans (Okonta 2018, 274). Thornburg v. Gingles was the first major case brought under section 2, which established a three-part test for adjudicating VRA claims: (briefly) 1. A minority must be sufficiently numerous and compact to form a majority in a reasonably configured district and, 2. Must vote cohesively and, 3. Must lose elections to a cohesive White vote most of the time (Okonta 2018, 275, summarized). Racial gerrymandering still persists as schemes in North Carolina, Georgia, South Carolina, and Mississippi have been challenged in various courts since the Gingles case (Okonta 2018).

At a very high level, there are two processes through which racial gerrymandering happens: cracking (negative dilution), in which geographically contiguous voters of one race are split between multiple districts such that they no longer constitute majorities in any district, and packing, in which as many voters of one are packed into as few districts as possible so that the total number of districts they constitute majorities in is reduced (Okonta 2018). These practices serve to dilute the vote of a race in a way that leads to that race forming majorities in as few districts as possible.

A major hurdle with litigating VRA cases is figuring out how a racial group voted. Given that race data is not collected at the ballot box, scholars have tried to find different ways of measuring racial preference for candidates, many of which have been accepted by courts (de Benedictis-Kessner 2015). These methods have included ecological regression, homogeneous neighborhood voting, "eco" models, ecological inference, and combinations of these (de Benedictis-Kessner 2015). Otherwise, compactness and numerosity can often be shown with counterfactual maps (Alabama 2022). VRA cases are usually litigated based on whole maps, such as that of (Alabama 2022). As such, this analysis will operationalize the unit of analysis as the aggregation of racial representation in one map, for a total of three maps, as explained in the design section.

In sum, racial gerrymandering is the practice of diluting minority votes and making sure minority-preferred candidates do not get elected to office. On the ground, racial gerrymandering happens in a system where race bitterly divides politics and where people cannot get any representation for their districts. The diagnostic in VRA claims are the number of minority-majority districts in the original maps and alternative maps and the vote choices of racial groups, along with qualitative "Senate factors", later discussed in the theory section.

Other Methods in Gerrymandering Analysis

Given that "independent variables" have already been covered in the previous section and will be covered again in the subsequent section, I include the following literature review of current methods in gerrymandering analysis.

Ecological inference is a proposed method of making inferences about groups from aggregate data (King 1997). Originally proposed as a way to measure voter turnout between White and Black people at the precinct level, it can also be applied to vote choice in precincts as well. The basic ecological inference model is as follows:

$$T_i = \beta_i^b X_i + \beta_i^w (1 - X_i)$$

where T_i is the proportion of support for a candidate, X_i is the proportion of a district that is of a particular group, and β_i^b and β_i^w are regression coefficients for the proportion of group members that support a candidate and the proportion of non-group members that support a candidate. This model was originally made to work with two groups (White and Black) and two outcomes (vote or no vote). There are multiple proposed versions that can be used for more than two groups. The $R \times C$ method changes the global odds of a group's vote based on each precinct and includes both bayesian and frequentist formulas for calculating betas (Rosen et al. 2001). Another approach is iterative ecological inference, which calculates 2 by 2 ecological inference models for each group by aggregating all other groups into one column and all other candidates into one row such that each beta is based on in-group/out-group share an in-candidate/out-candidate share (King 1997; Barreto et al. 2022). Though $R \times C$ EI was previously thought to be the more valid method for multiple groups, iterative EI has been found to be just as valid while also being less computationally taxing and simpler (Barreto et al. 2022). Ecological inference has been used in at least 20 cases in the last two decades, and it has less measurement bias than previous methods, such as ecological regression or neighborhood models (de Benedictis-Kessner 2015). Though ecological inference is commonly used by courts in VRA claims, usage of this model is highly disputed (Elmendorf and Spencer 2015).

There are various ways of establishing the existence of partisan gerrymandering more broadly. One of the more common ways is through "wasted votes", which is narrowly the number of votes that are not for a winning candidate (McGhee 2020). The efficiency gap, which is used by various articles, is a specific measure of the difference between the power of the two parties' wasted votes (to also include excess votes in an election that a party wins, to account for packing) divided by the overall number of votes cast (McGhee 2020). Algebraically, the efficiency gap is expressed as follows:

$$\omega = S_{marg} - 2 * V_{marg}$$

where S_{marg} is the percent of seats that a party receives minus 0.5 (its excess seats) and $V_m arg$ is the percent of votes that a party receives minus 0.5 (its excess votes) (McGhee 2014, 68-69). The crux of the efficiency gap is that it compares the gap in the efficiency of each party's votes. This metric is good for identifying the existence of gerrymandering but does not disaggregate past the state level to look at possible gerrymandering in individual districts. A limitation pointed out by the creators of the efficiency gap is that, because the measure assumes a two-fold change in seat share for change in vote, in systems where a party receives more than 75% of the vote, the efficiency gap expects 100% of seats to be allocated to that party, misrepresenting the redistricting as unreasonably fair in any of these cases (Stephanopoulos and McGhee 2015). There is also further criticism of the efficiency gap. One major criticism is that in aggregating district disparities to the state level, it is still possible to gerrymander, so long as each party wastes the same number of votes (Cover 2018). In addition to the possibility gerrymandering still going undetected by the efficiency gap, it is also possible for the efficiency gap, if implemented as an actual measure in court, to discourage competitiveness through a "decracking" plan which makes certain districts less competitive while still having a zero efficiency gap (Cover 2018). In addition, thresholds for determining whether gerrymandering exists can unequally evaluate a plan that gerrymanders for a minority party as more fair than one which gerrymanders for a majority party (Chambers, Miller, and Sobel 2017). This error is also exacerbated for states with larger populations and more seats, meaning that the efficiency gap may be invalidly measuring in part state population rather than gerrymandering (Chambers, Miller, and Sobel 2017). Furthermore, in a case where a party gets an equal percentage of votes and seats, the efficiency gap still considers the case unfair (Bernstein and Duchin 2017). In addition to being unclear in its validity, the efficiency gap was rejected by the Supreme Court entirely in Gill v. Whitford (Roberts 2018). As the say: "Partisan-asymmetry metrics such as the efficiency gap measure something else entirely: the effect that a gerrymander has on the fortunes of political parties." (Roberts 2018). The efficiency gap is unable to show any clear harms to individuals, only that gerrymandering is happening broadly. This is the most essential problem that plagues the efficiency gap: though it seems to give an obvious measure of a party's advantage in a gerrymander, it breaks down with (very plausible) edge cases and can't identify harms at the district or individual level.

Though the efficiency gap is a common and simple way to measure gerrymandering, other measures including the seats-votes curve (McGann et al. 2015), the mean-median gap (McDonald and Best 2015) and declination (Warrington 2018) measure other mathematical effects caused by gerrymandering. Some of the analyses, like the seats-votes curve (McGann et al. 2015), which measures the imbalance in the number of votes one party would need to get a majority of seats, and the mean-median gap (McDonald and Best 2015), which measures the difference between the median district vote share and the mean vote share, allow for state-level analyses, but have the same problem as the efficiency gap in that they look for the aggregate effects of gerrymandering, without being able to identify gerrymandered districts. In addition, the seats-votes curve is also based on counterfactuals, which as noted earlier, are not persuasive in court. On the other hand, declination, which measures "jump" in a per-district vote share graph caused by packing districts is not based on counterfactuals and measures an entirely different effect than the previous measures. However, it doesn't account for natural reasons for non-competitive districts, like urban centers (Roberts 2018) or VRA-required majority-minority districts.

Another line of inquiry for measuring gerrymandering is analysis of maps. Qualitative analysis of maps can be used by non-scientists to identify specific cases of gerrymandering. A complaint introduced by the Fair Maps Texas Action Committee suing the state of Texas for racial discrimination looks for specific instances of racial gerrymandering by identifying majority-minority communities and showing how districting maps cut them apart (Fair Maps Texas Action Committee 2021). This method, while crude and unscientific, is perhaps the easiest way to establish racial gerrymandering—by pointing at it on a map. However, the main concern about this analysis is its reliability, as better scientific accuracy can be found through statistical tests. Earlier geographic-based studies calculate the improbability of districting plans against random plans engstrom. Their design, tested on a map of New Orleans, randomly generates redistricting plans that meet the requirements of the VRA, then tests the voting power of Black people in the randomly generated districts, and finally compares the distribution of the voting power of Black people against existing plans drawn up by the city council and community leaders (Engstrom and Wildgen 1977). This analysis found that 76% of possible plans were less favorable to Black voters than the city council's final plan, finding no evidence of racial gerrymandering (Engstrom and Wildgen 1977).

A similar methodology was later used to find the modal results of the generation of random plans vis-à-vis the number of majority minority districts created for other possible maps (O'Loughlin 1982). This line of research, based on the generation of counterfactual maps, gives a clearer statistical test that specifically accounts for racial, rather than partisan gerrymandering. There are both benefits and drawbacks to a counterfactual analysis. Though the generation of a counterfactual ensemble of maps makes it clear exactly how many randomly generated maps would be better or worse for the voting rights of minorities, the Supreme Court said in LULAC v. Perry that it was "wary of adopting a constitutional standard that invalidates a map based on unfair results that would occur in a hypothetical state of affairs." (Finneran and Luther 2019, 395).

The most modern model for generating redistricting plans is one that uses a Markov Chain Monte Carlo (MCMC) algorithm (or a version of it) that can create a large ensemble of simulated plans that creates a counterfactual to compare a current plan against (Fitfield et al. 2020). A study that uses this algorithm on three proposed North Carolina redistricting maps finds it possible to compare existing plans to the generated ensemble for various characteristics, such as the number of Democrats elected, the distribution of Democrat vote across districts (similar to the declination from (Warrington 2018)), partisan bias, and efficiency gap (Herschlag et al. 2020). The methodology used allows for the evaluation of gerrymandering at a district level using various measures of the statistical improbability of seat share and allows for state-level analysis of the efficiency gap (Herschlag et al. 2020). Another proposed method of apportioning districts is Sequential Monte Carlo (SMC) which is found to have lower standard errors and more diverse ensembles than MCMC (McCartan and Imai 2023). Though still a counterfactual analysis, it is theorized that a simulation analysis can also be adapted to racial indicators, and could be accepted by courts as a newer method of analysis that can separate partisan bias (which is legal) and racial bias (which is illegal) (Menter 2021). Thus, it would seem that by combining several of the previous methods, the best available analysis for measuring racial gerrymandering is the creation of an ensemble of redistricting plans using MCMC and testing this ensemble against an existing map in terms of the modal number of majority-minority districts, the dilution of minority votes, and the improbability of distributions of minority voters compared to the ensemble.

Theory

In understanding the theory to guide this analysis, we must consider previous cases. The most recent VRA gerrymandering claim was Allen v. Milligan, so let's take a close look at how that case panned out. For 115, the government of Alabama racially gerrymandered Black voters such that they could not elect a representative to office (Roberts 2023b, 6). After being sued in Wesch v. Hunt, Alabama was required to draw its first majority Black district (Roberts 2023b, 6). After this point, Alabama continued to have only one Black congressional district until being sued again in Allen v. Milligan (Roberts 2023b, 6-8), as Black people constituted 27% of the voting age population (VAP), but only constituted a majority in one out of seven (14%) of congressional districts. In the district court case, Singleton v. Merrill, Black support for Black candidates in general elections was at least 88% for all congressional elections, and in all those elections, White voters did not show support for the Black candidates (Alabama 2022, 23). The Black population had grown in Alabama by 6% (Alabama 2022, 30) and could constitute a majority in at least two districts (Alabama 2022, 20). The court sided with the plaintiffs, finding that all three parts of the Gingles test had been satisfied.

The racial gerrymandering test reiterated in Allen v. Milligan includes three provisions:

1. "The 'minority group must be sufficiently large and [geographically] (original emphasis) compact to constitute a majority in a reasonably configured district.'" (Roberts 2023a, 3)
2. "Second, the minority group must be able to show that it is politically cohesive." (Roberts 2023a, 3)
3. "The minority must be able to demonstrate that the white majority votes sufficiently as a bloc to enable it . . . to defeat the minority's preferred candidate." (Roberts 2023a, 3, internal quotation marks excluded)

The Gingles test is a legal operationalization of Section 2 of the Voting Rights Act which prevents barriers to voting based on race. When race and party are extremely correlated, the Gingles test puts race above party in importance such that communities of minorities are not prevented from voting freely. The first part of this test lends itself especially well to counterfactual analysis in that it essentially asks plaintiffs to build a counterfactual district where a minority group can be a majority. Because ensemble sampling methods such as SMC and MCMC are completely blind to partisan considerations, they can predict the probability or possibility of a majority-minority district, which allows it to adequately fulfill the first part of the Gingles test.

Texas' case is more complicated than Alabama's. There are two racial groups that can form majoriites in districts: Black people (13.6%) and Latinos (39.8%) (census 2020). Texas has three maps: the State House map (150 districts), State Senate map (31 districts), and Congressional District map (38 districts). On face value, these maps look very unusual. These maps are meant to be a partisan, not a racial gerrymander, but these two groups are highly correlated in Texas. The difference between this is not important in VRA claims because the minorities' rights must be respected regardless of their party, making VRA claims one of the few cases where partisan gerrymandering can be considered illegal because it burdens racial minorities. Thus, with a more complex racial landscape and existing partisan gerrymandering, current maps should be tested to make sure they do not constitute a racial gerrymander. My hypothesis is not a traditional *x causes y* because to establish any type of causality with regards to gerrymandering, one must first establish that gerrymandering exists. My hypothesis is that Texas' current maps violate the Gingles test and constitute an illegal racial gerrymander. This hypothesis requires the confirmation of three components as mentioned before:

H1: A group is large and compact enough to form a majority in a reasonably configured district.

H2: A minority group is politically cohesive.

H3: The White majority votes as a bloc to defeat the minority's preferred candidates.

In the Singleton case, they found that Black voters passed Gingles 1 because they had more than enough people to form a majority in a second district, because the geographical compactness scores of counterfactual maps were higher than that of the original map (though this is not a hard requirement), and that the districts were reasonably configured and did not break apart communities of interest (Alabama 2022, 49-56). In both oral arguments and the decision, the court combined Gingles II and II into a single concept of "racially polarized voting" wherein Black voters were understood as extremely cohesive as they supported Black candidates with 90% of the vote, whereas White voters usually supported Black candidates with an average of 15% of the vote (Alabama 2022, 58). Also of note are the nine "Senate factors", a series of qualitative tests that are used to adjudicate whether under the "totality of circumstances," voting is not open to minorities; theses include history of discrimination, racial appeals in political campaigns, lack of responsiveness from public officials towards minority concerns, and whether or not in other domains, such as healthcare and education, minorities show signs of discrimination (Alabama 2022, 58). (I am not adjudicating these nine tests as each could afford an entire article of its own). The core of the Gingles test is to determine if candidates of a minority group who are popular in that minority group are defeated in favor of White preferred candidates because of unique discrimination based on district shapes. This can be proven with counterfactual maps.

To be clear, this theory is diagnostic and not causal. It only seeks to determine whether Texas's maps are racially gerrymandered, not the motivation behind or effects of gerrymandering. From a broader perspective, this test is meant to better racial minority representation at large by preventing gerrymandering which, as a side effect of partisan concerns, prevents minorities from electing their preferred candidate.

Research Design

All of the data used in this project comes from the Capitol Data Hub's redistricting page and includes vote totals for all elections in 2022 and 2024, as well as population estimates for each race's VAP and shapefiles for each map (Portal Portal). The main packages used in this analysis are redist, geomander, and eiCompare (Kenny et al. 2022; Kenny 2023; Barreto et al. 2020). The elections analyzed in this analysis are State House, State Senate, and U.S. House elections for 2022 and 2024.

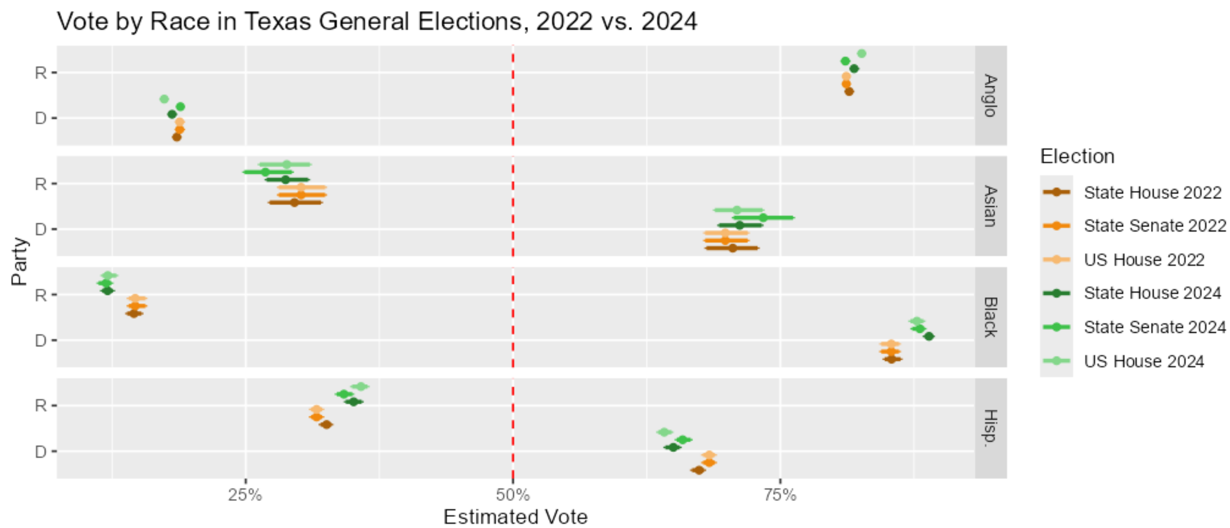
For the second and third parts of the Gingles test, I use ecological inference for race-vote choice projections per precinct. The method used is from the eiCompare package and is iterative EI (Barreto et al. 2022). It is not clear from Allen v. Milligan whether the minority vote needs to be cohesive across all districts or only in areas where districts are challenged. Luckily, iterative EI produces local estimates for every precinct. These estimates can be aggregated up to counties or districts. A limitation in the data is the number of uncontested elections, which leaves many precincts without a choice between Democrat and Republican. In these cases, the precinct votes for both parties are substituted with the U.S. Senate election in 2024 and the gubernatorial election in 2022. These vote projections are created for all six sets of elections to compare partisanship in 2022 and 2024, because there is a common perception right now that Latinos have become far more Republican in the last two years (Sandoval 2025), so this analysis will account for differing levels of Latino partisanship in 2022 and 2024.

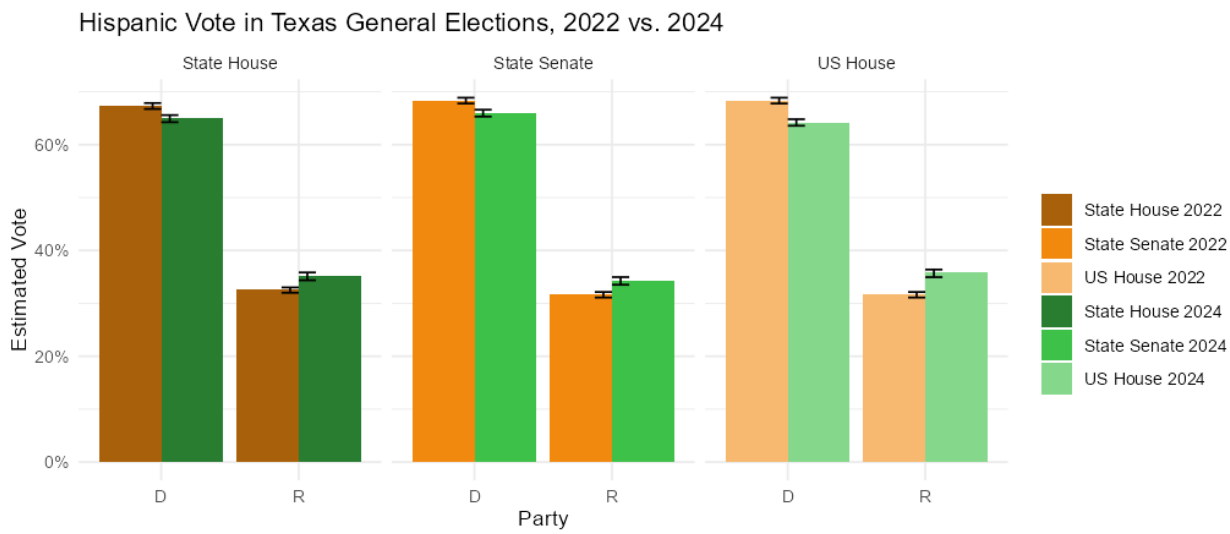
For the first part of the test, vote totals are created from the EI projections and census data for each precinct. These vote totals are added together by district, and the number of districts where voters of a particular race and party are the majority is calculated for all three maps at 2022 and 2024 levels. I compare the current map against an ensemble of counterfactual maps generated using SMC (Senate plans n = 3000, House plans n = 600, Congressional plans n = 3000). I have chosen this method instead of creating single counterfactual maps as in the Singleton case because the vast number of maps will certainly yield counterfactuals that are similar to hand-drawn maps with greater minority representation, and to test if the map is *uniquely* bad at representing minorities. Compactness measures are also tested against the counterfactual.

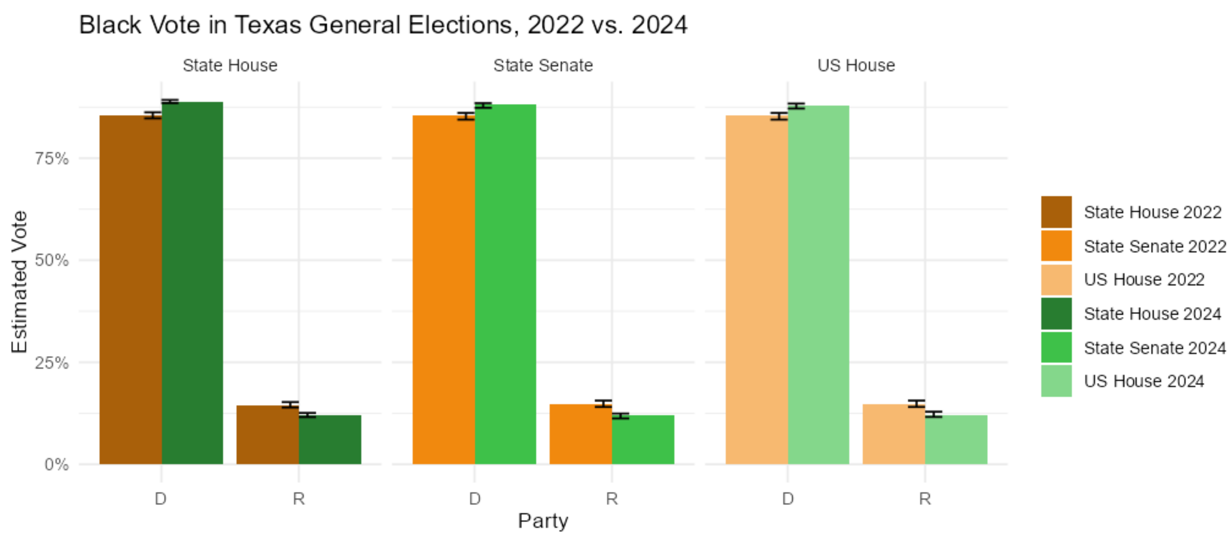
There are several limitations in this design. First, the method that I use to generate counterfactual maps through SMC is different to that of McCartan (the inventor of SMC) because it does not use partial sampling of urban districts. McCartan's counterfactual maps separately generate districts in urban areas and samples further monte carlo splits after these initial districts are created. I decided not to take this step because it is not legally required under VRA jurisprudence. A map that includes an additional restriction on the generation of districts may bias the counterfactual ensemble by overestimating urban representation. Put more simply, if the ensemble has an additional constraint that legislators do not, it is hard to say that legislators' maps are more unfair than the ensemble because the generated ensemble has had an additional process added to make the generation of maps fairer. The counterfactual could be more fair than legally required. Another limitation is based on the geography of Texas. Because the first Monte Carlo split happens at the northwestern-most point, most maps generate nearly identical districts for El Paso because the model starts the splits there. Because El Paso is geographically isolated, the first split includes all of El Paso and a number of rural counties and looks almost identical on every map. This is a concern for the diversity of the ensemble. To mitigate this and other problems in ensemble diversity, I run six separate chains (instead of the usual two) for sampling so that there is more diversity in early splits. However, this action may also bias the ensemble by making it too diverse, leading to more outlying observations. I believe the method that I have proposed is still the most reasonable for creating a counterfactual that solely splits based on legally required constraints. Another limitation comes from the forecasting of votes based on race and party through ecological inference. My iterative model does not take into account lower voter turnout from Latinos. Because district-level estimates are made by multiplying the voting-age population (VAP) of each race by their predicted support for a party, and adding these together, these estimates may overestimate Latino Democrat influence on elections by overestimating their share of the votes in a precinct. The alternative, which would be to include a turnout/no turnout term to the EI model, would bias the estimate in a different way as people who don't turn out to vote generally have different political views than people who do. For this draft, I have mitigated these limitations to the best of my ability. If it wasn't clear from my limitations taking up half of the research design, I am still working on finding better ways to increase validity.

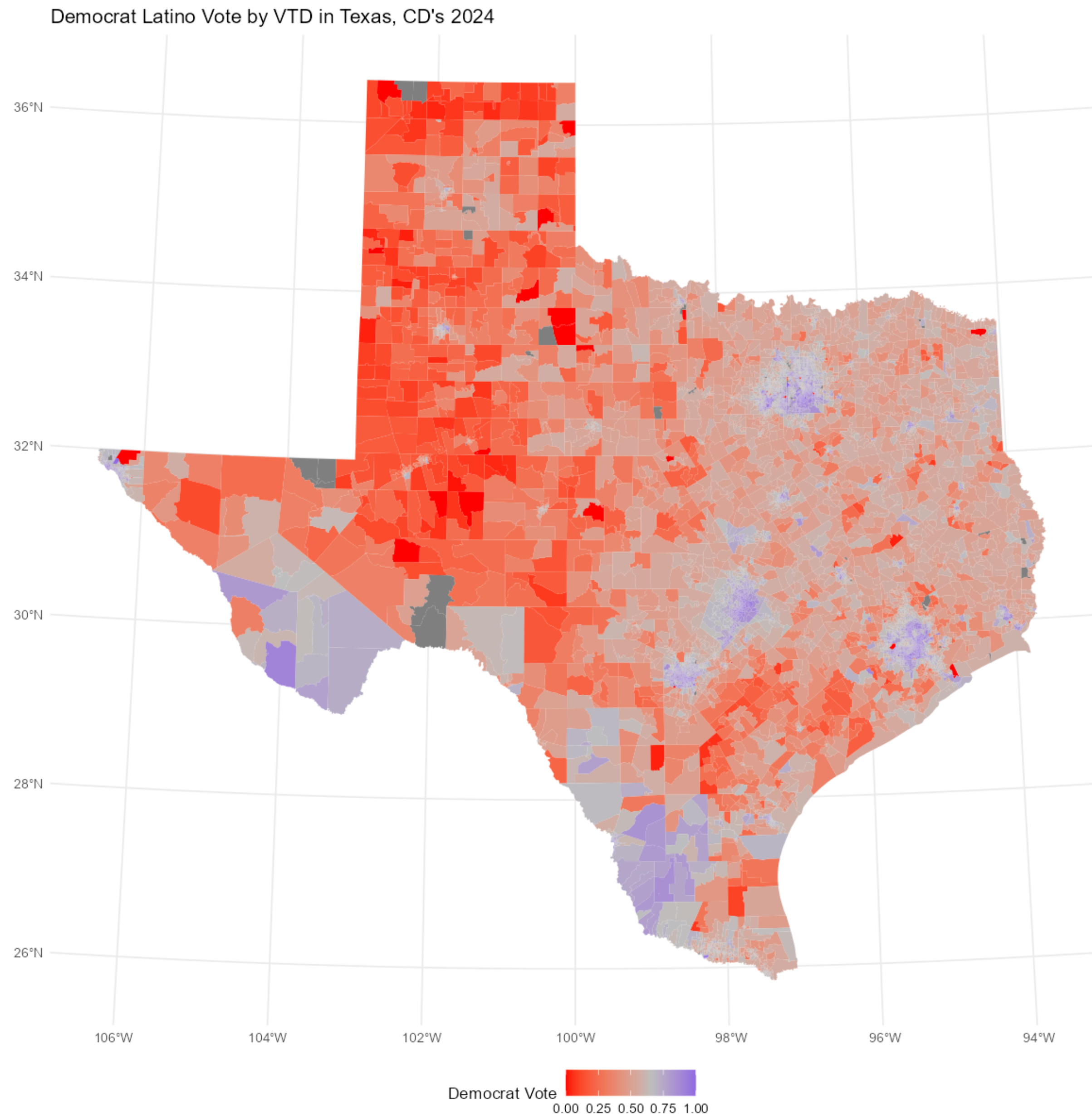
Preliminary Findings

Racially Polarized Voting


Vote by Race in Texas General Elections, 2022 vs. 2024
Party
R
D
Anglo
Asian
Black
Hisp.
25%
50%
75%
Estimated Vote
Election
State House 2022
State Senate 2022
US House 2022
State House 2024
State Senate 2024
US House 2024


Hispanic Vote in Texas General Elections, 2022 vs. 2024
State House
State Senate
US House
Estimated Vote
0%
20%
40%
60%
D
R
Party
State House 2022
State Senate 2022
US House 2022
State House 2024
State Senate 2024
US House 2024

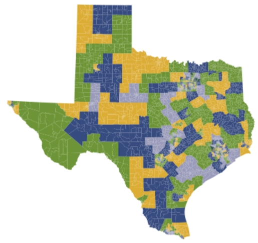

Black Vote in Texas General Elections, 2022 vs. 2024
State House
State Senate
US House
Estimated Vote
0%
25%
50%
75%
D
R
Party
State House 2022
State Senate 2022
US House 2022
State House 2024
State Senate 2024
US House 2024



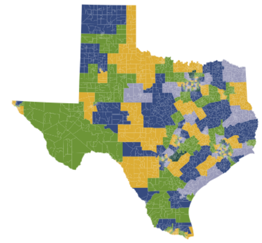
Voting in Texas is still somewhat polarized, though to a lesser extent than Alabama. Black people vote overwhelmingly in favor of Democrats, at around 85-95% in favor of Democrats in all of the six elections analyzed. There was an increase in Democratic votes in the 2024 elections, perhaps because of a Black presidential candidate at the top of the ticket. On the other hand, Hispanics do not vote cohesively, at between 64-68% Democratic (highest and lowest confidence intervals from all elections), with a decrease in Democratic vote in the 2024 elections. Whites vote above 80% Republican in all elections, and do not show a change between 2022 and 2024. Black people likely meet the threshold for being considered politically cohesive, whereas Hispanics likely do not. With a standard deviation of 18%, this vote is not very geographically cohesive, and there are 1633 precincts where Republicans make a majority of the Latino vote. This is compared to the Black Democrat vote, which has a standard deviation of 8% and only 85 Black Republican precincts. Given these estimates, I would say that Hispanics do not pass Gingles II and III, Black people do pass Gingles II.

Counterfactual Maps

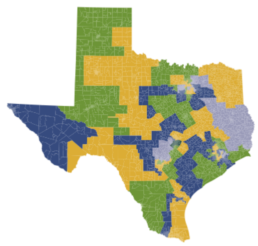
Current House Plan



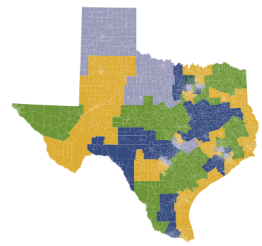
Simulated Plan



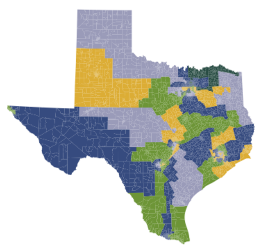
Current Senate Plan



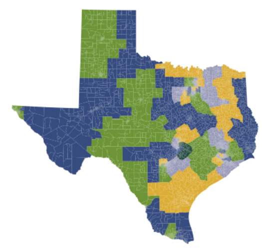
Simulated Plan

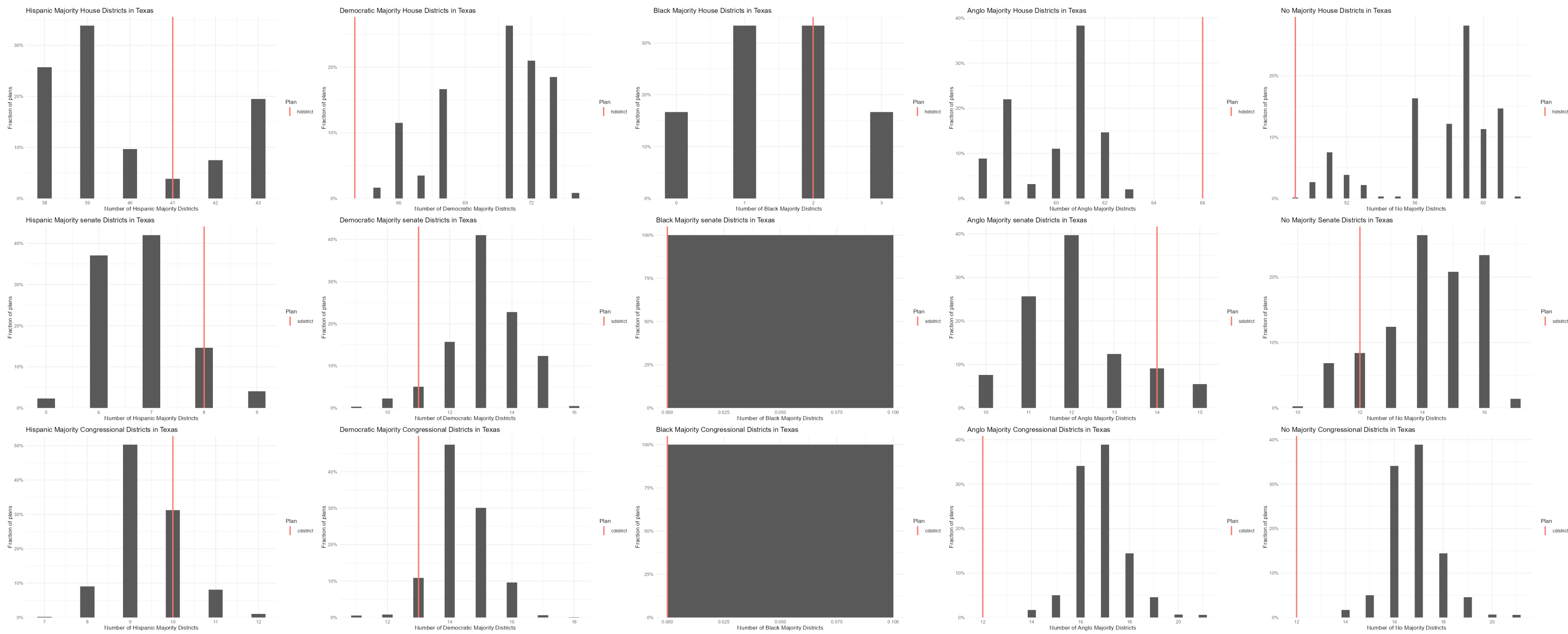


Current CD Plan



Simulated Plan




Hispanic Majority House Districts in Texas
Democratic Majority House Districts in Texas
Black Majority House Districts in Texas
Anglo Majority House Districts in Texas
No Majority House Districts in Texas
Hispanic Majority senate Districts in Texas
Democratic Majority senate Districts in Texas
Black Majority senate Districts in Texas
Anglo Majority senate Districts in Texas
No Majority Senate Districts in Texas
Hispanic Majority Congressional Districts in Texas
Democratic Majority Congressional Districts in Texas
Black Majority Congressional Districts in Texas
Anglo Majority Congressional Districts in Texas
No Majority Congressional Districts in Texas
Fraction of plans
Number of Hispanic Majority Districts
Number of Democratic Majority Districts
Number of Black Majority Districts
Number of Anglo Majority Districts
Number of No Majority Districts
Plan
hdistrict
sdistrict
cdistrict

As can be seen from the preceding plots, the current maps award more than the modal number of districts for the ensemble of plans for Hispanics in all three maps and Blacks in the House map. Hispanics get 41 House districts, 8 Senate districts, and 10 Congressional districts compared to the modal 39 House districts, 7 Senate districts, and 9 Congressional districts. The enacted House and Senate plans also have far higher than the modal number of White districts compared to the ensemble (66 House districts compared to modal 61), and fewer districts where no race makes up a majority (49 House districts compared to modal 59). Given that the modal number of Black districts for senate and congressional district plans is zero, Black people do not pass Gingles I for those plans. The Texas maps afford more majority minority districts for both Hispanics and Blacks than the mode, so the Texas maps do not uniquely burden Hispanic and Black Texans, and therefore the maps pass Gingles I generally.

The findings of this paper are that: 1. Hispanics do not vote cohesively enough to pass the Gingles test and 2. Black voters are not numerous and compact enough to form a majority in any State Senate or Congressional district and form the majority in a modal 2 State House districts. Because of this, the present Texas maps do not constitute a violation of the VRA. This is likely why the Fair Maps case was thrown out.

Implications

Texas' map looks extremely unfair because it is. However, in a very narrow sense, the gerrymandered map does not uniquely burden the rights of minorities. This fascinating finding leads me to rethink how gerrymandering is done, and can be done, by state legislatures in the South, where voting is still often polarized. From a normative perspective, it is perhaps not a good thing that Texas's map is not found to be gerrymandered. The implication of this finding is that there are ways for state legislatures to rig elections that cannot be challenged under the VRA. That is, as best as I can ascertain, the way that Texas set out to make this map. It is surgically precise in its cutting around communities. It is unreasonably good at preventing any type of political competition or surprise in any state legislature election. Yet it does so in a way that doesn't violate the VRA. Texas is in a somewhat unique case as it has far more districts and racial groups to work with than other Southern states, such as Alabama. Alabama's map infringed on the rights of minorities because they were all packed into one district and voted cohesively. Texas's map has dozens of districts of incoherent minorities. This version of cracking is just good enough to prevent any type of electoral surprise while also fulfilling the auspices of the VRA. Other states with racially diverse populations, such as Florida, North Carolina, or Georgia, could enact similar plans that do not burden the VRA by providing a bare minimum opportunity districts while maximizing on White majority districts. This paper also raises questions as to the effectiveness of the VRA as a tool to prevent gerrymandering. In most of the elections in Texas, minorities don't have a choice for their representative, and yet they have no recourse under the VRA if they do not: vote extremely cohesively, or live very compactly. The former is the most concerning normative implication of the VRA: under a racially gerrymandered plan, a minority does not have any free choice, but if they exercise their voting rights to vote for an unexpected candidate, they lose the ability to make a VRA claim completely. Thus, Texas's map represents a failure of the VRA and a successful skirting of moral principles to rig elections against minorities.

Conclusion

Texas's map looks unfair. Its spindly tentacles that touch every corner of the state leave voters confused and analysts annoyed. Given that other gerrymanderings meant to benefit Republicans has been challenged as racial gerrymandering (Roberts 2023a), there was an open question as to whether Texas's map could be challenged as an illegal racial gerrymander, as race and party are often highly correlated in the South. Section 2 of the VRA protects the rights of a minority group that is gerrymandered against when it: 1) can constitute a majority in a reasonably configured district, 2) votes cohesively, and 3) shows that White voters also vote cohesively to defeat the minority's preferred candidates.

In Texas, two minorities, Hispanic and Black, are both able to constitute majorities in reasonably configured districts. This paper completes the other parts of the Gingles test to see whether a VRA claim is possible to oppose Texas's maps on racially discriminatory grounds. Iterative ecological inference (King 1997; Barreto et al. 2022) and SMC simulation of counterfactual ensembles (McCartan and Imai 2023) are used to test each section of the Gingles test. I find that Hispanics do not vote cohesively enough to pass part one of the Gingles test. Black voters cannot form a majority in any Senate or Congressional district. Texas's maps also award the modal number of minority-majority districts for Hispanics and Black voters, or more, compared to the ensembles. Texas's maps also award far more Anglo-majority districts than the ensembles and far fewer districts where no group makesup a minority. This has implications as to the ways that racially diverse states can gerrymander voters and avoid VRA claims. Additionally, this shows that, from a normative perspective, the VRA often fails to adequately defend the rights of minorities.

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