IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF OHIO
EASTERN DIVISION

MICHAEL GONIDAKIS, MARY PARKER, MARGARET CONDITT, BETH VANDERKOOI, LINDA SMITH, DELBERT DUDUIT, THOMAS W. KIDD JR., DUCIA HAMM,

Plaintiffs,

BRIA BENNETT, REGINA C. ADAMS, KATHLEEN M. BRINKMAN, MARTHA CLARK, SUSANNE L. DYKE, MERYL NEIMAN, HOLLY OYSTER, CONSTANCE RUBIN, EVERETT TOTTY,

Intervenor-Plaintiffs,

v.

FRANK LAROSE, in his capacity as Ohio Secretary of State,

Defendant.

Case No. 2:22-cv-00773

Judge Amul R. Thapar
Judge Algenon L. Marbley
Judge Benjamin J. Beaton

DECLARATION OF DEREK S. CLINGER

I, Derek S. Clinger, hereby declare as follows:

1. I am an attorney at law licensed to practice in the State of Ohio, and I serve as legal counsel to Intervenor-Plaintiffs Bria Bennett, et al. in this action.

2. Exhibit 1 is a true and correct copy of the expert affidavit submitted by Dr. Christopher Warshaw in *See League of Women Voters of Ohio v. Ohio Redistricting Comm'n*, No. 2022-Ohio-65, 2022 WL 110261 (Ohio Jan. 12, 2022) ("*LWV I*") on September 23, 2021.

3. Exhibit 2 is a true and correct copy of a 2015 statement by then-Ohio Senators Keith Faber and Joe Schiavoni and then-Ohio Representatives Kirk Schuring and Mike Curtin on Ohio's 2015 Statewide Ballot Issue 1.

4. Exhibit 3 is a true and correct copy of the list of endorsements of Ohio's 2015 Statewide Ballot Issue 1 from the organization Yes For Issue 1.

5. Exhibit 4 is a true and correct copy of a description of Ohio's 2015 Statewide Ballot Issue 1 from the organization Yes For Issue 1.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 23rd day of March, 2022.

Derek S. Clinger

Exhibit 1

IN THE SUPREME COURT OF OHIO

LEAGUE OF WOMEN VOTERS OF OHIO, et al., **Relators** **v.** **OHIO REDISTRICTING COMMISSION, et al.,** **Respondents.**	**Case No.** **Original Action Pursuant to Ohio Const., Art. XI**

AFFIDAVIT OF CHRISTOPHER WARSHAW

Franklin County
/ss
State of Ohio

Now comes affiant Christopher Warshaw, having been first duly cautioned and sworn, deposes and states as follows:

1. I am over the age of 18 and fully competent to make this declaration. I have personal knowledge of the statements and facts contained herein.
2. For the purposes of this litigation, I have been asked by counsel for Relators to analyze relevant data and provide my expert opinions.
3. To that end, I have personally prepared the report attached to this affidavit as Exhibit A, and swear to its authenticity and to the faithfulness of the opinions expressed and, to the best of my knowledge, the accuracy of the factual statements made therein.

FURTHER AFFIANT SAYETH NAUGHT.

Executed on 09/23/2021, 2021.

Signed on 2021/09/23 08:33:15 -8:00

Christopher Warshaw

Sworn and subscribed before me this 09/23/2021 day of _____, 2021.

NOTARY PUBLIC STATE OF OHIO

Theresa Michelle Sabo
Commission # 2016-re-619622
Electronic Notary Public
State of Ohio
My Comm Exp. Nov 28, 2021

Notary Stamp 2021/09/23 08:33:15 PST FCBE739C4315

Notary Public

Signed on 2021/09/23 08:33:15 -8:00

Exhibit A

An Evaluation of the Partisan Bias in Ohio's Enacted State Legislative Districting Plan

Christopher Warshaw*

September 23, 2021

*Associate Professor, Department of Political Science, George Washington University. warshaw@gwu.edu. Note that the analyses and views in this report are my own, and do not represent the views of George Washington University.

Contents

1 Introduction

My name is Christopher Warshaw. I am an Associate Professor of Political Science at George Washington University. Previously, I was an Associate Professor at the Massachusetts Institute of Technology from July 2016 - July 2017, and an Assistant Professor at MIT from July 2012 - July 2016.

I have been asked by counsel representing the plaintiffs in this case to analyze relevant data and provide my expert opinions about whether Ohio's enacted state legislative districting plan meets the criteria in Article XI, Section 6 of Ohio's Constitution. More specifically, I have been asked:

- To evaluate whether the plan meets the requirement of Article XI, Section 6(B) that the "statewide proportion of districts whose voters, based on statewide state and federal partisan general election results during the last ten years, favor each political party [] correspond[s] closely to the statewide preferences of the voters of Ohio."
- To evaluate whether the plan appears to meet the requirement of Article XI, Section 6(A) that "No general assembly district plan shall be drawn primarily to favor or disfavor a political party" based on a variety of standard academic metrics typically used to assess the degree of partisan bias in a districting plan.
- To examine the consequences of the enacted redistricting plans on the representation that Ohio residents receive in state government.

2 Qualifications, Publications and Compensation

My Ph.D. is in Political Science, from Stanford University, where my graduate training included courses in political science and statistics. I also have a J.D. from Stanford Law School. My academic research focuses on public opinion, representation, elections, and polarization in American Politics. I have written multiple papers that focus on elections and two papers that focus specifically on partisan gerrymandering. I also have a forthcoming book that includes an extensive analysis on the causes and consequences of partisan gerrymandering in state governments.

My curriculum vitae is attached to this report. All publications that I have authored and published appear in my curriculum vitae. My work is published or forthcoming in peer-reviewed journals such as: the *American Political Science Review*, the *American Journal of Political Science*, the *Journal of Politics*, *Political Analysis*, *Political Science Research and Methods*, the *British Journal of Political Science*, *Political Behavior*, *Science*

Advances, the *Election Law Journal*, *Nature Energy*, *Public Choice*, and edited volumes from Cambridge University Press and Oxford University Press. My book entitled *Dynamic Democracy in the American States* is forthcoming from the University of Chicago Press. My non-academic writing has been published in the *New York Times* and the *Washington Post*. My work has also been discussed in the *Economist* and many other prominent media outlets.

My opinions in this case are based on the knowledge I have amassed over my education, training and experience, including a detailed review of the relevant academic literature. They also follow from statistical analysis of the following data:

- In order to calculate partisan bias in state legislative elections, I examined:
  - Precinct-level data on recent Ohio elections: I use precinct-level data on Ohio's statewide elections between 2016-20 from the Voting and Election Science Team (University of Florida, Wichita State University). I obtained these data from the Harvard Dataverse.[1] As far as I know, there are no publicly available datasets with precinct-level returns from 2012-14 that are linked to precinct boundaries (e.g., shapefiles). For these elections, I obtained data via the ACLU that their expert Bill Cooper put together.[2]
  - A large canonical data set on candidacies and results in state legislative elections: I obtained results from 1972-2020 collected by Carl Klarner and a large team of collaborators. The results from 1972-2012 are based on data maintained by the Inter-university Consortium for Political and Social Research (ICPSR) (Klarner et al. 2013). The data from 2013-2020 were collected by Klarner.
  - Data on presidential election returns in state legislative districts: For elections between 1972 and 1991, I used data on county-level presidential election returns from 1972-1988 collected by the Inter-university Consortium for Political and Social Research (ICPSR 2006) and mapped these returns to state legislative districts. For elections between 1992 and 2001, I used data on presidential

1. See `https://dataverse.harvard.edu/dataverse/electionscience`.

2. Cooper provided the following description of the data via Counsel: The 2012 results are disaggregated to the block level (based on block centroids) from the statewide 2012 precinct file. The 2014 results are based on a geocoding of about 3.15 million voters who cast ballots in Nov. 2014. These addresses were matched to census blocks and the blocks were aggregated to the precinct level. These "virtual" precincts were next matched to the 2014 election results and then disaggregated back to the block level, with block-level matches. When aggregated to the congressional level, the differences are measured in the tenths of a percent for House contests. As a final step, these datasets were aggregated from the block-level to the 2010 VTD level. Finally, it is important to note that there is a 2% to 3% undercount statewide for all votes cast in the 2014 election.

election returns in the 2000 election collected by McDonald (2014) and Wright et al. (2009). For elections between 2002 and 2011, I used data on the 2004 and 2008 presidential elections collected by Rogers (2017). For elections between 2012 and 2020, I used data on presidential election returns for the 2012 and 2016 elections from the DailyKos website.

- Information on who controlled each redistricting plan in state legislative elections: (e.g., Democrats, Republicans, or a Commission) from 1972-2012 assembled by Stephanopoulos (2018).
- The Plan Score website: PlanScore is a project of the nonpartisan Campaign Legal Center (CLC) that enables people to score proposed maps for their partisan, demographic, racial, and geometric features. I am on the social science advisory team for PlanScore.

- In order to examine the effect of gerrymandering in state legislative elections on representation in state government, I examined:
  - Well established estimates of the ideology of state legislators based on their roll call votes developed by Professors Nolan McCarty and Boris Shor (Shor and McCarty 2011).[3]
  - Estimates of the policy liberalism of state governments based on approximately 180 policies using a model I developed in a co-authored paper which was published in the *American Journal of Political Science* (Caughey and Warshaw 2016) and that we extended for our book *Dynamic Democracy in the American States*.

I have previously provided expert reports in three redistricting-related cases: *League of Women Voters of Pennsylvania v. Commonwealth of Pennsylvania*, No. 159 MM 2017, *League of Women Voters of Michigan* v. *Johnson*, 17-14148 (E.D. Mich), and *APRI et al.* v. *Smith et al.*, No. 18-cv-357 (S.D. Ohio). In addition, I have provided expert testimony and reports in several cases related to the U.S. Census: *State of New York et al.* v. *United States Department of Commerce*, 18-cv-2921 (SDNY), *New York* v. *Trump*; *Common Cause* v. *Trump*, 20-cv-2023 (D.D.C.), and *La Union Del Pueblo Entero (LUPE)* v. *Trump*, 19-2710 (D. Md.).

I am being compensated at a rate of $325 per hour. The opinions in this report are my own, and do not represent the views of George Washington University.

3. These scores were downloaded from the Harvard Dataverse website, `https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/GZJOT3`.

3 Summary

This report examines whether Ohio's enacted state legislative maps meet the criteria in the Ohio Constitution. Article XI, Section 6 of Ohio's Constitution requires that the Redistricting Commission "attempt to draw a general assembly district plan" that meets the following standards related to partisan fairness. Section 6(A) prohibits a district plan from being "drawn primarily to favor or disfavor a political party." Section 6(B) states that "the statewide proportion of districts whose voters, based on statewide state and federal partisan general election results during the last ten years, favor each political party shall correspond closely to the statewide preferences of the voters of Ohio."

My report provides evidence relevant to evaluating both of these criteria. Ohio's Constitutional criteria requiring districting plans refrain from benefiting a particular political party are related to a long-line of Political Science literature on democratic representation. The relationship between the distribution of partisan support in the electorate and the partisan composition of the government—what Powell (2004) calls "vote–seat representation"—is a critical link in the longer representational chain between citizens' preferences and governments' policies. If the relationship between votes and seats systematically advantages one party over another, then some citizens will enjoy more influence—more "voice"—over political outcomes than others (Caughey, Tausanovitch, and Warshaw 2017).

I use two complementary methodologies to evaluate whether Ohio's state legislative plans meet the requirements of Article XI, Section 6 in its Constitution. First, I use a composite of previous statewide election results between 2012-2020. This approach is based directly on the text of Article XI, Section 6(B), which states that "statewide state and federal partisan general election results during the last ten years" shall be used to evaluate whether a plan meets the Constitution's proportionality requirement. However, this approach has some methodological weaknesses. Therefore, I complement this approach using additional approaches from the open source PlanScore.org website, which is a project of the Campaign Legal Center.[4] PlanScore uses a statistical model to estimate district-level vote shares for a new map based on the relationship between presidential election results and legislative results between 2012-2020.[5] Based on these two approaches, I characterize the bias in Ohio's plans based on both simple proportionality and a large set of established metrics of partisan fairness. I also place the bias in Ohio's plans into historical perspective.

4. I am on the social science advisory board of Plan Score, but I am not compensated by Campaign Legal Center nor do I have any role in PlanScore's evaluation of individual maps.

5. See `https://planscore.campaignlegal.org/models/data/2021B/` for more details.

All of these analyses indicate an extreme level of pro-Republican bias in Ohio's enacted state house and state senate plans. In the 2020 presidential election, Democrat Joe Biden received about 46% of the two-party vote.[6] However, he would have only won 35% of the state house districts and 33% of the state senate districts in the enacted plan. In the 2018 gubernatorial election, Democrat Richard Cordray did a little bit better. He received about 48% of the two-party vote. Yet again, however, he would have only won 37% of the state house districts and 36% of the state senate districts under the enacted plan. In the 2018 Senate election, Democratic Senator Sherrod Brown did even better. He received about 53% of the two-party vote. But he would still have won less than half of the state house districts and just over half the state senate districts under the enacted plan.

Based on all the available statewide elections in Ohio between 2012-2020, I find that the enacted state house and state senate plans lead to a much higher Republican share of the seats than their share of the statewide vote. Indeed, across the 16 statewide elections, the Democrats' statewide two-party vote share averaged about 45.5%, but they are only likely to win about 33% of the seats in the state house and 31-32% of the seats in the state senate.[7]

We reach the same conclusion using the predictive model on the PlanScore website. It indicates that the enacted plans favor Republican candidates in 97-99% of scenarios. Even though Republicans only get about 56% of the statewide vote in recent elections, PlanScore analysis indicates that Republicans are expected to win 71% of the seats in Ohio's state senate and 68% of the seats in Ohio's state house. Thus, the plans have a pro-Republican proportionality bias of 15% and 12%. Based on generally accepted Political Science metrics (the Efficiency Gap and the Declination), PlanScore indicates that Ohio's enacted plan would have historically extreme levels of pro-Republican bias. In fact, the pro-Republican bias in Ohio's enacted state senate plan is larger than 91% of previous plans, and the bias in Ohio's state house plan is larger than 90% of previous plans.

Overall, this analysis indicates that the enacted plan appears to be drawn to favor one political party based on a variety of metrics, and the two-parties' seat shares do not correspond closely to their vote shares.

The rest of this report proceeds as follows. First, I provide an overview of partisan gerrymandering and how social scientists measure the degree of partisan bias in a districting plan. Second, I trace the levels of partisan bias in Ohio's state legislative plans over the

6. Following standard convention, throughout my analysis I focus on two-party vote shares.

7. I weight the composite scores to give each election cycle equal weight in the index. The seat-level projections are based on the 13 statewide elections where I have precinct-level data. In these elections, the Democrats' statewide two-party vote share averaged 45%.

past fifty years. Third, I evaluate the enacted plans and compare them to the 2012-2020 map. Finally, I show the consequences of partisan gerrymandering for the representation that citizens of Ohio receive in its state government.

4 Background on Partisan Gerrymandering

The goal of partisan gerrymandering is to create legislative districts that are as "efficient" as possible in translating a party's vote share into seat share (McGhee 2014, 2017; Caughey, Tausanovitch, and Warshaw 2017). In practice, this entails drawing districts in which the supporters of the advantaged party constitute either a slim majority (e.g., 55% of the two-party vote) or a small minority (e.g., 20%). The former is achieved by "cracking" local opposing-party majorities across multiple districts and the latter by "packing" them into a few overwhelming strongholds. In a "cracked" district, the disadvantaged party narrowly loses, while in a "packed" district, the disadvantaged party wins overwhelmingly (Buzas and Warrington 2021). The resulting *asymmetry* or *advantage* in the efficiency of the vote–seat relationships of the two parties lies at the core of normative critiques of partisan gerrymandering. Asymmetries in the translation of votes to seats "offer a party a means of increasing its margin of control over policy without winning more votes from the public" (McGhee 2014).

In addition to creating a plan that skews the vote-seat curve toward their party, the advantaged party also often seeks to build a map that is *insulated* against changes in the public's preferences. This type of unresponsive map enables the advantaged party to continue to win the majority of seats even in the face of large gains in the disadvantaged party's statewide vote share. It ensures that the gerrymander is durable over multiple election cycles.

There are a number of approaches that have been proposed to measure partisan advantage in a districting plan. These approaches focus on asymmetries in the efficiency of the vote–seat relationships of the two parties. In recent years, at least 10 different approaches have been proposed (McGhee 2017). While no measure is perfect, much of the recent literature has focused on a handful of related approaches. The results of these metrics sometimes diverge in states where one party dominates elections. But they generally all yield similar substantive results in competitive states (see Stephanopoulos and McGhee 2018, 556). In the analysis that follows, I use a number of these metrics to examine the proposed plans as well as the trajectory of partisan gerrymandering in Ohio and the nation as a whole.[8]

8. For historical elections, I use data on the results of legislative elections over the past few decades. For

4.1 Proportionality

Arguably, the simplest metric of partisan bias in a districting plan is whether each party's share of the seats is proportional to its share of the votes. Ohio has embedded this simple metric in Section 6(B) of its Constitution, which states that "the statewide proportion of districts whose voters, based on statewide state and federal partisan general election results during the last ten years, favor each political party shall correspond closely to the statewide preferences of the voters of Ohio." We can thus calculate the proportionality of a districting plan using the following equation:

$$Proportionality = S - V \tag{1}$$

where S is the Democratic seat share and V is the Democratic vote share in statewide elections.

We can illustrate the proportionality metric by reference to Ohio's state house elections in 2020. In this election, the Democratic candidate won about 46% of the statewide two-party vote in the presidential race. But Democrats won only 35% of the state house seats in Ohio. This led to a pro-Republican bias in the proportionality metric of about 11%.

It is worth briefly comparing my definition of the proportionality metric to the one used by the Commission in their Article XI, Section 8(C)(2) Statement.[9] In that Statement, the Commission defined the statewide preferences of the voters of Ohio largely based on the percentage of statewide elections won by Republicans over the past ten years rather than Republicans' vote share in those elections.[10] I do not know of a single academic

all legislative elections that were contested between two major party candidates, I use the raw vote totals to calculate various metrics that measure the degree of partisan gerrymandering. For legislative elections that are uncontested (i.e., those that lacked either a Democratic or Republican candidate), we do not directly observe the number of people that support each party's candidate. In these cases, it is necessary to estimate the two-party vote share because "determining the degree of packing and cracking requires knowing how many people in each district support each party" (Stephanopoulos and McGhee 2015, 865). Using publicly available data and statistical models, I estimate the two-party vote share in each district based on previous and future elections in that district as well as the results in similar districts elsewhere. This is similar to the approach used in a variety of other studies that estimate these gerrymandering metrics (e.g., Gelman and King 1994a; Stephanopoulos and McGhee 2015; Brennan Center 2017; Jackman 2017; McGhee 2018; Warrington 2018b) The details of this calculation for uncontested races are described in further detail in the Appendix and in Stephanopoulos and Warshaw (2020). I then use this information to estimate the gerrymandering metrics discussed below for congressional elections between 1972 to 2020. I start the analysis in 1972 since those are the first districting plans drawn after the Supreme Court cases stemming from *Baker v. Carr* ended malapportionment and established the principle of one-person, one-vote.

9. `https://www.redistricting.ohio.gov/assets/organizations/redistricting-commission/events/commission-meeting-september-15-2021-76/article-xi-sec-8c2-statement.pdf`.

10. "The Commission considered statewide state and federal partisan general election results during the last ten years. There were sixteen such contests. When considering the results of each of those elections, the Commission determined that Republican candidates won thirteen out of sixteen of those elections

book, article, or paper that defines voters' statewide preferences in this way. Moreover, the Commission's definition makes little logical sense. It implies that if Republicans had won each statewide election with 50.1% of the vote, the statewide proportion of voters favoring Republican candidates is 100%. Thus, Republicans would be entitled to win 100% of the legislative seats. Based on the academic literature, it makes much more sense to read the requirements that the proportion of districts correspond to the statewide preferences of voters to imply that Republicans are entitled to 50.1% of the legislative seats if they win 50.1% of the votes.

In much of this report, I focus on proportionality since it is explicitly discussed in Article XI, Section 6(B) of the Constitution. But there are at least two important limitations associated with using proportionality as the sole metric of whether a districting plan is "drawn primarily to favor or disfavor a political party" (Article XI, Section 6(A)). One is that historically there tends to be a winner's bonus in legislative elections. This means that a party that wins 55% of the votes tends to win about 60% of the seats (Stephanopoulos and McGhee 2015, 854). As I discuss below, however, Ohio's map is very disproportionate even after taking into consideration this winner's bonus. Another limitation is that the proportionality metric "looks more favorably than the [other metrics] on parties that win a majority of seats with a minority of votes—a situation many feel ought to be punished more aggressively—and otherwise requires more sacrifice from a majority party than is typical in American elections" (McGhee 2017). As a result of these limitations, academics tend to supplement the proportionality metric with a number of other approaches to characterize partisan bias in districting plans that favors a particular political party. I will now discuss these other approaches.

4.2 Efficiency Gap

Both cracked and packed districts "waste" more votes of the disadvantaged party than of the advantaged one (McGhee 2014; Stephanopoulos and McGhee 2015).[11] This suggests that gerrymandering can be measured based on asymmetries in the number of wasted votes for each party. The *efficiency gap* (EG) focuses squarely on the number of each party's wasted votes in each election. It is defined as "the difference between the parties' respective wasted votes, divided by the total number of votes cast in the election"

resulting in a statewide proportion of voters favoring statewide Republican candidates of 81%..."

11. The authors of the efficiency gap use the term "waste" or "wasted" to describe votes for the losing party and votes for the winning party in excess of what is needed to win an election. Since the term is used by the efficiency gap authors, I use it here when discussing the efficiency gap.

(Stephanopoulos and McGhee 2015, 831; see also McGhee 2014, 2017).[12] All of the losing party's votes are wasted if they lose the election. When a party wins an election, the wasted votes are those above the 50%+1 needed to win.

If we adopt the convention that positive values of the efficiency gap imply a Democratic advantage in the districting process and negative ones imply a Republican advantage, the efficiency gap can be written mathematically as:

$$EG = \frac{W_R}{n} - \frac{W_D}{n} \tag{2}$$

where W_R are wasted votes for Republicans, W_D are wasted votes for Democrats, and n is the total number of votes in each state.

Table 1 provides a simple example about how to calculate the efficiency gap with three districts where the same number of people vote in each district. In this example, Democrats win a majority of the statewide vote, but they only win 1/3 seats. In the first district, they win the district with 75/100 votes. This means that they only wasted the 24 votes that were unnecessary to win a majority of the vote in this district. But they lose the other two districts and thus waste all 40 of their votes in those districts. In all, they waste 104 votes. Republicans, on the other hand, waste all 25 of their votes in the first district. But they only waste the 9 votes unnecessary to win a majority in the two districts they win. In all, they only waste 43 votes. This implies a pro-Republican efficiency gap of $\frac{43}{300}$ - $\frac{104}{300}$= -20%.

Table 1: Illustrative Example of Efficiency Gap

District	Democratic Votes	Republican Votes
1	75	25
2	40	60
3	40	60
Total	155 (52%)	145 (48%)
Wasted	104	43

12. The efficiency gap calculations here focus on wasted votes in *legislative elections* since these results directly capture voters' preferences in these elections. However, we might also calculate the efficiency gap using district-level results from presidential elections or other statewide races. These have the "advantage of being (mostly) unaffected by district-level candidate characteristics" (Stephanopoulos and McGhee 2015, 868). This feature is particularly useful for simulating efficiency gaps from randomly generated districting plans since candidate characteristics are clearly influenced by the final districting plan. Presidential elections or other statewide races are less closely tied, however, to voters' preferences in legislative races given the district lines that actually exist. In practice, though, both legislative races and other statewide races produce similar efficiency gap results for modern elections where voters are well sorted by party and ideology. Indeed, the data indicate that the correlation between efficiency gap estimates based on congressional elections and presidential elections is approximately 0.8 for elections held after 2000 and about 0.9 for elections held after the 2011 redistricting cycle.

In order to account for unequal population or turnout across districts, the efficiency gap formula in equation 2 can be rewritten as:

$$EG = S_D^{margin} - 2 * V_D^{margin} \tag{3}$$

where S_D^{margin} is the Democratic Party's seat margin (the seat share minus 0.5) and V_D^{margin} is is the Democratic Party's vote margin. V_D^{margin} is calculated by aggregating the raw votes for Democratic candidates across all districts, dividing by the total raw vote cast across all districts, and subtracting 0.5 (McGhee 2017, 11-12). In the example above, this equation also provides an efficiency gap of -20% in favor of Republicans. But it could lead to a slightly different estimate of the efficiency gap if districts are malapportioned or there is unequal turnout across districts.[13] In the case of Ohio's state house, equation 3 implies there was a pro-Republican efficiency gap of approximately 10.5% in 2012 and 9.9% in 2020.

The efficiency gap mathematically captures the packing and cracking that are at the heart of partisan gerrymanders (Buzas and Warrington 2021). It measures the extra seats one party wins over and above what would be expected if neither party were advantaged in the translation of votes to seats (i.e., if they had the same number of wasted votes). A key advantage of the efficiency gap over other measures of partisan bias is that it can be calculated directly from observed election returns even when the parties' statewide vote shares are not equal.

4.3 Mean-median Gap

Another metric that some scholars have proposed to measure partisan bias in a districting plan is the *mean-median gap*: the difference between a party's vote share in the median district and their average vote share across all districts. If the party wins more votes in the median district than in the average district, they have an advantage in the translation of votes to seats (Krasno et al. 2018; Best et al. 2017; Wang 2016). In statistics, comparing a dataset's mean and median is a common statistical analysis used to assess skews in the data and detect asymmetries (Brennan Center 2017). The mean-median difference is very easy to apply (Wang 2016). It is possible, however, for packing and cracking to occur without any change in the mean-median difference. That is, a party could gain seats in the

13. In general, the two formulations of the efficiency gap formula yield very similar results. Because Democrats tend to win lower-turnout districts, however, the turnout adjusted version of the efficiency gap in equation 3 tends to produce results that suggest about a 2% smaller disadvantage for Democrats than the version in Equation 2 (see McGhee 2018).

legislature without the mean-median gap changing (McGhee 2017).[14] It is also sensitive to the outcome in the median district (Warrington 2018b). In addition, the mean-median difference lacks a straightforward interpretation in terms of the number of seats that a party gains through gerrymandering. Finally, the assumptions of the mean-median gap are less tenable in less electorally competitive states.

District	Democratic Vote Share
6	25.6 %
4	30.2 %
7	30.2 %
8	31 %
5	32 %
15	36.6 %
16	36.8 %
2	38.9 %
14	39.9 %
10	41.6 %
12	43.1 %
1	46.3 %
13	53.9 %
9	63.1 %
3	70.8 %
11	80.1 %
Mean	43.8%
Median	39.4%

Table 2: Results in 2020 Ohio Congressional Elections

Table 2 illustrates the mean-median approach using the district-level election results in the 2020 Ohio congressional elections. It indicates that many Democratic voters were packed into just 4 districts where the Democratic candidates won by overwhelming margins. The remaining Democratic voters were cracked across the other districts. This table shows the disproportionate percentage of the statewide vote that Democrats would have needed to win a majority of Ohio's congressional seats in 2020. Across all districts, Democrats won an average of 43.8% of the vote. But they only won 39.4% in the median district. This translated into a pro-Republican mean-median difference of 4.4%.

14. As McGhee (2017), notes, "If the median equals the win/loss threshold–i.e., a vote share of 0.5–then when a seat changes hands, the median will also change and the median- mean difference will reflect that change. But if the median is anything other than 0.5, seats can change hands without any change in the median and so without any change in the median-mean difference." See also Buzas and Warrington (2021) who make a similar point using simulated packing and cracking.

4.4 Symmetry in the Vote-Seat Curve Across Parties

Basic fairness suggests that in a two-party system each party should receive the same share of seats for identical shares of votes. The *symmetry* idea is easiest to understand at an aggregate vote share of 0.5—a party that receives half the vote ought to receive half the seats—but a similar logic can apply across the "seats- votes curve" that traces out how seat shares change as vote shares rise and fall. For example, if a party receives a vote share of 0.57 and a seat share of 0.64, the opposing party should also expect to receive a seat share of 0.64 if it were to receive a vote share of 0.57. An unbiased system means that for V share of the votes a party should receive S share of the seats, and this should be true for all parties and vote percentages (Niemi and Deegan 1978; Gelman and King 1994a; McGhee 2014; Katz, King, and Rosenblatt 2020).

Gelman and King (1994a, 536) propose two ways to measure partisan bias in the symmetry of the vote-seat curve. First, it can be measured using counter-factual election results in a range of statewide vote shares between .45 and .55. Across this range of vote shares, each party should receive the same number of seats. Symmetry captures any departures from the standard that each party should receive the same seat share across this range of plausible vote shares. For example, if partisan bias is -0.05, this means that the Democrats receive 5% fewer seats in the legislature than they should under the symmetry standard (and the Republicans receive 5% more seats than they should).

To illustrate the symmetry metric, Table 3 calculates what each party's share of the seats would have been in Ohio's 2020 state house elections across a range of statewide vote shares from 45%-55%. It shows that Democrats only received 36% of the seats in most of the scenarios where they received less than 50% of the votes. This might not have been problematic under the symmetry standard if Republicans also only received 36% of the seats when they received less than 50% of the votes. However, Table 3 shows that Republicans still would have received half of the seats even when they won a minority of the votes. Across this range of statewide vote shares from 45%-55%, Democrats receive an average of 40% of the seats (and Republicans win 60%). This implies a partisan bias of 10% using the symmetry metric. That is, Republicans won 10 percentage points more of the seats than they would have won if the seat-vote curve was symmetric between the two parties.

The symmetry metric is closely related to the efficiency gap. In the special case where each party receives half of the statewide vote, the symmetry and the efficiency gap metrics are mathematically identical (Stephanopoulos and McGhee 2015, 856). More generally, the symmetry and efficiency gap yield very similar substantive results when each party's statewide vote share is close to 50% (as is the case in Ohio). When elections are uncompet-

Dem. Vote Share	Dem. Seat Share	Rep. Vote Share	Rep. Seat Share
45%	34%	55%	66%
46%	35%	54%	65%
47%	36%	53%	64%
48%	36%	52%	64%
49%	38%	51%	62%
50%	40%	50%	60%
51%	40%	49%	60%
52%	43%	48%	57%
53%	44%	47%	56%
54%	48%	46%	52%
55%	51%	45%	49%
Mean Seat Share	41%		59%
Bias	-9%		9%

Table 3: Symmetry Calculations for 2020's State House Elections

itive, however, and one party wins a large percentage of the statewide vote, the efficiency gap and these symmetry metrics are less correlated with one another (Stephanopoulos and McGhee 2015, 857).

A weakness of the symmetry approach is that it requires the analyst to calculate counterfactual elections. This approach has both conceptual and empirical limitations. At a conceptual level, it is not clear that it aligns perfectly with the usual definition of a gerrymander. Indeed, "when observers assert that a district plan is a gerrymander, they usually mean that it systematically benefits a party (and harms its opponent) in actual elections. They do not mean that a plan would advantage a party in the hypothetical event of a tied election, or if the parties' vote shares flipped" (857). At an empirical level, in order to generate symmetry metrics, we need to simulate counter-factual elections by shifting the actual vote share in each district a uniform amount (McGhee 2014).[15] In general, this uniform swing assumption seems reasonable based on past election results (though is probably less reasonable in less competitive states). Moreover, it has been widely used in past studies of redistricting. But there is no way to conclusively validate the uniform swing assumption for any particular election.

An important strength, however, of the symmetry approach is that it is based on the shape of the seats-votes curve and not any particular point on it. As a result, it is relatively immune to shifts in party performance (McGhee 2014). For instance, the bias toward

15. In principle, the uniform swing election could be relaxed, and swings could be estimated on a district-by-district basis. But this is rarely done in practice since it would require a much more complicated statistical model, and probably would not improve estimates of symmetry very much.

Republicans in Ohio's symmetry metric was very similar in 2012-2020. Moreover, the symmetry approach has been very widely used in previous studies of gerrymandering and redistricting (Gelman and King 1994a; McGhee 2014). Overall, the symmetry approach is useful for assessing partisan advantage in the districting process.

4.5 Declination

Another measure of asymmetries in redistricting plans is called *declination* (Warrington 2018b, 2018a). The declination metric treats asymmetry in the vote distribution as indicative of partisan bias in a districting plan (Warrington 2018a). If all the districts in a plan are lined up from the least Democratic to the most Democratic, the mid-point of the line formed by one party's seats should be about as far from the 50 percent threshold for victory on average as the other party's (McGhee 2018).

Declination suggests that when there is no gerrymandering, the angles of the lines (θ_D and θ_R) between the mean across all districts and the point on the 50% line between the mass of points representing each party will be roughly equal. When they deviate from each other, the smaller angle (θ_R in the case of Ohio) will generally identify the favored party. To capture this idea, declination takes the difference between those two angles (θ_D and θ_R) and divides by $\pi/2$ to convert the result from radians to fractions of 90 degrees.[16] This produces a number between -1 and 1. As calculated here, positive values favor Democrats and negative values favor Republicans.[17] Warrington (2018b) suggests a further adjustment to account for differences in the number of seats across legislative chambers. I use this adjusted declination estimate in the analysis that follows.[18]

4.6 Comparison of Partisan Bias Measures

All of the measures of partisan advantage discussed in the previous sections are closely related both theoretically and empirically (McGhee 2017; Stephanopoulos and McGhee 2018). Broadly speaking, all of the metrics consider how votes between the two parties are distributed across districts (Warrington 2018a). For example, the efficiency gap is mathematically equivalent to partisan bias in tied statewide elections (Stephanopoulos

16. This equation is: $\delta = 2^* (\theta_R - \theta_D) / \pi$.

17. In order to validate my estimates of declination, I compare my estimates to the ones presented in Warrington (2018b). I find that my declination estimates are nearly identical to the estimates originally developed by Warrington in the appendix to his article. In fact, the correlation between the declination values that I calculate and those in Warrington (2018b) is .94 for the U.S. House (note that Warrington does not estimate declination values for state senate elections). Small differences between the declination estimates likely stem from minor differences in how we impute vote shares in uncontested races.

18. This adjustment uses this equation: $\hat{\delta} = \delta * \ln(\text{seats}) / 2$

and McGhee 2018). Also, the median-mean difference is similar to the symmetry metric, since any perfectly symmetric seats-votes curve will also have the same mean and median (McGhee 2017).

Figure 1: Correlation between measures of partisan bias in states.

Second, each of the concepts are closely related empirically, particularly in states with competitive elections. Figure 1 shows the correlation between each measure. The various measures have high correlations with one another.[19] Moreover, most of the variation in the metrics can be summarized on a single latent dimension (Stephanopoulos and McGhee 2018; Stephanopoulos and Warshaw 2020). So, overall, while there may be occasional

19. While each measure is highly correlated with one another, the efficiency gap and declination measures are particularly closed related and the symmetry and mean-median measures are very closely related. This could be because the efficiency gap and the declination consider the seats actually won by each party, while the symmetry metric and the mean-median difference do not (Stephanopoulos and McGhee 2018, 1557).

cases where the metrics disagree about the amount of bias in a particular plan, the various metrics usually yield similar results for the degree of partisan bias in a districting plan (Nagle 2015).

In the case of Ohio, all the metrics indicate that Republicans had a large advantage in the districting process in Ohio since the 2011 plan went into place, and that the new plan would further cement this advantage. The fact that all the metrics are in agreement in Ohio strengthens our confidence that the new plan is a partisan gerrymander designed to favor a particular political party.

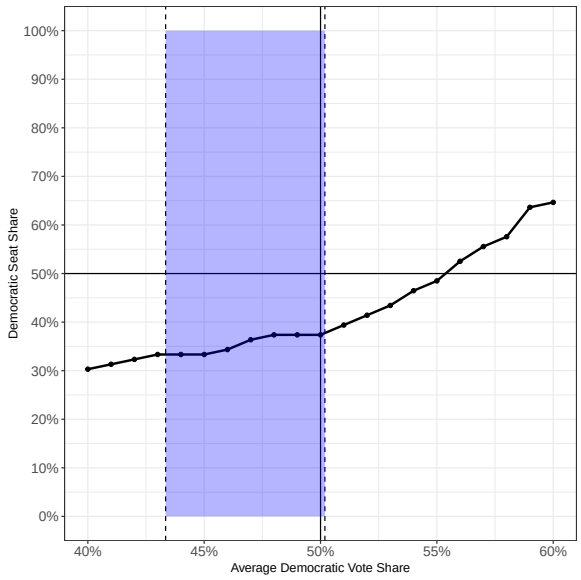
4.7 The Responsiveness of a Legislative Districting Plan to Changes in Voters' Preferences

The responsiveness of a map indicates how many seats change hands as vote shares rise and fall. Thus, it can be thought of as the slope of the seats-votes curve across a range of vote shares (McGhee 2014). An unresponsive map ensures that the bias in a districting plan toward the advantaged party is insulated against changes in voters' preferences, and thus is durable across multiple election cycles. In addition to serving as an indicator of the durability of a gerrymander, some scholars have suggested that responsiveness is another metric to measure gerrymandering itself (Cox and Katz 1999). There are a couple of approaches we might use to measure the responsiveness of a districting plan.

First, we could simply look at the number of competitive districts. In general, a plan with more competitive elections is likely to be more responsive to changes in voters' preferences than a plan with fewer competitive elections (McGhee 2014). Uncompetitive districts tend to protect incumbents and lock in the gerrymandering party's electoral advantage (Tufte 1973; Gelman and King 1994a). Following past work, I measure whether a district was competitive in an election based on whether the winning party received less than 55% of the two-party vote (Jacobson and Carson 2015, 91). Based on this definition, only 16% of the district in Ohio's state house plan were competitive in 2012 and just 13% were competitive in 2020.

Second, we could directly measure the responsiveness of the vote-seat curve to counterfactual changes in each party's statewide vote share. Gelman and King (1994a, 535) propose a technique that measures responsiveness based on uniform swings in the two parties' counterfactual vote shares. Specifically, they propose varying each party's vote shares in the average district between 45% and 55% and then measuring the degree to which this change in vote share leads to a change in seat share. In responsive systems, a 10% change in vote share from 45% to 55% will generally lead to a change in seat share of

(a) Vote-seat curve in 2012 elections



(b) Vote-seat curve in 2020 elections

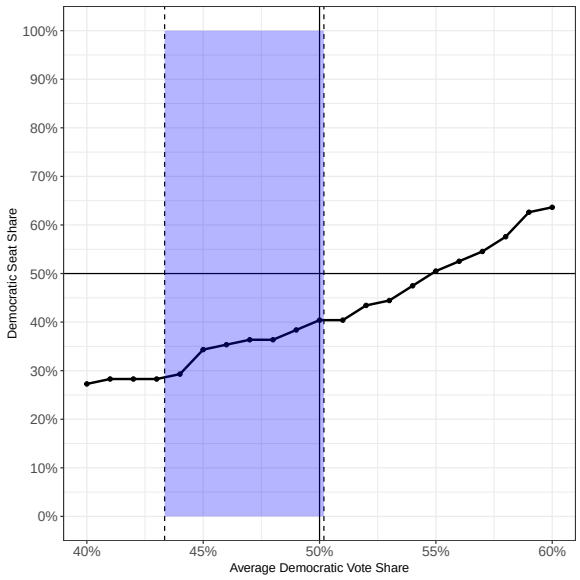


Figure 2: Vote-seat curve in Ohio using uniform swings in 2012 and 2020 election results. The shaded area shows the range between the minimum and maximum Democratic statewide vote share in state house elections from 2012-2020.

around 20%. In an unresponsive system, there could be little or no change in seat share from a 10% change in vote share.

To illustrate the concept of responsiveness, Figure 2 shows the vote-seat curve in Ohio generated by applying uniform swings in the 2012 and 2020 election results.[20] Specifically, I apply a uniform swing in the actual election results until I achieve an average Democratic vote share of 40%. Then I steadily increase the average Democratic vote share until it reaches 60%. Figure 2 indicates that the vote-seat curves in Ohio in 2012 and 2020 were extremely unresponsive to changes in voters' preferences. In fact, Republicans win 50% or more of the seats across all of the range of actual election swings over the past decade.

4.8 Partisan Control of the Redistricting Process and Gerrymandering

While many factors could influence the degree of partisan advantage in the districting process,[21] there is a wide body of evidence from previous studies that control of the re-

20. The layout of this chart is adapted from charts of responsiveness in Royden, Li, and Rudensky (2018).

21. Partisan advantage in the districting process can differ across states for reasons unrelated to the drawing of district lines, such as variation in how different demographic groups are distributed across geographic space (Chen and Rodden 2013). It can also be affected by the intentional drawing of district

districting process has a large effect on partisan advantage in subsequent elections carried out under a given plan. Cox and Katz (2002) show that Democratic control of the redistricting process in many states during the 1960s led to a lasting partisan advantage for Democrats in House elections. More generally, Gelman and King (1994b) find that the party in control of redistricting shifts outcomes in its favor, and that "the effect is substantial and fades only very gradually over the following 10 years" (543). This result has been confirmed in numerous recent articles. McGhee (2014) finds that "parties seek to use redistricting to shift bias in their favor and that they are successful in these efforts" (74).[22] Finally, Stephanopoulos (2018) shows that partisan control of the districting process has a substantial effect on the efficiency gap.[23]

5 Historical Analysis of Partisan Bias in Ohio's Legislative Districts

In this section, I provide an historical overview of the partisan bias in Ohio's state legislative districts over the past 50 years. Figure 3 shows trends in the proportionality bias in Ohio's state legislative districts between 1972 and 2020.[24] It indicates that the 2011 redistricting plan led to a large Republican advantage in Ohio state legislative elections.

In the state house elections in 2012, Democratic candidates won 50.2% of the statewide vote, but they won only 39.4% of Ohio's state house seats. This led to a pro-Republican proportionality bias, for instance, of approximately -11%. The results in the next few state house elections were fairly similar to those in 2012. Democrats won 45.1% of the votes, but only 35.4% of the seats in the 2020 state house elections. Thus, Ohio's state house had a pro-Republican proportionality bias approximately 10% in 2020.

The state senate is similar. Over the 2015-2022 period when the previous map was fully in place, Democrats controlled about 27% of the seats and the state senate had a pro-Republican proportionality bias of about -16%.[25] Democrats only controlled 24% of the seats after the state senate election in 2020, despite winning nearly 45% of the

lines to accomplish goals other than maximizing partisan seat share, such as ensuring the representation of racial minorities (e.g., Brace, Grofman, and Handley 1987).

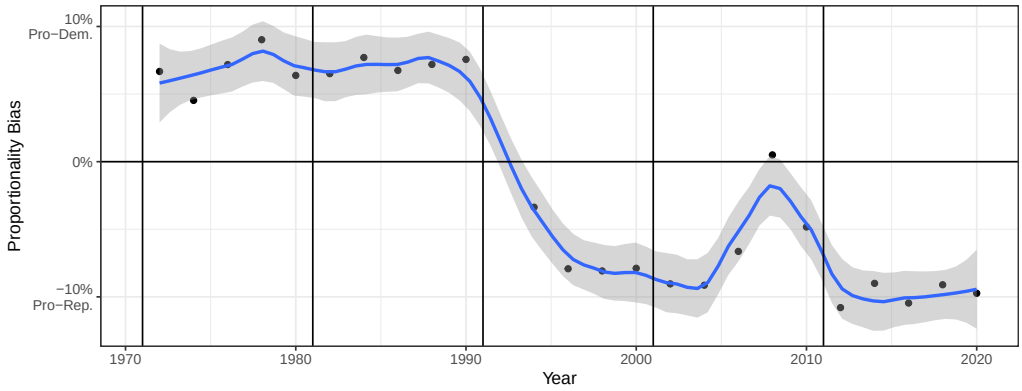
22. McGhee (2014) finds that partisan control affects the districting process using both the Gelman and King (1994b) measure of partisan symmetry and the efficiency gap as outcome variables.

23. He shows that states with unified Republican control have about 5 percentage points more pro-Republican efficiency gaps than states with split control, and states with unified Democratic control have about 3 percentage points more pro-Democratic efficiency gaps than states with split control.

24. Note that detailed nationwide data on state legislative elections in 2020 is not yet available.

25. If we also include 2012 when only half the seats were elected under the 2012-2020 map, Democrats controlled about 28% of the seats over the course of the decade.

(a) Ohio State House



(b) Ohio State Senate

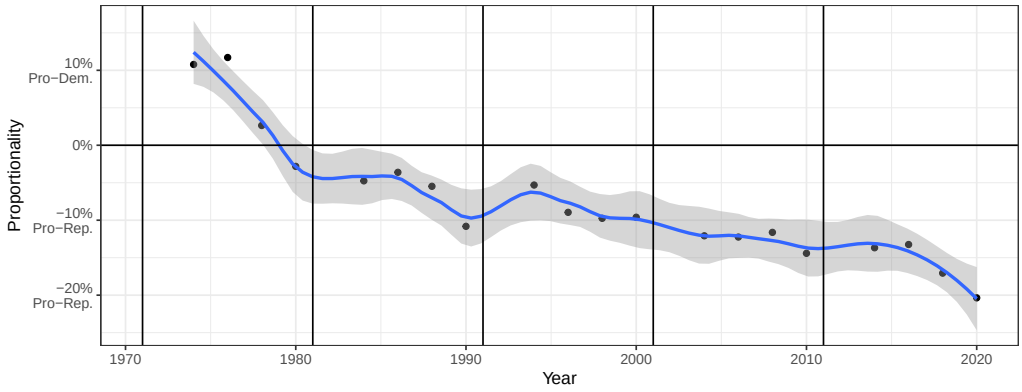


Figure 3: Historical Trajectory of the Proportionality in Ohio. Each vertical line shows the demarcation between decennial redistricting plans. The blue line shows the moving average and the grey bar is a confidence interval. The dots represent the proportionality bias in each year in Ohio.

statewide vote.

We see similar levels of pro-Republican bias using other metrics of partisan bias. Figures 5 and 6 compare Ohio to other states using a variety of different metrics. Each dot in the charts represents a particular state's partisan advantage for state house and state senate elections in that state that year. Overall, Ohio's state house election in 2012 (when the last districting plan went into place) had a larger pro-Republican bias in its Efficiency Gap than 95.9% of the state house elections over the past five decades, and it had a larger absolute bias than 87% of previous plans. Figures 5 and 6 also show that the pro-Republican bias in Ohio's state legislative plans was very durable and stable across the 2012-2020 period.

Turning to other metrics of partisan bias in districting plans, Ohio's 2012 elections

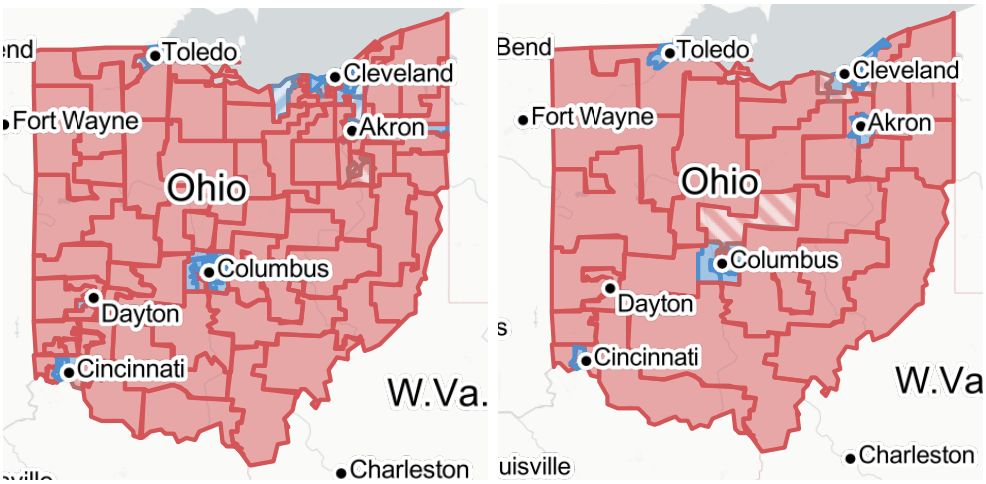


Figure 4: Map of 2011 Districting Plan for State House and Senate Districts from PlanScore.org

also had:

- A more extreme declination value than 88.1% of previous state house elections and a larger pro-Republican bias in its declination than 94.7% of the previous elections.
- A more extreme difference between the mean and median district than 87.2% of previous state house elections and a larger pro-Republican bias than in 90.3% of previous elections.
- A more extreme symmetry metric than 89.1% of previous state house elections and a larger pro-Republican bias in its declination than 93.4% of the previous elections.

Likewise, Ohio's state senate results in the first election after its 2011 plan fully went into place in 2014 had a larger absolute Efficiency Gap than 65.7% of previous state senate elections, and it had a larger pro-Republican bias than 83% of the state senate elections over the past five decades. Using other metrics of partisan bias in districting plans, it also had:

- A more extreme declination value than 80.5% of previous state senate elections and a larger pro-Republican bias in its declination than 90.5% of the previous elections.
- A more extreme difference between the mean and median district than 88.8% of previous state senate elections and also a larger pro-Republican bias in the difference between the mean and median district than 90% of previous elections.
- A more extreme symmetry metric than 98.8% of previous state house elections and a larger pro-Republican bias in its declination than 99% of the previous elections.

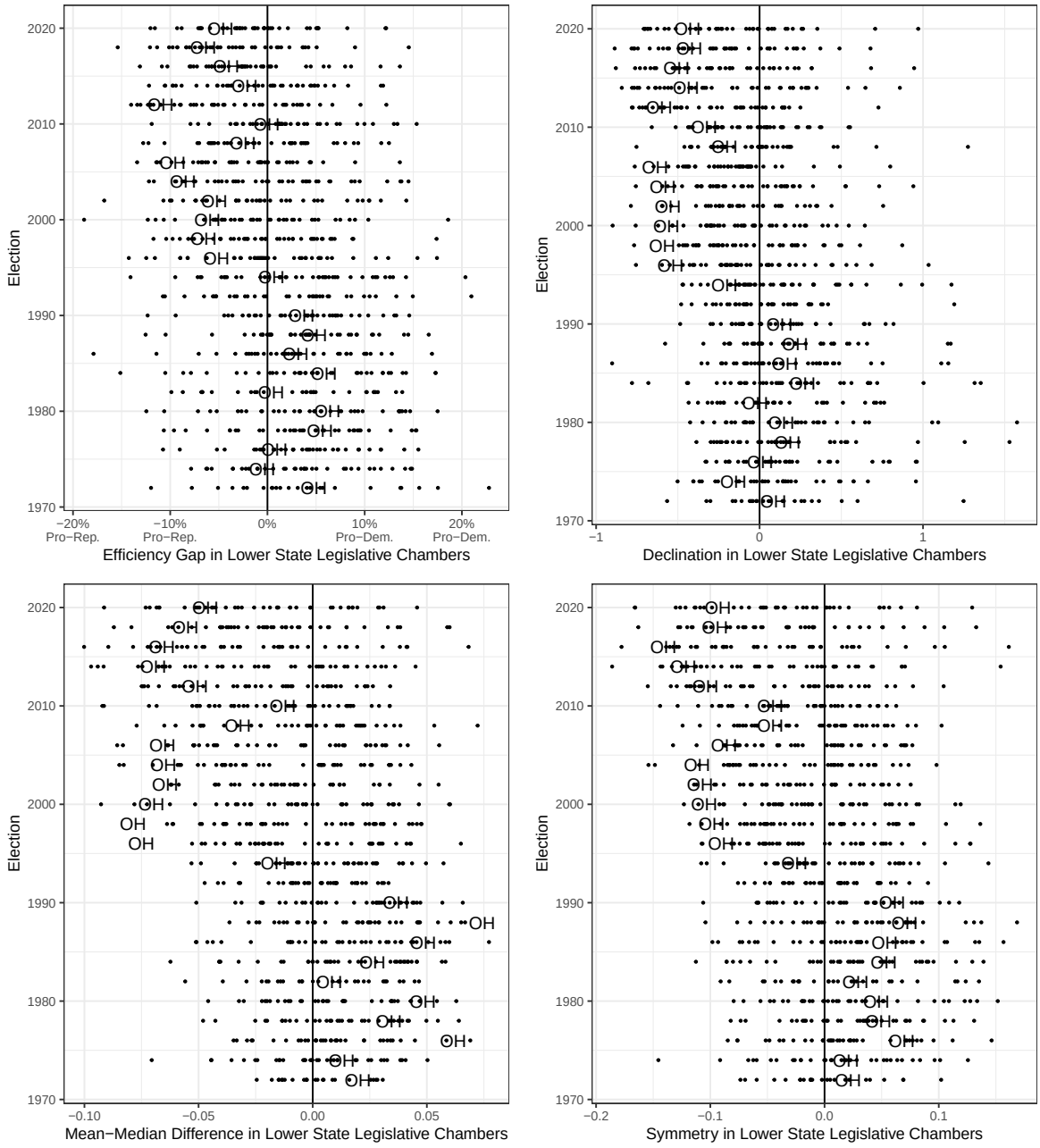


Figure 5: Partisan Advantage in Ohio's State House Relative to Other States. The dots represent the metrics in individual states. The metrics in Ohio are labelled to distinguish them from other states. Negative values are pro-Republican and positive values are pro-Democratic.

Overall, this evidence indicates that Ohio's state legislative plans during the 2012-2020 period has a historically extreme level of pro-Republican bias. The next section will examine whether the state Commission's enacted plans reduce this bias and are likely to yield legislative results that are proportional to the statewide vote and not designed to

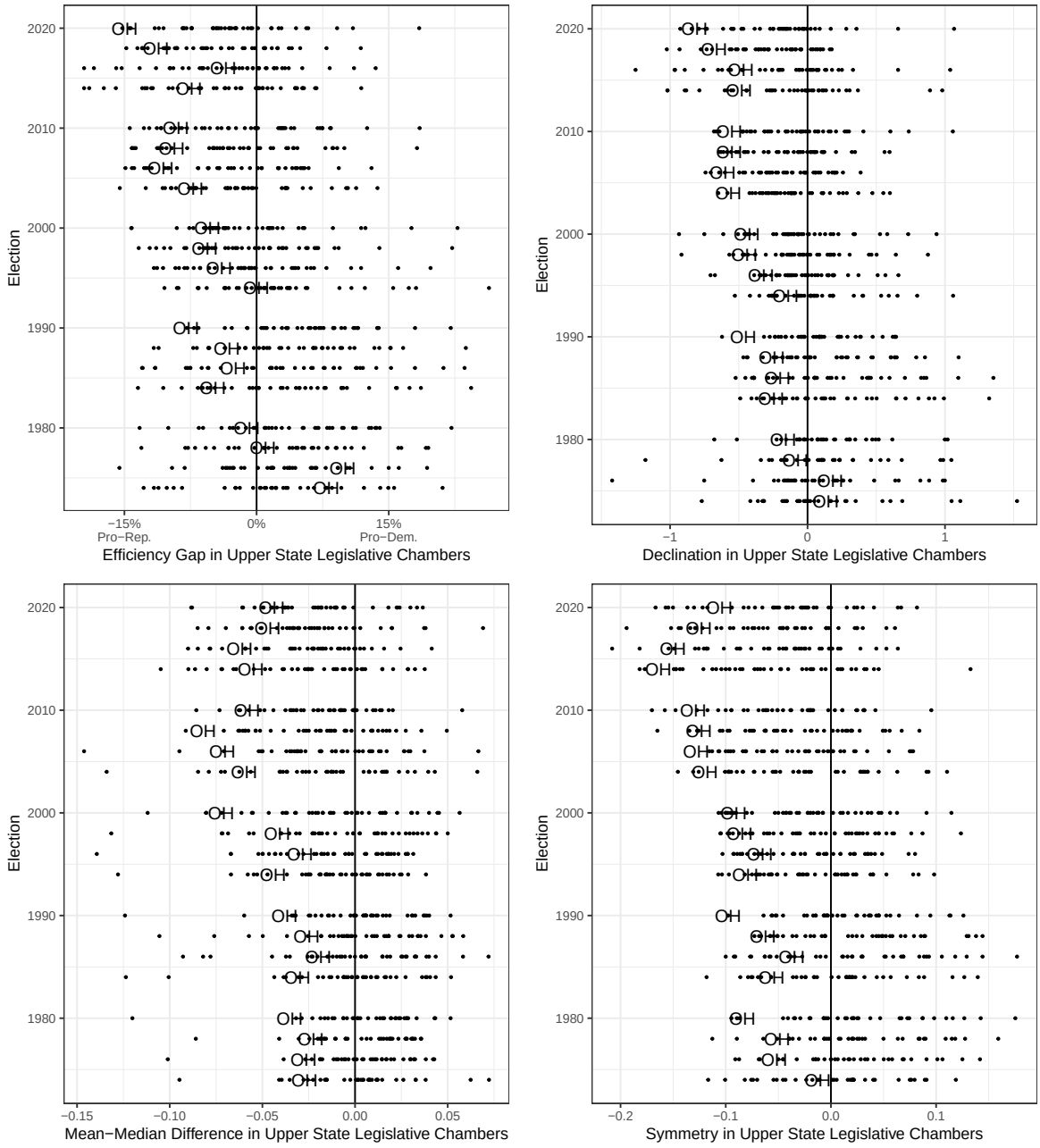


Figure 6: Partisan Advantage in Ohio's State Senate Relative to Other States. The dots represent the metrics in individual states. The metrics in Ohio are labelled to distinguish them from other states. Negative values are pro-Republican and positive values are pro-Democratic.

favor a political party as Article XI, Section 6 of Ohio's Constitution requires.

6 Partisan Bias in Ohio's Enacted State Legislative Districting Plans

In this section, I will provide a comprehensive evaluation of the partisan fairness of Ohio's enacted state legislative districting plan (see Figure 7 for maps of the enacted plans).

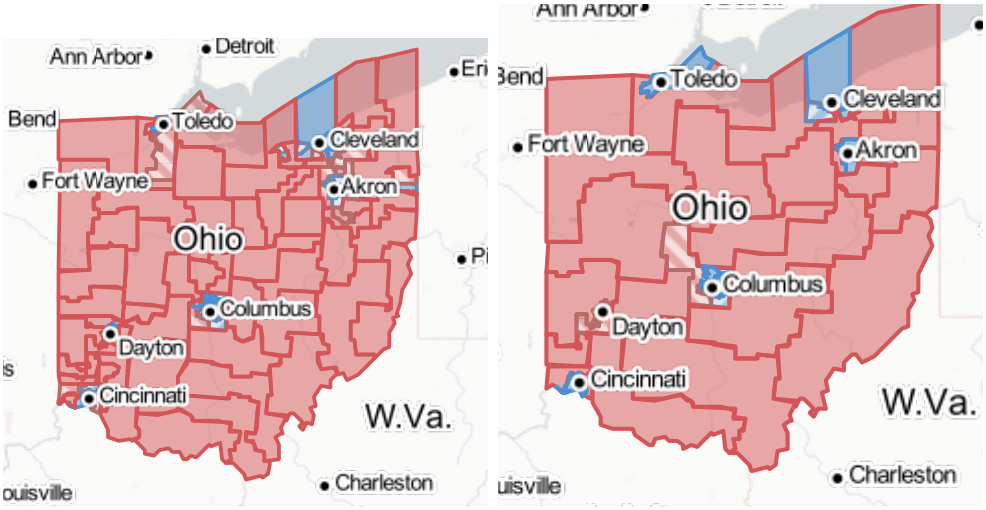


Figure 7: Map of Enacted State House and Senate Districts from PlanScore.org

The analysis in the previous section used actual, historical legislative election results to estimate the partisan fairness of Ohio's past state legislative district plans. In order to evaluate the enacted plans, however, we need to predict future election results on this map. Unfortunately, there is no way to know, with certainty, the results of future elections. I use two complementary methodologies to predict future legislative elections in Ohio and generate the various metrics I discussed earlier.

First, I use a composite of previous statewide election results between 2012-2020.[26] This approach is based on the approach discussed in Article XI, Section 6 of Ohio's Constitution, which states that the "statewide state and federal partisan general election results during the last ten years" shall be used to determine the proportion of voters supporting each party. I aggregate these election results to estimate the Democratic and Republican vote shares in each district of the enacted state legislative plans.[27] This

26. These elections include the 2012 Presidential election, the 2012 Senate election, the 2014 gubernatorial election, the 2014 Secretary of State election, the 2016 Presidential election, the 2016 Senate election, the 2018 Senate election, the 2018 gubernatorial election, the 2018 attorney's general election, the 2018 Secretary of State election, the 2018 Auditor election, the 2018 Treasurer, and the 2020 Presidential election. Geographic data on the other three statewide elections in 2014 is not readily available. But this probably doesn't affect my results much since these elections were similar to the average of the 2014 gubernatorial and Secretary of State elections.

27. I weight the composite scores to give each election cycle equal weight in the index.

approach implicitly assumes that future election results will look like the average of these recent statewide elections.

Second, I evaluate the enacted plans using a more sophisticated, predictive model from the PlanScore.org website. PlanScore uses a statistical model of the relationship between districts' latent partisanship and election outcomes. This enables it to estimate district-level vote shares for a new map and the corresponding partisan gerrymandering metrics.[28] Based on these two approaches, I characterize the bias in Ohio's plan using each of the metrics discussed above. I also place the bias in Ohio's plan into historical perspective.

Both of these approaches indicate that the enacted plan is just as biased, if not even more biased, than the 2012-2020 plan. Moreover, the enacted plan has an extreme level of partisan bias compared to other plans over the past 50 years. Overall, the enacted plan appears to violate both Article XI, Section 6(A) and (B) of Ohio's Constitution. It violates Section 6(A) by appearing to being drawn to favor on political party based on a variety of metrics. It violates Section 6(B) because the two-parties' seat shares do not correspond closely to their vote shares.

6.1 Analysis based on Proportionality Metric

First, I evaluate the enacted plans based on the proportionality metric embedded in the State's Constitution. Table 4 shows the proportionality of the enacted state Senate plans using both the composite of recent statewide elections and the PlanScore predictive model. The top two rows show the results for the current 2012-2020 plan. They indicate that this plan is estimated to lead Democrats to get 13-14% fewer seats than votes. Thus, this plan clearly fails the proportionality test established by Ohio's Constitution. The next two rows show the proportionality of the Commission's enacted map for 2022-2030. This map too is predicted to lead Democrats to get 14-15% fewer seats than votes. Thus, it too fails the proportionality test established by the Constitution.

Plan	Modeling Approach	Dem. Voteshare	Dem. Seatshare	Proportionality Bias	More Biased than % of Plans	More Pro-Rep. than % of Plans
2012-2020 Plan	2012-20 Composite	45%	32%	-13%	68%	86%
2012-2020 Plan	PlanScore	44%	30%	-14%	70%	87%
Commission's Plan	2012-20 Composite	45%	31%	-14%	69%	87%
Commission's Plan	PlanScore	44%	29%	-15%	73%	89%

Table 4: Proportionality metrics for State Senate plan

28. See `https://planscore.campaignlegal.org/models/data/2021B/` for more details.

Figure 5 shows the proportionality for the enacted state House plans. Once again, the top two rows show the results for the current 2012-2020 plan. They indicate that this plan is estimated to lead Democrats to get 12-13% fewer seats than votes. Thus, this plan violates the proportionality requirements set forth in Ohio's Constitution. The next two rows show the proportionality of the Commission's enacted map for 2022-2030. This map too is predicted to lead Democrats to get about 12% fewer seats than votes. As a result, it too fails the proportionality test established by the Constitution.

Plan	Modeling Approach	Dem. Voteshare	Dem. Seatshare	Proportionality Bias	More Biased than % of Plans	More Pro-Rep. than % of Plans
2012-2020 Plan	2012-20 Composite	45%	33%	-12%	68%	88%
2012-2020 Plan	PlanScore	44%	31%	-13%	72%	89%
Commission's Plan	2012-20 Composite	45%	33%	-12%	66%	86%
Commission's Plan	PlanScore	44%	32%	-12%	68%	88%

Table 5: Proportionality metrics for State House plan

6.2 Evaluation using Additional Partisan Bias Metrics

In this section, I evaluate the Commission's enacted plans using the other metrics I discussed earlier (Tables 6 and 7). These metrics further support the conclusion that Ohio's enacted plan violates Article XI, Section 6(A) of Ohio's Constitution because they are drawn to favor a particular political party.

First, I use the composite of previous statewide election results to estimate the various metrics. For the state Senate, the average efficiency gap of the enacted plan based on these previous election results is -9%. This is more extreme than 73% of previous plans and more pro-Republican than 86% of previous plans. The other metrics also show that Ohio's enacted plan has a substantial pro-Republican bias. When we average across all four metrics, the plan is more extreme than 77% of previous plans and more pro-Republican than 86% of previous plans.

For the state House, average efficiency gap of the enacted plan based on these previous election results is -7%. This is more extreme than 65% of previous plans and more pro-Republican than 85% of previous plans. The other metrics also show that Ohio's enacted plan has a large pro-Republican bias. When we average across all four metrics, the plan is more extreme than 75% of previous plans and more pro-Republican than 87% of previous plans.

Next, I use the PlanScore website to evaluate the enacted state legislative plan. PlanScore uses a statistical model to predict the results of each district in the enacted

Metric	Value	More Biased than this % Historical Plans	More Pro-Republican than this % Historical Plans
2012-2020 Plan			
Efficiency Gap	-8%	70%	85%
Mean-Median Diff	-3%	68%	76%
Declination	-.40	72%	84%
Symmetry	-12%	92%	94%
Average		76%	85%
Commission's Enacted Plan			
Efficiency Gap	-9%	73%	86%
Mean-Median Diff	-4%	71%	78%
Declination	-.44	75%	86%
Symmetry	-11%	88%	92%
Average		77%	86%

Table 6: Additional partisan bias metrics for State Senate plan based on composite election results

Metric	Value	More Biased than this % Historical Plans	More Pro-Republican than this % Historical Plans
2012-2020 Plan			
Efficiency Gap	-7%	70%	88%
Mean-Median Diff	-4%	75%	83%
Declination	-0.58	86%	93%
Symmetry	-9%	82%	88%
Average		78%	88%
Commission's Enacted Plan			
Efficiency Gap	-7%	65%	85%
Mean-Median Diff	-3%	61%	77%
Declination	-.50	82%	91%
Symmetry	-11%	91%	94%
Average		75%	87%

Table 7: Composite partisan bias metrics for State House plan

plan based on relationship between past legislative elections over the past decade and recent presidential election results.[29] It then calculates various partisan bias metrics. In this case, PlanScore provides estimates of the efficiency gap and declination.[30]

The efficiency gap and declination metrics estimated by PlanScore are very similar to my estimates based on a composite of recent election results. Across these two metrics, the enacted state Senate plan favors Republicans in 99% of PlanScore's scenarios (Table

29. The model is described in more detail on this web page: `https://planscore.campaignlegal.org/models/data/2021B/`.

30. The partisan symmetry and mean-median difference scores are only shown when the parties' statewide vote shares fall between 45% and 55% because outside this range the metrics' assumptions are less plausible (McGhee 2017, 9). In the PlanScore model, the Democrats' two-party vote share is just below 45%.

8).[31] It is more extreme than 80% of previous plans and more pro-Republican than 91% of previous plans.

Metric	Value	Favors Rep's in this % of Scenarios	More Biased than this % Historical Plans	More Pro-Republican than this % Historical Plans
2012-2020 Plan				
Efficiency Gap	-8%	97%	72%	85%
Declination	-.38	99%	75%	87%
Average		98%	74%	86%
Commission's Enacted Plan				
Efficiency Gap	-9%	98%	80%	92%
Declination	-.46	99%	80%	90%
Average		99%	80%	91%

Table 8: PlanScore partisan bias metrics for state senate plan

PlanScore indicates that the enacted state House plan also has a substantial pro-Republican bias. The state House plan favors Republicans in 98% of the scenarios estimated by PlanScore (Table 9).[32] Moreover, it is more extreme than 75% of previous plans and more pro-Republican than 90% of previous plans.

Metric	Value	Favors Rep's in this % of Scenarios	More Biased than this % Historical Plans	More Pro-Republican than this % Historical Plans
2012-2020 Plan				
Efficiency Gap	-8%	97%	75%	91%
Declination	-.54	99%	87%	95%
Average		98%	81%	93%
Commission's Enacted Plan				
Efficiency Gap	-6.5%	97%	68%	90%
Declination	-.47	99%	81%	90%
Average		98%	75%	90%

Table 9: PlanScore partisan bias metrics for state house plan

31. See https://planscore.campaignlegal.org/plan.html?20210917T195933.527730209Z
32. See https://planscore.campaignlegal.org/plan.html?20210917T195948.683202507Z

6.3 The Responsiveness of Ohio's Enacted State Legislative Plan to Changes in Voters' Preferences

As I discussed earlier, the responsiveness of a map indicates how many seats change hands as vote shares rise and fall. An unresponsive map ensures that the bias in a districting plan toward the advantaged party is insulated against changes in voters' preferences, and thus is durable across multiple election cycles. In addition to serving as an indicator of the durability of a gerrymander, some scholars have suggested that responsiveness is another metric to measure gerrymandering itself (Cox and Katz 1999). There are a couple of approaches we might use to measure the responsiveness of a districting plan.

I evaluate the responsiveness based on the number of competitive districts. I use slightly different approaches to define a competitive district in the composite election results and the PlanScore predictive model. In the composite election results, I define it based on whether the winning party received less than 55% of the two-party vote (Jacobson and Carson 2015, 91). In the PlanScore results, I define it based on whether there is at least a 50% probability that each party will win a district over a decade-long redistricting cycle.[33] I find that the Commission's enacted plans lead to a small number of competitive districts. In both plans, approximately 20% of the districts would be competitive.

	2012-20 Composite	**PlanScore**
2012-2020 Plan	18%	21%
Commission's Enacted Plan	16%	21%

Table 10: Competitiveness metrics for State Senate plan

	2012-20 Composite	**PlanScore**
2012-2020 Plan	17%	22%
Commission's Enacted Plan	18%	21%

Table 11: Competitiveness metrics for State House plan

33. In general, however, these definitions are similar. There is roughly a 50% probability that each party will win a district over a decade-long redistricting cycle when the expected two-party vote share is between 45-55%.

7 Partisan Gerrymandering & Representation in State Government

In the previous section, I have shown that Ohio's enacted districting plans is likely to lead to a substantial partisan advantage for Republicans in state legislative elections. Now, I turn to the effects of this partisan advantage for the representation that citizens of Ohio receive in state government. A bias in the translation of votes to seats diminishes the ability of voters in Ohio to elect representatives of their choice. Specifically, it reduces the representation of Democratic voters. The polarization in state legislatures means that representatives in state legislatures nearly always vote the party line. So gerrymandering leads Democrats to be less likely to have their views represented in state government. This means that they have little, if any, voice on important issues in Ohio's state government.

7.1 Polarization in State Legislatures

Earlier, we saw that the Congress has become extremely polarized in recent years. In this section, we will examine polarization in state legislatures over the past two decades.

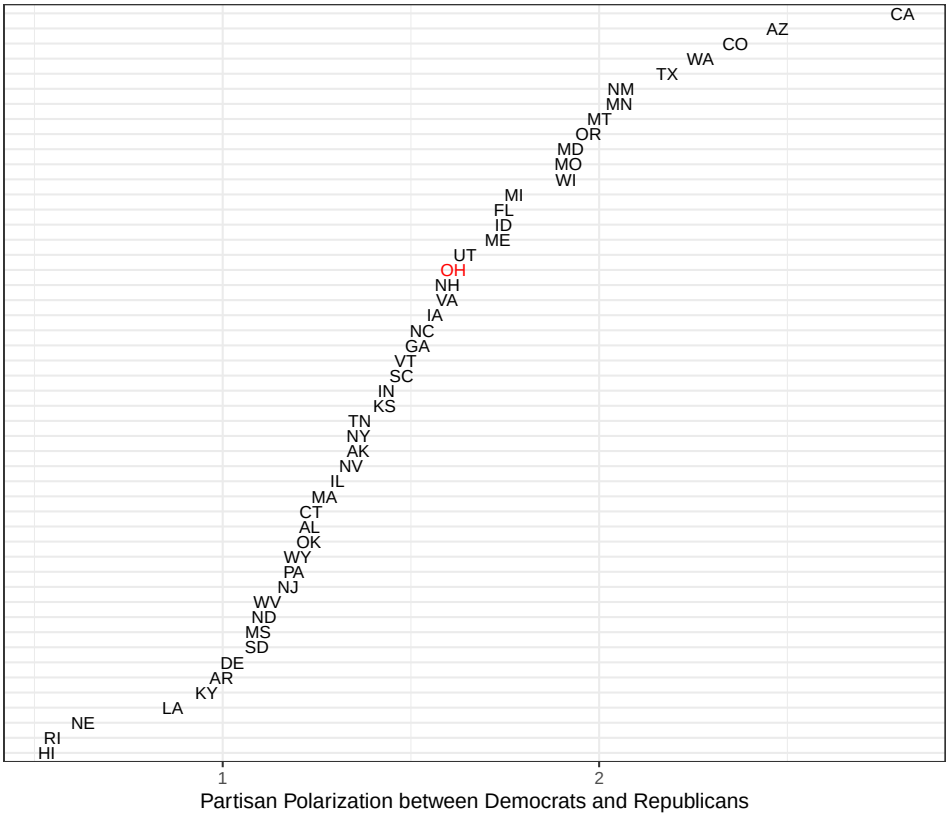


Figure 8: Polarization in Lower State Legislative Chambers in each State from 2001-2018.

Although an individual state legislator may cast hundreds or even thousands of roll call votes, their voting behavior can usually be parsimoniously summarized in terms of a single left–right score, their estimated ideology (Shor and McCarty 2011; Poole and Rosenthal 1997). Using roll-call records from all fifty state legislatures, Shor and McCarty (2011) have estimated the ideology of the members of every state legislature in each session between 1995 and 2018.[34] These estimated ideology scores summarize the ideological differences between different legislators, as expressed in their roll-call votes for and against legislative proposals.

Figure 8 (above) shows that state legislatures have become quite polarized in recent years. This chart shows the difference between the ideology scores of the median Democratic and Republican in each state's lower legislative chamber from 2001-2018. It indicates that the median Republican is over one standard deviation more conservative than the median Democrat in nearly every state legislature. This is even true of legislators that represent similar, or even identical, constituencies (Shor and McCarty 2011; Fowler and Hall 2017; Caughey, Tausanovitch, and Warshaw 2017).

In Ohio, the median Republican is about 1.5 standard deviations more conservative than the median Democrat. Figure 9 shows the average ideology of Democrats and Republicans in the Ohio state house over the past 20 years. It also shows the ideology of every individual member. This figure indicates that there is a large difference between the roll call voting patterns of Democrats and Republicans in Ohio. Moreover, Republican state legislators in Ohio are always more conservative than Democratic state legislators.

34. Shor and McCarty (2011) use data from the National Political Awareness Test, a survey of legislators run by Project Vote Smart, in order to make comparisons between legislators across different states. Each legislator is assigned an ideology score based on all roll call votes using a statistical model that takes advantage of the similarities between the coalitions that emerge on different votes, rather than by subjective judgements of the individual votes.

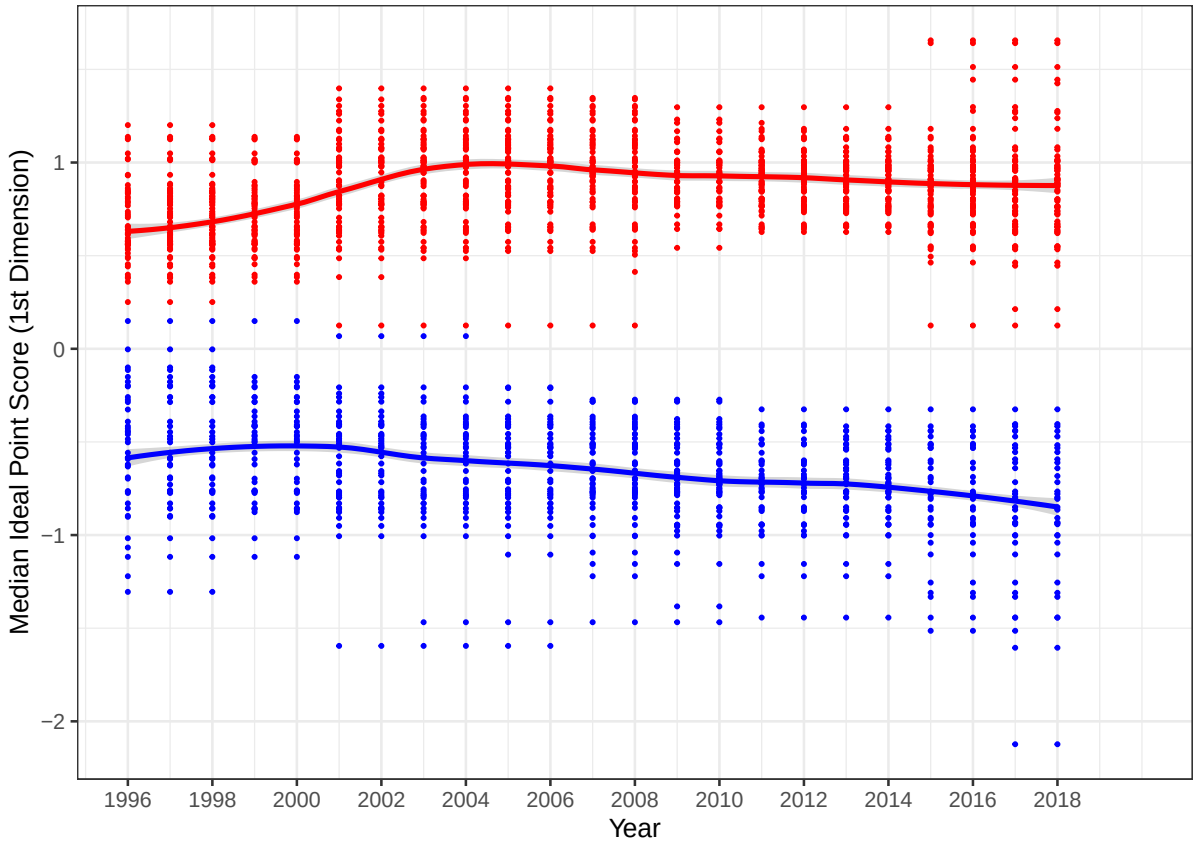


Figure 9: Average Ideology of Dem.'s and Rep's in Ohio State House

7.2 Gerrymandering and Roll Call Voting in State Legislatures

We know that partisan advantages in the translation of votes to seats give one party a larger seat share than they would have received without any advantage in the efficiency gap.[35] We also know that Republicans take much more conservative roll call positions than Democrats in state legislatures (Shor and McCarty 2011). Putting these facts together leads to the clear expectation that changes in the partisan bias of a districting plan should lead to changes in the position of the median voter in state legislatures. But the magnitude of changes in the position of the median voter is not clear *a priori*. This depends on whether additional members of the majority party tend to be moderate (because they are winning closer districts) or typical for their party (when parties are polarized). As the seat share of the majority party grows, the median voter will be closer to the center of the majority party. At the same time, the center itself may be moving depending on the positions of the new members.

35. This section is adapted from a peer-reviewed paper published in the *Election Law Journal* that I wrote with several co-authors (Caughey, Tausanovitch, and Warshaw 2017).

Table 12: The Effect of the Efficiency Gap on the Median Ideology in State Lower Chambers

	Dependent variable:	
	Median Ideology in State House	
	(1)	(2)
Efficiency Gap_{t-1}	-0.038^{***}	-0.038^{***}
	(0.007)	(0.007)
Republican Presidential Share		0.032^{***}
		(0.008)
Lagged Outcome	0.382^{***}	0.333^{***}
	(0.080)	(0.081)
Constant	0.805^{***}	2.244^{***}
	(0.191)	(0.360)
Year FEs	X	X
State FEs	X	X
Lagged Outcome Variable	X	X
Observations	339	339
R^2	0.859	0.869
Adjusted R^2	0.832	0.843
Note:	*p<0.1; **p<0.05; ***p<0.01	

In my published work, I have shown that a pro-Republican bias in the efficiency gap leads to more conservative median ideology scores of state legislators in lower chambers (Caughey, Tausanovitch, and Warshaw 2017; Caughey and Warshaw 2022). I reproduce that analysis here in Table 12 using the Efficiency Gap measures developed for this report and the ideology measures of state legislators developed by Shor and McCarty (2011).[36] The first column shows the results of a model that include fixed effects (FEs) for state as well as year and a lagged outcome variable. The second column adds a control for the results of most recent presidential election.[37] The estimates indicate that state-years in which the efficiency gap was more pro-Republican than average for that state also

36. Note that I obtain similar substantive findings using the mean-median and declination measures in this analysis as well as in the analysis in the next section on the effect of gerrymandering on state policy.

37. These specifications capture the relationship between the efficiency gap and legislative roll call voting patterns within states net of national trends, eliminating the influence of time-invariant state-specific confounders. It also includes a lagged outcome variable to control for states' recent policy history. In column (2), we add the Republican presidential vote in the previous presidential election. This controls for variation in the position of the median voter in the state. Not surprisingly, we find that states that are more Republican in presidential elections also have a more conservative state house. The effect of the efficiency gap, however, is essentially identical here to the model in column (2).

tended to have more conservative roll call voting behavior in the state house. Across both regression specifications, a one percentage point pro-Republican shift in the efficiency gap moves the median ideology scores in the state house 0.04 standard deviations to the right. These estimates suggest, for example, that the median ideology of the Ohio state house, which had about a 10% pro-Republican efficiency gap in 2012, would shift nearly half a standard deviation to the left if it adopted a districting plan with no efficiency advantage for either party.

7.3 The Efficiency Gap and Policy Outputs in State Legislatures

Next, I examine the effect of the efficiency gap on state policy conservatism. In my published work, co-authors and I have shown that the partisan composition of state legislatures has an important effect on policy (Caughey, Xu, and Warshaw 2017; Caughey and Warshaw 2022). I have also shown that partisan bias in districting can skew policy in favor of the advantaged party (Caughey, Tausanovitch, and Warshaw 2017; Caughey and Warshaw 2022).

Table 13: The Effect of the Efficiency Gap on State Policy Conservatism, 1972-2014

	Dependent variable:	
	State Policy Conservatism	
	(1)	(2)
Efficiency Gap_{t-1}	-0.003***	-0.003***
	(0.001)	(0.001)
Republican Governor_{t-1}	0.022**	0.023***
	(0.009)	(0.008)
Republican Presidential Share		−0.005***
		(0.001)
Lagged Outcome	0.933***	0.904***
	(0.019)	(0.021)
Year FEs	X	X
State FEs	X	X
Lagged Outcome Variable	X	X
Observations	814	814
R^2	0.991	0.992
Adjusted R^2	0.991	0.991
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table 13 reproduces these results using regression specifications analogous to those in

Table 12. It indicates that a one percentage point pro-Republican shift in the efficiency gap increases state policy conservatism by 0.003 standard deviations. This means that a 10 percentage point increase in the efficiency gap would increase policy conservatism by 0.03 standard deviations, which is equivalent to about a percentage point increase in the percentage of conservative policies in a state. This effect is similar to the effect of a shift of one percentage point in the composition of the vote for president (column 2) and is larger than the effect of a governor's partisanship.

7.4 Summary of Gerrymandering & Representation in State Government

Overall, the analyses in this section show that partisan bias in districting plans has large consequences for state government. States with pro-Republican bias in their districting plans have 1) more conservative state legislatures and 2) more conservative policy outcomes (and conversely for states with pro-Democratic districting plans).

8 Conclusion

Overall, there is a substantial and durable Republican bias in the translation of votes to seats in the enacted state legislative plans in Ohio.

- The statewide proportion of districts whose voters favor each political party in Ohio's enacted state legislative districting plans do not correspond closely to the statewide preferences of the voters of Ohio. Based on a variety of different analyses, I find that Republicans are likely to get a much larger share of the seats in the enacted maps than their share of the statewide vote.

- The plans appear to be drawn to favor the Republican Party. Based on a variety of metrics, the pro-Republican bias in Ohio's state legislative districting plans is very large relative to other states over the past 50 years. The pro-Republican bias in Ohio's plan cannot solely be a function of geography. This suggests that the plan was drawn to favor legislative candidates from the Republican Party.

- The pro-Republican advantage in state legislative elections in Ohio causes Democratic voters whose votes are wasted to be effectively shut out of the political process. Due to the growing polarization in Congress and state legislatures, there is a large difference between the roll call voting behavior of Democrats and Republicans. A

representative from one party increasingly does not represent the views of a constituent of the opposite party. Thus, Democratic voters whose votes are wasted are unlikely to see their preferences represented by policymakers.

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Supplementary Appendix

A Measurement Model for Uncontested Races

A factor that complicates the computation of the Efficiency Gap (as well as any other measure of partisan bias) is that many seats are uncontested. As Stephanopoulos and McGhee (2015, 865) put it, "Since gerrymanders redistribute voters in order to pack and crack the opposition, determining the degree of packing and cracking requires knowing how many people in each district support each party."[38] In uncontested races, however, it is not possible to calculate a two-party vote share. Thus, we have no way of knowing based on the election returns alone how many people supported each party.

As a result, we need some strategy to impute the two-party vote shares in these districts in order to estimate the Efficiency Gap. There are a variety of potential approaches to address this problem. The simplest strategy is to simply assume that the winning candidate receives 75% of the vote and the losing candidate receives 25% of the vote. Many political science studies have adopted this approach (e.g., Gelman and King 1994a; Kastellec, Gelman, and Chandler 2008).[39] However, Kastellec, Gelman, and Chandler (2008) point out that "there is no way to know whether the losing candidate would have actually received 25% of the vote. For example, in a heavily Democratic district in Philadelphia, this probably over-estimates the vote share a Republican candidate would have gotten. In contrast, it might under-estimate the Republican vote share in a more suburban, swing district."

A more sophisticated strategy to address uncontested races is to estimate the two-party vote share in district$_i$ based on previous and future elections in that district as well as the results in similar districts elsewhere. A variety of recent analyses have used this approach. The Brennan Center's recent report uses a variant of this approach for its estimates of Efficiency Gaps between 1992-2016 (Brennan Center 2017, 16).[40] This

38. A variety of other scholars have noted this problem. For instance, Campagna and Grofman (1990, 1247) note that "One key issue [for studies of redistricting] is how to handle uncontested seats. [One needs] to avoid using 100% as the vote share for a party in an uncontested seat (which, for Congress, tends to bloat ... vote share)."

39. Kastellec, Gelman, and Chandler (2008) justify this strategy by noting that King and Gelman (1991) and Gelman and King (1994a) examined the "vote shares received in the last election before a district became uncontested and the first election after a district became uncontested. The average of these values was about 0.75 for the incumbent party and represents the average 'effective support' for the party in uncontested races."

40. Brennan Center (2017, 16) states that 'For districts without both a Democrat and Republican running in the general election, we estimated the vote share both parties would have received in a contested two-party election based on the prior election's House results, the most recent district-level

strategy is also used by the Public Policy Institute of California for its estimates of the Efficiency Gap over the last decade (McGhee 2018), and by Professor Simon Jackman in his expert reports for litigation in Wisconsin and North Carolina (Jackman 2015, 2017). One downside of this approach, however, is that it relies on less transparent assumptions than the simpler strategy described above.

Unfortunately, there are no publicly available, published estimates of the Efficiency Gap that span the past four decades for all three legislative chambers, including congressional, state house, and state senate districts. As a result, I build my own estimates using both approaches described above for imputing uncontested districts. That is, I build one set of Efficiency Gap estimates based on the assumption that the winning party receives 75% of the vote in uncontested districts and another version using a model that imputes the vote shares in uncontested districts based on previous and future elections in that district as well as the results in similar districts elsewhere. I use the latter estimates in the main body of the report. But it is important to note that the substantive results in the report are robust to the precise details of how we calculate the Efficiency Gap.

A.1 Overview of Data

A.1.1 Congressional Districts

For congressional districts, the foundation of my analysis was congressional election results from 1972-2018 collected by the Constituency-Level Elections Archive (CLEA) (Kollman et al. 2017). The results from 1972-1990 are based on data collected and maintained by the Inter-university Consortium for Political and Social Research (ICPSR) and adjusted by CLEA. The data from 1992-2018 are based on data collected by CLEA from the Office of the Clerk at the House of the Representatives. I supplemented this dataset with election results collected by the MIT Election and Data Science Lab (MIT Election and Data Science Lab 2017). I used data on presidential election returns and incumbency status in Congressional elections collected by Professor Gary Jacobson (University of California, San Diego). This dataset has been used in many Political Science studies and has canonical status in the political science profession (Jacobson 2015). I group elections by decade and estimate the Efficiency Gap for each state's plan in each election year.

Presidential results using totals calculated and compiled by Daily Kos Elections for both 2012 and 2016, a district's Cook Partisan Voter Index, and the winning candidate's incumbency status."

A.1.2 State Legislative Districts

For state legislative districts, the foundation for my analysis was a large canonical data set on candidacies and results in state legislative elections from 1972-2018 collected by Carl Klarner and a large team of collaborators. The results from 1972-2012 are based on data maintained by the Inter-university Consortium for Political and Social Research (ICPSR) (Klarner et al. 2013). I obtained data from 2013-2018 directly from Klarner. I obtained Ohio's returns in 2020 directly from the state government's website.

I used a variety of sources of data on presidential election returns in state legislative districts. For elections between 1972 and 1991, I used data on county-level election returns from 1972-1988 collected by the Inter-university Consortium for Political and Social Research (ICPSR 2006) and mapped these returns to state legislative districts in order to estimate presidential, senate, and governor election results by state legislative district. For elections between 1992 and 2001, I used data on presidential election returns in the 2000 election collected by McDonald (2014) and Wright et al. (2009). For elections between 2002 and 2011, I used data on the 2004 and 2008 presidential elections collected by Rogers (2017). For elections between 2012 and 2018, I used data on presidential election returns for the 2012 and 2016 elections from the DailyKos website.

I group each state's elections based on its redistricting plan using data from Carl Klarner. In most cases, redistricting plans are constant over the course of a decade. However, a handful of states have redistricted mid-decade for various reasons. In general, I drop these states from my analysis. I also drop state legislative elections from my analysis where I am unable to match to data on presidential vote share. I also drop state senate elections in the first cycle after a redistricting from my analysis because it is not clear whether each district in the chamber is using the post-redistricting map.

Many state legislative elections are conducted in multimember districts. Previous studies have dropped the bulk of these districts from their analyses (e.g., Jackman 2015). However, I include multimember districts in my analysis of the Efficiency Gap in state legislative elections. For multimember districts with posts, I treat each post as if it's a separate district. For multimember systems without posts, I match each winner with a maximum of one loser of the opposite party, and assume that they ran against each other in a post election. Specifically, I match the worst-performing winner with the best-performing loser of the opposite party, and then the next-worst performing winner with the second-best performing loser of the opposite party, etc. If there are more winners than losers, then there will be some "uncontested" races.

Finally, if only a portion of a state legislative chambers were elected in a particular year, I group these elections with the most recent previous election in each district in

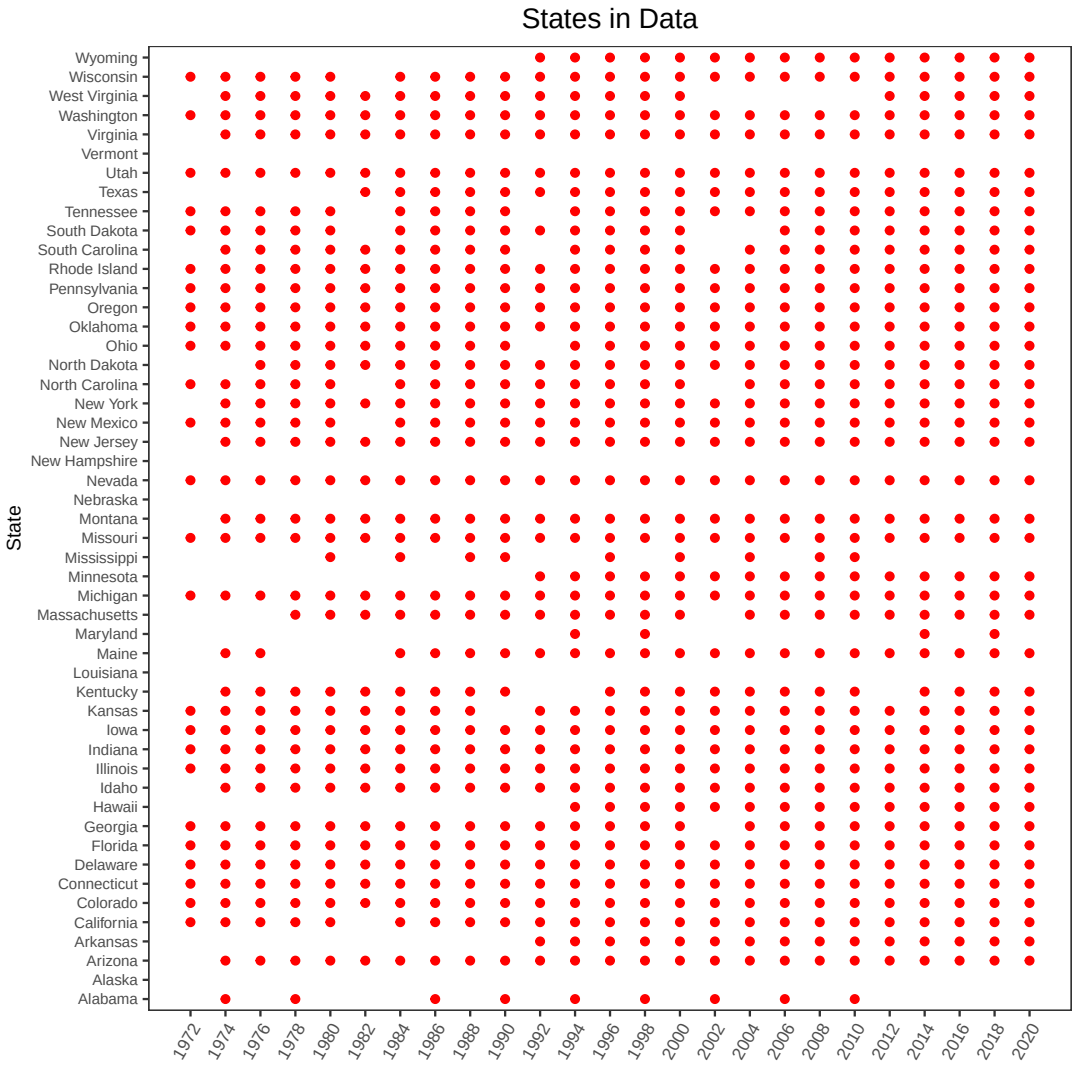

Figure A1: States and election cycles where I estimate the Efficiency Gap in State House Districts.

order to calculate each party's seat share, vote share, the number of wasted votes, the Efficiency Gap, and other statistics.

Figure A1 (above) shows the states and election cycles where I estimate an efficiency gap for state house districts. Overall, I have estimated the Efficiency Gap for 896 of the 1123 (80%) state house election years in partisan legislatures between 1972 and 2016.[41] This is substantially more than previous analyses of gerrymandering in state legislatures using the Efficiency Gap (e.g., Stephanopoulos and McGhee 2015; Jackman 2015).

41. I have dropped state-years for the following reasons. First, I drop state-years where I am unable to match presidential election results to state legislative districts. Second, I drop state-years that precede a mid-decade redistricting.

A.2 Details of Statistical Models

This section presents the details of the statistical models that I use to impute uncontested races.

1. First, I estimate the Efficiency Gap assuming that the winner in uncontested races receives 75% of the vote and the loser receives 25% of the vote. I estimate the statewide Democratic vote share by assuming that turnout in each district was equal and simply taking the average of the two-party vote shares in each district.

2. Second, I estimate the Efficiency Gap using a statistical model to impute both the vote share and turnout in uncontested districts. This model is closely related to the imputation strategy for uncontested districts adopted by previous studies of the Efficiency Gap (Stephanopoulos and McGhee 2015; Jackman 2015, 2017; Brennan Center 2017; McGhee 2018).

    - In order to estimate the vote shares in uncontested districts, I model the proportion of the two-party vote received by the Democrat ($p_{d,t}$) in each district (d) using a binomial model.

$$s^v_{d,t} \sim \text{Binomial}(n^v_{d,t},\ p^v_{d,t}), \tag{4}$$

      where d indexes districts and t indexes elections. $n^v_{d,t}$ is set to 2000[42] and $s^v_{d,t}$ is the two-party vote share multiplied by 2000. For uncontested races, we set $n^v_{d,t}$ and $s^v_{d,t}$ to zero. We then model p as a function of: previous and future results in that district, each district's presidential vote share, whether there is an incumbent running, and if so, their party, and the region (congressional districts) or state (state legislative districts) that the district is in. For state legislative races, I also include the Democrats' vote share in governors and senate races during the 1970s and 1980s as a predictor since state legislative races during this period were less nationalized than in more recent decades. More formally, for congressional districts, we model

$$p^v_{d,t} = \Phi(\gamma_t + \ p^v_{d,t-1} + \beta_1 * pvote_{d,t} + \beta_2 * incumbency_{d,t} + \alpha^{region}_{s[d]}) \tag{5}$$

42. This number is set for computational efficiency. However, it could be arbitrarily set to some other number, and this would not affect the model results.

where *pvote* is the percentage of the two-party presidential vote received by the Democratic candidate in each district; *incumbency* is a factor equal to 1 if there is a Democratic incumbent, 0 if there is no incumbent, and -1 if there is a Republican incumbent; regions are based on economic regions defined by the Bureau of Economic Advisors; and the normal CDF Φ maps p to the $(0, 1)$ interval. I estimate the model separately each decennial redistricting period (i.e., years ending in 02 - 12) using the `dgmrp` function in the `dgo` package in R (Dunham, Caughey, and Warshaw 2016).[43] The mean estimate of Democratic vote share in uncontested congressional races won by Democrats is 71% and the average estimate of Democratic vote share in uncontested races won by Republicans is 31%.[44]

- In order to estimate the turnout in uncontested congressional districts, I model the proportion of the population ($p_{d,t}$) that votes in each district (d) using a similar binomial model.

$$s^t_{d,t} \sim \text{Binomial}(n^t_{d,t},\ p^t_{d,t}), \tag{6}$$

where $n^t_{d,t}$ is set to 2000 and $s^t_{d,t}$ is the proportion of the population that voted for either the Democratic or Republican candidate multiplied by 2000. For districts with uncontested races, we set $n^t_{d,t}$ and $s^t_{d,t}$ to zero. We then model p as a function of: previous and future results in that district, whether there is an incumbent running, and if so, their party, and the region that the district is in. More formally, we model

$$p^t_{d,t} = \Phi(\gamma_t + \ p^t_{d,t-1} + \beta_1 * incumbency_{d,t} + \alpha^{region}_{s[d]}) \tag{7}$$

where *incumbency* is a factor equal to 1 if there is a Democratic incumbent, 0 if there is no incumbent, and -1 if there is a Republican incumbent; regions are based on economic regions defined by the Bureau of Economic Advisors; and the normal CDF Φ maps p to the $(0, 1)$ interval. I estimate the model separately each decennial redistricting period (i.e., years ending in 02 - 12)

43. Due to data limitations, for both the models of turnout and vote share in congressional elections, I do not split apart states' plans due to mid-decade redistrictings. In recent decades, however, only a handful of states have conducted mid-decade redistrictings. For state legislative districts, I drop elections from districting plans established prior to a mid-decade redistricting.

44. These estimates are very similar to those of Stephanopoulos and McGhee (2015, 866). Based on a similar approach, they estimate a "mean Democratic vote share [in uncontested races] of 70 percent," and for uncontested Republicans, they estimate "a mean Democratic vote share of 32 percent."

using the `dgmrp` function in the `dgo` package in R (Dunham, Caughey, and Warshaw 2016).

- In order to estimate the turnout in uncontested state legislative districts, I take the average of the turnout in district$_d$ in other presidential or midterm years in a given decade. If no data on district$_d$ is available, I take the average of turnout in year$_t$ elsewhere in the state. I use this simpler approach due to the unavailability of population data for state legislative districts.
- Finally, for uncontested congressional and state legislative districts, I estimate the number of Democratic votes in each district by multiplying the estimated, imputed Democratic vote share ($p^v_{d,t}$) by the estimate of the total turnout. For contested districts, I use the actual number of Democratic votes and total votes in each district. Combining these approaches, I estimate the statewide Democratic vote share by simply summing the Democratic votes in each district and dividing by the total number of votes.

Now that we know voters' two-party preferences in contested districts and we have estimates of their preferences in uncontested districts, we are finally in position to estimate the partisan advantage in the congressional and state legislative districting process during each state-year. I estimate the efficiency gap in all states for each election between 1972 to 2016 using equation 3.[45]

In the discussion of congressional districts in the main body of the report, I focus on states with more than 6 congressional seats. I omit smaller states for two reasons. First, these states contribute less to the overall distribution of seats in Congress (Stephanopoulos and McGhee 2015, 868). Second, the Efficiency Gap in smaller states tends to be more volatile and thus less informative about partisan bias. For example, in a state with only three seats, a change in the winner of one seat could cause a huge shift in their Efficiency Gap.

A.3 Validation

Prior to examining our results, it is useful to validate my measures of the Efficiency Gap to make sure that it aligns closely with alternative modeling approaches for uncontested races. In fact, Figure A2 shows that the precise method used to impute uncontested congressional races makes relatively little difference for estimates of the Efficiency Gap.

45. I start the analysis in 1972 since those are the first districting plans drawn after the Supreme Court cases stemming from *Baker v. Carr* ended malapportionment and established the principle of one-person, one-vote.

- The correlation between estimates of the Efficiency Gap for congressional districts I calculated using the Bayesian method described above and a simpler approach that assumes the winner in uncontested races received 75% of the two-party vote is 0.95.
- The correlation between my estimates of the Efficiency Gap for congressional districts and estimates for 1992-2016 developed by the Brennan Center is 0.95.
- The correlation between my estimates of the Efficiency Gap for congressional districts and estimates for 2002-2016 developed by the Public Policy Institute of California is 0.98.

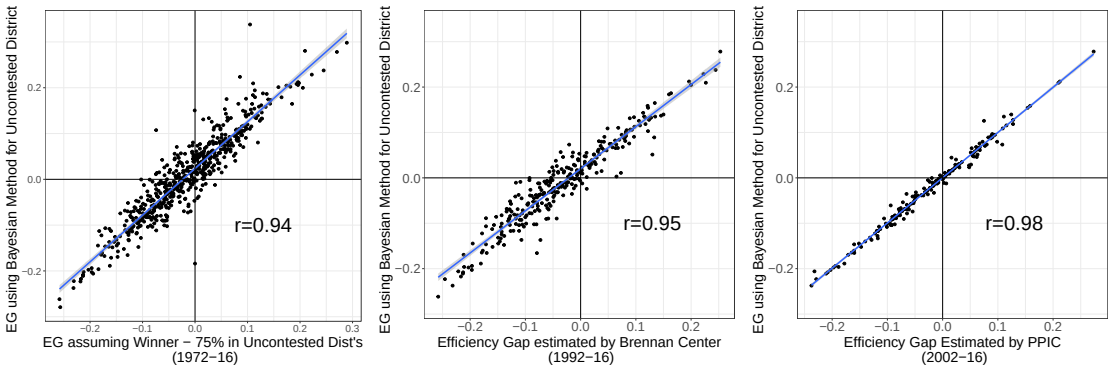

Figure A2: Validation of the Efficiency Gap Measure for Congressional Elections

I also find very high correlations between my estimates of the Efficiency Gap in state house districts and other modeling approaches for estimating the Efficiency Gap.

- The correlation between estimates of the Efficiency Gap for congressional districts I calculated using the Bayesian method described above and a simpler approach that assumes the winner in uncontested races received 75% of the two-party vote is 0.84.
- The correlation between my estimates of the Efficiency Gap for congressional districts and estimates for 1972-2014 developed by Jackman (2015) is 0.91.[46]
- I also find very high correlations between my estimates of the Efficiency Gap and the declination measures discussed in the main body of the report.

46. It is important to note that my methodology for estimating the Efficiency Gap differs from Jackman (2015)'s approach in three relatively minor ways which slightly attenuates the correlation between our measures. First, I adjust for unequal turnout across districts. If I do not adjust for differences in turnout, my Efficiency Gap estimates have a 0.96 correlation with Jackman's estimates. Second, I use presidential vote share as a predictor of state legislative elections throughout the entire time period to estimate uncontested districts. Finally, I include states with multimember districts in my analysis.

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Academic Employment

George Washington University, Washington, DC

Associate Professor (2020-present)

Assistant Professor, 2017 - 2020

Massachusetts Institute of Technology, Cambridge, MA

Associate Professor of Political Science (without tenure), 2016 - 2017

Assistant Professor of Political Science, 2012 - 2016

Education

Stanford University, Ph.D., Political Science, 2012

Fields: American Politics, Comparative Politics, and Political Methodology (Statistics)

Stanford Law School, Juris Doctorate, 2011

Williams College, B.A., *magna cum laude*, 2002

Research Interests

American Politics, Representation, Elections, Public Opinion, State & Local Politics, Environmental Politics and Policy, Statistical Methodology

Research

Publications

Book

"Dynamic Democracy: Citizens, Politicians, and Policymaking in the American States." Forthcoming. University of Chicago Press. (with Devin Caughey)

Peer Reviewed Articles

24. "The Effect of Television Advertising in United States Elections." Forthcoming. *American Political Science Review*. (with John Sides and Lynn Vavreck).

23. "Using Screeners to Measure Respondent Attention on Self-Administered Surveys: Which Items and How Many?" 2021. *Political Science Research and Methods*. 9(2): 430–437. (with Adam Berinsky, Michele Margolis, and Mike Sances)
22. "The Impact of Partisan Gerrymandering on Political Parties." 2020. *Legislative Studies Quarterly*. 45(4): 609-643. (with Nicholas Stephanopoulos)
21. "Fatalities from COVID-19 are reducing Americans' support for Republicans at every level of federal office." 2020. *Science Advances*. (with Lynn Vavreck and Ryan Baxter-King)
20. "Accountability for the Local Economy at All Levels of Government in United States Elections." 2020. *American Political Science Review*. 114(3): 660-676. (with Justin de Benedictis-Kessner)
19. "Politics in Forgotten Governments: The Partisan Composition of County Legislatures and County Fiscal Policies." 2020. *Journal of Politics*. 82(2): 460-475. (with Justin de Benedictis-Kessner)
18. "On the Representativeness of Primary Electorates." 2020. *British Journal of Political Science*. 50(2): 677-685. (with John Sides, Chris Tausanovitch, and Lynn Vavreck)
17. "Geography, Uncertainty, and Polarization." 2019. *Political Science Research and Methods*. 7(4): 775-794. (with Nolan McCarty, Jonathan Rodden, Boris Shor, and Chris Tausanovitch)
16. "Policy Ideology in European Mass Publics, 1981–2016." 2019. *American Political Science Review*. 113(3): 674-693. (with Devin Caughey and Tom O'Grady).
15. "Does Global Warming Increase Public Concern About Climate Change?" 2019. *Journal of Politics*. 81(2): 686-691. (with Parrish Bergquist)
14. "Local Elections and Representation in the United States." 2019. *Annual Review of Political Science*. 22(1): 461-479.
13. "The Ideological Nationalization of Party Constituencies in the American States". 2018. *Public Choice*. Keith Poole Symposium. 176(1-2): 133-151. (with James Dunham and Devin Caughey)
12. "Policy Preferences and Policy Change: Dynamic Responsiveness in the American States, 1936-2014." 2018. *American Political Science Review*. 112(2): 249-266. (with Devin Caughey)
11. "Does the Ideological Proximity Between Candidates and Voters Affect Voting in U.S. House Elections?" 2018. *Political Behavior*. 40(1): 223-245. (with Chris Tausanovitch)
10. "Partisan Gerrymandering and the Political Process: Effects on Roll-Call Voting and State Policies." *Election Law Journal.* December, 2017. 16(4): 453-469. Symposium on Partisan Gerrymandering and the Efficiency Gap. (with Devin Caughey and Chris Tausanovitch)
9. "Incremental Democracy: The Policy Effects of Partisan Control of State Government." 2017. *Journal of Politics*. 79(4): 1342-1358. (with Devin Caughey and Yiqing Xu)
8. "Renewable energy policy design and framing influences public support in the United States." 2017. *Nature Energy*. 2(17107). (with Leah Stokes)
7. "Estimating Candidates' Political Orientation in a Polarized Congress." 2017. *Political Analysis*. 25(2): 167-187. (with Chris Tausanovitch)
6. "The Dynamics of State Policy Liberalism, 1936-2014." 2016. *American Journal of Political Science*. 60(4): 899-913. (with Devin Caughey)
5. "Mayoral Partisanship and Municipal Fiscal Policy." 2016. *Journal of Politics*. 78(4): 1124-1138. (with Justin de Benedictis-Kessner)

4. "Dynamic Estimation of Latent Opinion Using a Hierarchical Group-Level IRT Model." 2015. *Political Analysis*. 23(2): 197-211. (with Devin Caughey)
3. "Representation in Municipal Government." 2014. *American Political Science Review*. 108(3): 605-641. (with Chris Tausanovitch)
2. "Measuring Constituent Policy Preferences in Congress, State Legislatures and Cities." 2013. *Journal of Politics*. 75(2): 330-342. (with Chris Tausanovitch)
1. "How Should We Measure District-Level Public Opinion on Individual Issues?" 2012. *Journal of Politics*. 74(1): 203-219. (with Jonathan Rodden)

Editor Reviewed Articles in Journals and Law Reviews

4. "A preference for constant costs." 2020. *Nature Climate Change*. News & Views. 10: 978–979
3. "Public Opinion in Subnational Politics." 2019. *Journal of Politics*. 81(1): 352-363. Editor reviewed for Symposium on Subnational Policymaking. (with Devin Caughey)
2. "Spatial variation in messaging effects." 2018. *Nature Climate Change*. News & Views. April, 2018.
1. "Business as Usual? Analyzing the Doctrinal Development of Environmental Standing Doctrine since 1976." 2011. *Harvard Law and Policy Review*. Volume 5.2. (with Gregory Wannier).

Book Chapters

5. "Elections and Parties in Environmental Politics." 2020. *Handbook on U.S. Environmental Policy*. David Konisky, ed. (with Parrish Bergquist)
4. "Latent Constructs in Public Opinion." 2018. *Oxford Handbook on Polling and Polling Methods*. R. Michael Alvarez and Lonna Atkeson, ed. Oxford: Oxford University Press.
3. "The Application of Big Data in Surveys to the Study of Elections, Public Opinion, and Representation." 2016. *Data Analytics in Social Science, Government, and Industry*. R. Michael Alvarez, ed. Cambridge: Cambridge University Press.
2. "The Political Economy of Expropriation and Privatization in the Oil Sector." 2012. *Oil and Governance: State-Owned Enterprises and the World Energy Supply*. David G. Victor, David Hults, and Mark Thurber, eds. Cambridge: Cambridge University Press.
1. "Democratization and Countermajoritarian Institutions: The Role of Power and Constitutional Design In Self-Enforcing Democracy." 2012. *Comparative Constitutional Design*. Cambridge: Cambridge University Press. (with Susan Alberts and Barry R. Weingast).

Policy Reports

1. "Reforming Baltimore's Mayoral Elections." 2020. Abell Foundation Report. `https://www.abell.org/publications/reforming-baltimores-mayoral-elections`

Articles Under Review

"The Effect of Fox News Channel on U.S. Elections: 2000-2020" (with Elliott Ash, Sergio Galletta, and Matteo Pinna)

"Moderates" (with Anthony Fowler, Seth Hill, Jeff Lewis, Chris Tausanovitch, Lynn Vavreck)

"Partisan Polarization in the Mass Public in South Korea and the United States"

Works in Progress

"Electoral Accountability for Ideological Extremism in American Elections" (with Devin Caughey)

"Gerrymandering in Local Governments" (with Laura Royden)

"Partisan Selection in City Councils" (with Justin de Benedictis-Kessner and Dan Jones)

"When Mass Opinion Goes to the Ballot Box: A National Assessment of State Level Issue Opinion and Ballot Initiative Results" (with Jonathan Robinson and John Sides)

"Inequalities in Participation, Voting, and Representation in Local Governments" (with Justin de Benedictis-Kessner and John Sides)

"The Ideology of State Party Platforms " (with Justin Phillips and Gerald Gamm)

Non-Academic Writing

"Here are six big takeaways from the 2020 elections." *Washington Post*. November 7, 2020. (with Emily Thorson)

"TV ads still win elections. And Democrats are buying a lot more of them." *Washington Post*. October 28, 2020. (with John Sides and Lynn Vavreck)

"How Local Covid Deaths Are Affecting Vote Choice." *New York Times*. July 28, 2020. (with Lynn Vavreck)

"Allowing Only Older Americans to Vote by Mail Leads to Severe Racial Disparities." *Election Law Blog*. July 1, 2020.

"A coronavirus recession would hurt all kinds of Republican candidates – not just Trump." *Washington Post*, Monkey Cage. March 18, 2020. (with Justin de Benedictis-Kessner).

"The Supreme Court is deciding a gerrymandering case. Here's the social science that the Justices need to know." *Washington Post*, Monkey Cage. June 1, 2019.

"New research shows just how badly a citizenship question would hurt the 2020 Census." *Washington Post*, Monkey Cage. April 22, 2019. (with Matt Barreto, Matthew A. Baum, Bryce J. Dietrich, Rebecca Goldstein, and Maya Sen)

"G.O.P. Senators Might Not Realize It, but Not One State Supports the Health Bill." *New York Times*. June 14, 2017. (with David Broockman)

Invited Talks

2020-2021: University of Maryland; Stony Brook University

2019-2020: Princeton; UC Berkeley

2018-2019: Stanford; Northeast Political Methodology Meeting at NYU; University of Maryland

2017-2018: USC PIPE Symposium on Studying Subnational Policy Making; BYU; University of Chicago Conference on Political Polarization

2016-2017: University of Virginia; UCLA

2015-2016: Washington University in St. Louis; Texas A&M; Arizona State University Conference on Campaigns, Elections and Representation

2014-2015: Yale; Columbia; Duke

2013-2014: Princeton; Boston University; Rochester University

2012-2013: MIT American Politics Conference; Columbia Representation Conference; Princeton Media & Politics Conference; Annual Meeting of the Society for Political Methodology

Grants

Russell Sage Foundation, 2019-2021 ($119,475)

GW UFF, 2019-2020 ($14,433)

MIT Elections Lab, 2019-2020 ($14,000)

Jeptha H. and Emily V. Wade Award, 2014-2016 ($59,686)

MIT Energy Institute (MITEI) Seed Grant, 2014-2016 ($137,147)

MIT SHASS Research Fund, 2012-2014 ($8,734)

Software

dgo: Dynamic Estimation of Group-Level Opinion. 2017. R package. `https://CRAN.R-project.org/package=dgo`. (with James Dunham and Devin Caughey)

Awards and Honors

OVPR Early Career Scholar at George Washington University, 2019.

APSA award for best journal article on State Politics & Policy in 2016.

Award for best paper on State Politics & Policy at the 2014 American Political Science Conference.

Graduate Fellowship, Dept. of Political Science, Stanford University, 2006-2012

David A. Wells Prize in Political Economy for Best Undergraduate Economics Thesis, Williams College, 2002

Phi Beta Kappa, Williams College, 2002

Teaching Experience

Instructor:

Measurement Models (Graduate-level) (GW), 2020

Political Representation (Graduate-level) (GW), 2019

Elections (GW), 2018, 2019

Multi-level and Panel Models (Graduate-level) (GW), 2017, 2018, 2019

Public Opinion (GW), 2017

American Political Institutions (Graduate-level) (MIT), 2014, 2016

Public Opinion and Elections (MIT), 2016

Energy Policy (MIT), 2013

Democracy in America (MIT), 2013, 2014

Constitutional Law & Judicial Politics (MIT), 2013, 2015

Making Public Policy (MIT), 2012, 2014

Teaching Assistant:

Introduction to American Law (Stanford University), 2010

Judicial Politics and Constitutional Law (Stanford University), 2009

Political Economy of Energy Policy (Stanford University), 2008

Introduction to International Relations (Stanford University), 2008

Introduction to Public Policy (Stanford University), 2007

Introduction to Econometrics (Williams College), 2002

Graduate Advising

George Washington University:

Alex Beck (Dissertation committee chair)

Kerry Synan (Dissertation committee co-chair)

Jared Heern (Dissertation committee member)

Colin Emrich (Graduates in 2021, Dissertation committee member)

Massachusetts Institute of Technology:

Leah Stokes (Graduated in 2015, Dissertation committee member)

Krista Loose (2016, Dissertation committee member)

Tom O'Grady (2017, Dissertation committee member)

Justin de Benedictis-Kessner (2017, Dissertation committee member)

Alex Copulsky (2017, Masters thesis committee member)

James Dunham (2018, Dissertation committee member)

Parrish Bergquist (2018, Dissertation committee member)

Meg Goldberg (2019, Dissertation committee member)

University Service

George Washington University:

Member, Academic Program Review Committee, Sociology Dept., 2021

Coordinator, Graduate Political Science Admissions Committee, 2019-2020

Coordinator, American Politics Workshop, 2018-2020

Member, Methods Exam Committee, 2017-2020

Member, Graduate Political Science Admissions Committee, 2018-2019

Massachusetts Institute of Technology:

Member, Energy Education Task Force, 2012-2017

Parking and Transit Committee, 2013-2017

Member, Graduate Political Science Admissions Committee, 2013-2015

Faculty Fellow, Burchard Scholars, 2013-2015

Stanford University (as graduate student):

President, Stanford Environmental Law Society, 2009-2010

Executive Board Member, Stanford Environmental Law Society 2008-2010

Member, University Committee on Graduate Studies, 2007-2009

Member, University Library Committee, 2007-2008

President, Political Science Graduate Students Association, 2007-2008

Professional Service

Reviewer: American Political Science Review, American Journal of Political Science, Journal of Politics, Political Analysis, Political Behavior, Econometrica, Quarterly Journal of Political Science, Legislative Studies Quarterly, Political Research Quarterly, American Politics Research, British Journal of Political Science, Journal of Law and Courts, Public Opinion Quarterly, Political Science Research and Methods, State Politics and Policy Quarterly, Journal of Experimental Political Science, Nature Climate Change, Urban Affairs Review, Journal of Health Politics, Policy and Law, Perspectives on Politics, Review of Economics and Statistics, Cambridge University Press

Member, Best Dissertation Committee, Urban Politics Section of the American Political Science Assoc., 2021

Member, Program Committee, Midwest Political Science Association Conference, 2020

Lead Organizer, Local Political Economy APSA Pre-Conference at George Washington University, 2019

Member, Planning Committee, Cooperative Congressional Election Study (CCES), 2018

Member, Best Paper Committee, State Politics Section of the American Political Science Assoc., 2018

Editorial Board, Journal of Politics, 2017-18

Executive Committee, Urban Politics Section of the American Political Science Association, 2015-2017

Organizing Committee, Conference on Ideal Point Models at MIT, http://idealpoint.tahk.us, 2015

Member, Best Paper Committee, Urban Politics Section of the American Political Science Assoc., 2015

Consulting

Expert, *La Union del Pueblo Entero , et al.* v. *v. Trump*, Effect of Excluding Undocumented Immigrants from Census on Apportionment (2020)

Expert, *Common Cause et al.* v. *v. Trump*, Effect of Excluding Undocumented Immigrants from Census on Apportionment (2020)

Expert, *New York Immigration Coalition* v. *Trump* and *State of New York* v. *Trump*, Effect of Excluding Undocumented Immigrants from Census on Apportionment (2020)

Consultant, *Abell Foundation*, Report on Potential Institutional Reforms for Baltimore's City Elections

Expert, *APRI et al.* v. *v. Smith et al.*, Partisan Gerrymandering Case (2018-2019)

Expert, *League of Women Voters of Michigan* v. *Johnson*, Partisan Gerrymandering Case (2018-2019)

Expert, *New York Immigration Coalition* v. *US Dept of Commerce* & *State of NY* v. *US Dept of Commerce*, Effects of Undercount on Census due to Citizenship Question (2018)

Expert, *League of Women Voters of Pennsylvania* v. *the Commonwealth of Pennsylvania*, Partisan Gerrymandering Case (2017-18)

Community Service

PlanScore: Leadership Team (2020-2021)

Sierra Club: National Board of Directors (2009-2015)

Exhibit 2

Vote **YES** on Issue 1

A FAIR, BIPARTISAN, and TRANSPARENT PROCESS

VOTE YES on Issue 1. A **YES** vote will send a message that voters are tired of politics as usual and create a **fair, bipartisan, and transparent** redistricting process that will **make politicians accountable** to the voters.

Currently, it is far too easy for politicians to gerrymander their way into safe seats. Voting **YES on Issue 1**, will make sure state legislative districts are drawn to be **more competitive** and compact, and ensure that no district plan should be drawn to favor or disfavor a political party.

Fair

Voting YES on Issue 1 will establish fair and balanced standards for drawing state legislative districts, including that no district plan should favor a political party.

Voting YES on Issue 1 will help keep our communities together by requiring that a district plan split as few counties, municipalities, and townships as possible.

Bipartisan

Voting YES on Issue 1 will require bipartisan support of a seven-member commission to adopt new state legislative districts for 10 years.

Transparent

Voting YES on Issue 1 will create the bipartisan commission that is required to broadcast and conduct all of its meetings in public.

Voting YES on Issue 1 will require the bipartisan commission to share a plan for state legislative districts with the public and seek public input before adopting a new plan.

Make your vote count, **vote YES for ISSUE 1**

Prepared by Senators Keith Faber and Joe Schiavoni
and Representatives Kirk Schuring and Mike Curtin

Exhibit 3

Yes On Issue 1! Fair Districts = Fair Elections (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/)

- Home (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/)
- Details of the Proposal (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/details-of-the-proposal.html)
- What is Gerrymandering? (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/what-is-gerrymandering.html)
- Take Action (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/take-action.html)
- Endorsements (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/endorsements.html)
- Media (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/media.html)
- Voting in Ohio (http://web.archive.org/web/20151031073547/http://ohiovrc.blogspot.com/p/blog-page_11.html)
- Blog (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/blog.html)
- Contact (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/contact.html)

- Home (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/)
- Details of the Proposal (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/details-of-the-proposal.html)
- What is Gerrymandering? (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/what-is-gerrymandering.html)
- Take Action (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/take-action.html)
- Endorsements (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/endorsements.html)
- Media (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/media.html)
- Voting in Ohio (http://web.archive.org/web/20151031073547/http://ohiovrc.blogspot.com/p/blog-page_11.html)
- Blog (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/blog.html)
- Contact (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/contact.html)

Issue 1 Endorsements

Issue 1 is supported by the Ohio Democratic Party, the Ohio Republican Party, the Ohio Green Party and (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/endorsements.html)over 100 local and state organizations (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/endorsements.html).

We asked Ohioans why they support redistricting reform. Here are some of our favorite reasons.

HIST_0100

"Balanced districts mean less radical politicians."

Jamew Draper

"I don't believe gerrymandering is fair to voters. It rigs the voting process."

Keith Culley

"Democracy is being stolen from us by gerrymandering voting districts. People are being disenfranchised and the will of the people is able to be ignored by the falsely elected officials."

Cynthia Osika

"Democracy works great when people choose who's going to represent them. It doesn't work when political parties choose who gets to vote for them."

John Stevens

"This is the best hope for an election that represents the voters fairly."
Carolyn Casper

Legislators should not be able to draw their own districts to keep themselves in office!
Michael Schmitz

"I registered to vote so I can help end gerrymandering and make sure my son grows up in a state where every voter has a voice." -Raquel Neaves

As an Army veteran, life-long Ohioan and committed voter, I am a strong supporter of Issue 1. I even registered some friends to vote because I want every voter in Ohio to have a voice." -Zachary Hust

HIST_0101

Now tell us why YOU support redistricting reform!

Ohio Redistricting Reform Endorsement

Endorse Redistricting Reform

First Name

Last Name

Email *

Zip/Postal Code *

Not in the US?

Endorsing Organization Name

if applicable

Check as many as apply *

- [ ] I believe that fair districts mean fair elections
- [ ] I believe that a winners-take-all system hurts voters
- [ ] I am committed to greater transparency and bringing map-making out of the backroom
- [ ] I believe that legislators need to be accountable to their constituents

Are there any additional reasons that you are supporting redistricting form?

Add any additional reasons here.

Add Your Name

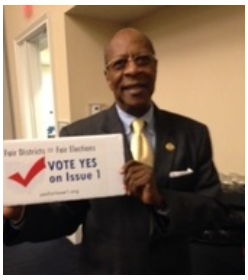
- [x] Opt in to updates from The Ohio Voter Rights Coalition

HIST_0102

Sponsored by: The Ohio Voter Rights Coalition (http://web.archive.org/web/20151031073547mp_/https://actionnetwork.org/groups/the-ohio-voter-rights-coalition)

THE ACTION NETWORK

(http://web.archive.org/web/20151031073547mp_/https://actionnetwork.org)



H Lee Thompson

Leontien Kennedy

Erica Pilisy

Jeanne Long

Marcus Roth

Ohioans that have endorsed Issue 1

HIST_0103

Dave Abbott
Diane Ahlers
Julia Albertin
Areej Alkhalidi
A Allan
Carly Allen
Gary Allen
Edward Alten
Eileen Anderson
Tom Anderson
Samantha Archual
Marilyn Ash
David Ashbaugh
Sierra Austin
Victor Ayoub
Lynn Baird
Jan Balson
Phyllis Banks Cook
Maryann Barnes
Rosemarie Basile
Gina Bates
Nick Bates
Martin Baumgardner
Donald Baun
Jonathan Beard
Pamela Beck
Evelyn Behm
Rachel Belz
L Bendict
Allison Bening
Ranesha Benjamin
Joseph Bienkowski
Nat Binns
Daniel Bishop
Jane Blackie
Shelby Blackmon
Scott Blum
Yancy Boman
Daryl Bowlin
Glynis Boyd
Richard Bozian
Ellen Brady
Thomas Brainard
John Brewer
John Briggs
Len Brillson
Walt Brothers
Brandon Brown
Brenda Brown
Kathryn Brown
Kenneth Brown
Mary Brown
Anthony Gwinn
Kathryn Hamer
Lisa Hamler-Fugitt
George Hanas
Sarah Hanley
Harvey Hanna
Christopher Harper
Greg Harris
Troy Harris
Rick Hartley
Amanda Hauck
Robert Haushab Sr.
Andrew Hawthorn
Jill Hayden
Steve Heckart
Alex Heingartner
Esmail Hejazifar
Connie Helman
Ed Helvey
John Hemphill
Ann Henkener
Margaret Herten
Lynn Hickman
Adrienne Hines, Esq.
Sally Hinshaw
Clyde Hinton
Tracey Hoelzle
Marla Holbrook
David Holley
Dave Holt
John Horkulic
Tracy Horstmann
Brian Houser
Carol Hudecek
Gary Hudson
James Huffman
Matt Huffman
Karen Hughes
Zachary Hust
Vincent Hvizda
Ricki Iannitti
Abe Jacob
Kathy Jadud
Linda Jagielo
Susan James
Zachary James
Rebecca Jarvi
Carol Jeanneret
Penny Jeffrey
Cathy Johnston
Elizabeth Jolivette
Angela Jones
Alicia Reece (Ohio Rep.)
Jimmie Reed
Kerry Reed
Deidra Reese
Kathy Rehus
Daryl Reynolds
Jakob Rhoades
Kathi Ridgway
Jerry Rigot
Robert Rittenhouse
Tom Roberts
Scott Robins
Lorraine Robinson
John Rogers (Ohio Rep.)
Christine Rohde
Cliff Rosenberger (Ohio Rep.)
Peg Rosenfield
Marcus Roth
Thomas Rottmayer
Sherrie Roznieckl
Matthew Rucker
Robert Ruedisueli
Brian Runyon
Jennifer Russell
Rick Russell
Bruce Rutherford
Tracy Sabetta
Nikki Salupo
Tom Sand
Joyce Sanders
Jill Sarina
Viki Sarina
Adam Savett
Ray Sawyer
Amy Scarfpin
Diane Schabitzer
Janet Schenk
Joe Schiavonni (Ohio Senator)
Maury Schindler
Jeanne Schlatter
Anna Schmidt
Jennifer Schmidt
Michael Schmitz
Daniel Schneider
Brian Scott
Michael Seager
Samantha Searls
Bill Sears
Linda Selvia
Molly Shack
Jack Shaner
Beth Sheehan

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Sherrod Brown (U.S. Senator from Ohio)
Charlotte Bruhn
Armond Budish (Cuyahoga County Exec.)
Tom Bullock (Lakewood Councilman at Large)
Tim Burke
Joseph Burlingame
Michelle Burstion-Young
David Burwasser
Mike Bushaw
Jill Cabe
Mary Camele
Carole Campbell
Peter Carels
William Carey
Catherine Carlin
John Carmichael
Marge Carnahan
Ava Carvour
Carolyn Casper
William Chael
Robert Chaloupka
Joyce Chapman
Judy Charlick
Denny Check
Joan Chryst
Jane Cizmar
MP Clark
Dr. A. Clark Snyder
Zack Clayton
Deanna Clinger
Andrea Cobb
Sandra Cobb
Vincent Cobb
Ken Cohn
Carol-Anne Coleman
Karen Collins
Patricia Collins-Murdock
Barb Colvin
Robert Comisso
Michael Connor
John Contario
Sandra Conti
Shawn Copeland
Paulette Coppola
Brinda Copsey
John Coughlin
Colleen Craig
Jack Craig
Jeff Crawford
Eva Jones
Mary Jones
Louise Kahle
Nora Kancelbaum
Alex Kass
Eric Kearney
Kay Keller
John Kellermeyer
John Kelz
Leontien Kennedy
Kim Kensler-Prager
Joe Kerka
Kenneth Kern
Rita Kern
Loretta Kerns
David Kersten
Angela Kier
Amanda Kiger
Mary Kirtz Van Nortwick
Richard Kistemaker
Michael Klein
Jim Klimo
Timothy Kosem
Gordon Krueger
Michael Kubisek
Joan Kuchera
Walt Kuhn
Allie Lahey
Glenda Lamb-Wilson
Ira Landis
Morgan Landis
Frank LaRose (Ohio Senator)
Mary Lavigne-Butler
Layne Layton-Vanherwaarden
Rochelle Lazio
Scott Lenthe
Robert Lillie
Sandra Litzinger
Fred Livingstone
Joe Logan
Jeanne Long
Rachel Lovell
David Luczkowski
Amy Lykkegaard
Deborah Lyons
John Lytle
Kenneth Macdonald
Linda Macmillan
Mark Madden
Karl Maki
Gabe Mann
Anthony Manna
Judith Shell
Ann Shelly
Robert Shelly
Cynthia Shepard
Richard Shepherd
Renee Sheppard
Jon Shomo
Gary Shope
James Shortridge
Marty Sickinger
David Sickles
Bessie Siler
Melissa Simmons
Jason Simon
James Skalsky
Kay Skopin
Charity Smalls
Anissa Smith
Gloria Smith
Gloria Smith
Lisa Smith
Marie Smith
Sharon Smith
Stephanie Smith
Eric Snyder
Mark Snyder
Patricia Solomon
Jo Sowash
Donna Spence
Beverly Spoerl
David Spurrier
Curtis Staats
Judith Stanger
Deb Staudt
Cassandra Stein
Louis Stein
Curt Steiner
Debra Stepp
William Stern
John Stevens
Amber Stewart
Dan Stewart
Lindsey Stewart
Sharon Stewart
Michael Stinziano (Ohio Rep.)
Lori Stoner
Fred Strahorn (Ohio Rep.)
David Strasser
Rachael Stratton
Shanette Strickland
John Stroup
Victor Sudik

HIST_0105

Joe Criswell
Keith Culley
Kelly Cunningham
Melissa Currence
Mary Current
Mike Curtin (Ohio Rep.)
Michael Danielak
Judith DaPolito
Rebecca Daum
Victor Davidson
Brian Davis
Carrie Davis
Kevin Davis
Natalie Davis
William Davis
Philip Davison
Nancy Dawley
Robert Deck
Karyn Deibel
Marilyn Delk
Patricia Demeter
Carole DePaola
Mike Dewine (Ohio Attorney General)
Raymond DiCarlo
Margaret Diehl
Diane Diernbach
Nancy Dietrich
Maria Difrangia
James Dittrich
Mary Dixon
Jerry Dolcini
Justin Dowell
Casimir Drahan
Jamew Draper
Denise Driehaus (Ohio Rep.)
Ellen Dryer
Mary Duerksen
Roland Duerksen
Jackie Duhamel
William Earnest
Rev. John Edgar
Angela Edwards
Regina Ellis
Phyllis Elmo
Gloria Emison
Bruce Ente
Tom Erwin
Keith Faber (Ohio Senator)
Bill Faith
Jo Anne Fannin
Lori Fannin
Roger Marble
Robert March
Gail Marredeth
George Marsh
Semana Marsh
Shemane Marsh
Roberto Marshall
Terry Martin
Cynthia Marx
Nicole Maschke
Barbara Massey
Debra Massey-Norton
Mark Masthay
Jeanne Mays
David Maywhoor
Keary McCarthy
Jeff McCollim
Lucy McCosky
Christine McCourt
Ryan McCoy
Debra McFadden
Ann McGill
Don McKelvey
Catherine Meguire
Iris Meltzer
Lyndsay Melvin
Jack Merkert
Larry Merkle
Lindy Metz
Janet Miller
Loren Miller
Talia Miller
Darrel Mitchell
Corinne Monk
Catherine Monteiro
Ernest Montoro
Greg Moore
Lavada Moorman
Bettye Morgan
Simone Morgen
Audrey Morris
Vicky Morris
Ron Morrison
Kathy Moses
Patricia Moyer
Joseph Mudra
Charles Mullen
Andrew Myers
Ron Nabakowski
Santino Napoli
John Neal
Raquel Neaves
Nancy Sullivan
Jill Swander-Reed
Rev. Crow Swimsaway, PhD
Vernon Sykes
Roslyn Talerico
Justin Taylor
Petee Talley
Joel Teaford
Barbara Tennenbaum
Greg Terhune
Nick Teti
Sandy Theis
Mary Thoma
Becky Thomas
H Lee Thompson
Kathy Thompson
Jennifer Thorne
Kimberly Tittle
Linda Tobin
Ben Todd
Howard Tolley
Angela Tombazzi
William Toomey
Sandra Toth
Brian Trammell
Matt Traxler
Susan Troia
Karen Tucker
Catherine Turcer
Laura Turcer
Nina Turner (former Ohio Senator)
Bonnie Tyler
David Uehlein
Jan Underwood
Abby Vaile
Dawn Valasco
Marcelle Vance
Linda Vietz
Michael Vinson
Patrick Vitone
Vince Vongpothong
Diane W
David Walker
John Wallace
Timothy Wallick
Holly Wang
Andre Washington
Roxie Weaver
L Weekly
Rob Weidenfeld
Robert Weingart

HIST_0106

Marge Fear
Debra Fedyna
James Fellrath
Paul Fergus
Rob Fetters
Nicole Filoso
Jeannie Finlay-Kochanowski
Patricia Fitzgerald
Meg Flack
Catherine Flament
Jonathan Foise
Sue Foley
Dennis Foster
Clay Fowler
John Fralick
Kathy Frazier
Keith Fry
Lori Fuzo
Thomas Galloway
Timothy Galvin
Richard Garnai
Dwight Garner
Gardland Gates
Greg George
Mary Georgiton
Mary Gerhart
Helen Geyer
Judy Gillman
Eileen Goldman
Arie Goodman
Terra Goodnight
Carol Gottesman
Clifford Graham
Donald Graves
Randi Gregory
Joann Gresham
Sam Gresham
Susan Griner
Amy Grubbe
Jon Gustafson
Amari Gwinn

Meredith Needham
Adrienne Nelson
Sean Nestor
David Neuendorff
Alan Nichols
Brian Nickels
Jeff Nix
Steven Norris
Chanel Norton
Mohamed Nur
Michael Oravecz
William O'Rourke
Fred Orth
Cynthia Osika
Craig Otter
Peter Paladin
Lowell Palm
Ernest Paquet
Phyllis Park
David Patton
Wendy Patton
William Pearsol
Carolyn Perkins
Will Petrik
Katherine Philips
Debbie Piatt
Kathleen Pierce
Erica Pilisy
Vic Pilkington
Wendy Pitts
Lawrence Plagman
Kathleen Poetsch
Brett Porter
Fred Powell
Carolyn Proctor
Ruth Radin
Don Ralston
Michael Rapp

Mary Shal Weinland
Judith Weiss
S Welch
William Welsh
Fred Welty
Nan Whaley (Dayton Mayor)
Rhonda Wheeler
Bert Whitaker
Beulah White
Sarah White
Kyle Whitlatch
Judith Whitley
Joseph Wiley
Caryn Williams
Donna Williams
Linda Williams
Lois Williams
Vicki Williams
Clarence Williamson
Gay Williamson
Judith Willour
Hillary Wilson
Camille Wimbish
Diane Wissuchek
Diana Woodbridge
Derrick Woodham
Rosemary Woodruff
Julianne Woods
Stacey Wreath
Walter Wright
Dianne Yambor
Thomas Yeager
Dave Yost (Ohio State Auditor)
Susan Yost
Ron Young (Ohio Rep.)
Chandra Yungbluth
Val Zampedro
Lisa Zellner
Jill Zimon

Dwight Garner

Renee Miller


Ruben Castillo Herrera

Reverend John Edgar

Newspaper Editorial Boards that have endorsed Issue 1

Ada Icon Ada Icon says vote "Yes" on Issue 1 on Nov. 3 (http://web.archive.org/web/20151031073547/http://bit.ly/1GjkFqZ)10/12/2015

The Akron Beacon Journal How to improve the way Ohio is governed? Consider state Issue (http://web.archive.org/web/20151031073547/http://bit.ly/1CJs55b) 1 7/14/2015 Yes on Issue 1 (http://web.archive.org/web/20151031073547/http://bit.ly/1Ft3bbL) 9/26/2015 Again, for Issue 1 (http://web.archive.org/web/20151031073547/http://bit.ly/1QIKXU2) 10/17/2015

The Athens News Vote for Issue 1 to revive democracy in Ohio's Legislature (http://web.archive.org/web/20151031073547/http://bit.ly/1LBQXju) 10/07/2015

The Canton Repository Editorial: Issue 1 addresses state's flawed legislative redistricting procedure (http://web.archive.org/web/20151031073547/http://bit.ly/1h7xt81) 9/28/2015

Chillicothe Gazette State Issues: Yes on 1 and 2, No on 3 (http://web.archive.org/web/20151031073547/http://ohne.ws/1VT3YVb) 10/10/2015

The Cincinnati Enquirer Editorial: Yes on Issue 1 to end politics as usual (http://web.archive.org/web/20151031073547/http://cin.ci/1GqgolE) 10/21/2015

CityBeat Yes on Issue 1: Changes to redistricting for state representatives (http://web.archive.org/web/20151031073547/http://bit.ly/1keBQQn) 10/28/2015

The Cleveland Plain Dealer Yes on Issue 1, Ohio redistricting reform: endorsement editorial (http://web.archive.org/web/20151031073547/http://bit.ly/1YDlDVa) 9/24/2015

The Columbus Dispatch Best chance for change: Redistricting Reform can happen through Issue 1, high-court ruling (http://web.archive.org/web/20151031073547/http://bit.ly/1LGH7MF) 7/19/2015 Vote Yes on Issue (http://web.archive.org/web/20151031073547/http://bit.ly/1MyBTA3) 1 9/27/2015

The Courier Mapping reform (http://web.archive.org/web/20151031073547/http://bit.ly/1UbaBXw) 8/28/2015 Issue 1 (http://web.archive.org/web/20151031073547/http://bit.ly/1KEjSQd) 9/24/2015

Crain's Cleveland Business Yes on Issue 1 (http://web.archive.org/web/20151031073547/http://bit.ly/1RbyRTm) 10/11/2015

The Daily Jeffersonian ANOTHER OHIO VIEW Mapping reform (http://web.archive.org/web/20151031073547/http://bit.ly/1URznH4) 9/08/2015

The Intelligencer, Wheeling News-Register Vote in Favor Of Ohio Issue 1 10/23/2015

The Lima News State Issue 1 a good solution to redistricting overreaches (http://web.archive.org/web/20151031073547/http://bit.ly/1NZzcdQ) 9/05/2015

Pomeroy Daily Sentinel Editorial: State Issue 1 a good solution to redistricting overreaches (http://web.archive.org/web/20151031073547/http://bit.ly/1QIM8mG) 10/16/2015

The Toledo Blade Take back the power (http://web.archive.org/web/20151031073547/http://bit.ly/1PXdRzP) 7/05/2015 Yes on Issue 1 (http://web.archive.org/web/20151031073547/http://bit.ly/1KUfkoX) 10/04/2015 It's

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Number 1: Ohioans should ignore the distractions, and vote to take back their state government at long last (http://web.archive.org/web/20151031073547/http://bit.ly/1imQzaT) 10/25/2015
WCPO Editorial: Issue 1 begins to reform gerrymandering, but leaves more to do (http://web.archive.org/web/20151031073547/http://bit.ly/1PE5PP6) 10/22/2015
Xenia Gazette Issue 1 finds good solution for redistricting (http://web.archive.org/web/20151031073547/http://bit.ly/1MxvR0b) 10/17/2015
Youngstown Vindicator Vote 'yes' on state Issue 1 (http://web.archive.org/web/20151031073547/http://bit.ly/1LzEBTu) 10/18/2015
Zanesville Times Recorder Editorial: State Issue 1 deserves support (http://web.archive.org/web/20151031073547/http://ohne.ws/1hM2OgJ) 9/26/2015

Issue 1 Support from Ohio Politicians

U.S. Senator: Sherrod Brown (D)
Ohio Lt. Governor: Mary Taylor (R) (http://web.archive.org/web/20151031073547/http://bit.ly/207e49U)
Ohio Secretary of State: Jon Husted (R) (http://web.archive.org/web/20151031073547/http://bit.ly/1GdjoSN)
Ohio Attorney General: Mike Dewine (R)
Ohio State Auditor: Dave Yost (R) (http://web.archive.org/web/20151031073547/http://bit.ly/1LRsn8X)
Ohio House Speaker: Cliff Rosenberger (R) (http://web.archive.org/web/20151031073547/http://bit.ly/1PPQees)
Ohio House Minority Leader: Fred Strahorn (D)
Ohio Senate President: Keith Faber (R) (http://web.archive.org/web/20151031073547/http://bit.ly/1N1p2bQ)
Ohio Senate Minority Leader: Joe Schiavonni (D)

Former Governors: George Voinovich (R) (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/blog/press-release-voinovich-supports-redistricting-plan), Dick Celeste (D) and Bob Taft (R) (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/blog/press-release-former-ohio-governors-back-issue-1)
Former Ohio House Speakers: Bill Batchelder (R), Armond Budish (D), Jon Husted (R) and Jo Ann Davidson (R) (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/blog/issue-1-has-strong-support-from-former-elected-officials)

Former Senator Eric Kearney (D)

Former Rep. Matt Huffman (R)

Former Senator Tom Roberts (D)

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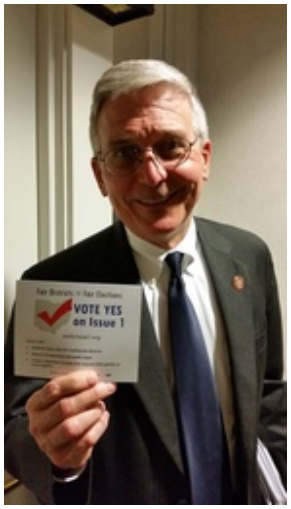
Representative Kathleen Clyde (D)

Senator John Eklund (R)



Representative Mike Curtin (D)

Endorsing Organizations

- A. Philip Randolph Institute
- AAUW of Ohio (http://web.archive.org/web/20151031073547/http://aauwoh.org/aauwoh/)
- ACLU Ohio

- Amalgamated Transit Union Local 697
- America Votes
- Applied Information Resources (http://web.archive.org/web/20151031073547/http://airinc.org/)
- Associated Builders and Contractors of Ohio
- Buckeye Forest Council
- Butler County Democratic Party
- CASE Ohio
- Catholic Bishops of Ohio (http://web.archive.org/web/20151031073547/http://www.catholicchronicle.org/index.php/Diocesan/ohio-bishops-oppose-state-issue-3-encourage-support-for-issues-1-and-2.html)
- Catholic Conference of Ohio (http://web.archive.org/web/20151031073547/http://bit.ly/1O3nXl3)
- Champaign County Democratic Party
- Cincinnati Chamber of Commerce (http://web.archive.org/web/20151031073547/http://bit.ly/1KAIKVs)
- Clermont County Democratic Party
- Cleveland State University College Democrats
- Clintonville for Change
- Coalition of Democratic and Progressive Organizations of Central Ohio
- Coalition on Homelessness and Housing in Ohio
- College Democrats at Ohio State
- College Democrats of Ohio
- Columbus Chamber of Commerce (http://web.archive.org/web/20151031073547/http://bit.ly/1kWnepF)
- Columbus Chapter Alumnae of Delta Sigma Theta
- Columbus Dog Connection
- Common Cause Ohio (http://web.archive.org/web/20151031073547/http://www.commoncause.org/issues/voting-and-elections/redistricting/ohio/ohio.html)

- Communications Workers of America District 4
- County Commissioners Association of Ohio (http://web.archive.org/web/20151031073547/http://www.timesjournal.com/government/article_d0d806c5-f267-50f4-b532-150264f5112c.html)
- Dayton Area Chamber of Commerce (http://web.archive.org/web/20151031073547/http://bit.ly/1jLlEqe)
- Delaware County Democratic Party
- Democratic Organization of Carroll County
- Democratic Voices

- Erie County Democratic Party (http://web.archive.org/web/20151031073547/http://bit.ly/1N2Sazh)

(http://web.archive.org/web/20151031073547/http://bit.ly/1LZImDX)
Deidra Reese of Ohio Voice

(http://web.archive.org/web/20151031073547/http://bit.ly/1H4stYG)
Scott DiMauro of the Ohio Education Association

Molly Shack of the Ohio Organizing

HIST_0111

- Equality Ohio (http://web.archive.org/web/20151031073547/http://www.equalityohio.org/blog-equality-ohio-endorses-issue-1/)
- Fair Elections Legal Network (http://web.archive.org/web/20151031073547/http://fairelectionsnetwork.com/blog-posts/fair-districts-will-ensure-every-ohioans-vote-matters/)
- Faith for Common Good
- Faith in Public Life
- Food and Water Watch
- Franklin Area Chamber of Commerce

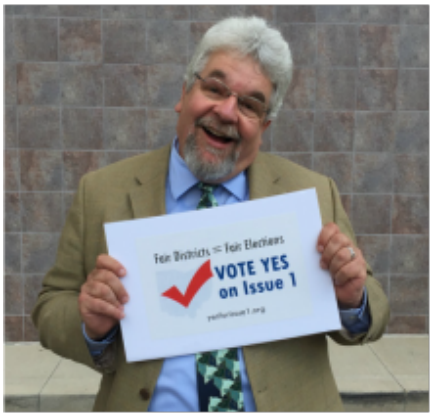
- Franklin County Democratic Party
- Franklin County Democratic Women's Club
- Fraternal Order of Police of Ohio (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/blog/the-fraternal-order-of-police-of-ohio-endorses-bipartisan-redistricting-reform-competitive-districts-mean-accountability-for-ohio-residents)
- Gahanna Progressive Alliance
- Geauga County Democratic Party
- Greater Cleveland Partnership (http://web.archive.org/web/20151031073547/http://bit.ly/1HerS6O)
- Human Service Chamber of Franklin County
- Independent Lines Advocacy (http://web.archive.org/web/20151031073547/http://independentlines.org/)
- Innovation Ohio
- International Union of Painters & Allied Trades District 6

- Lakewood Democratic Club
- League of Women Voters of Ashtabula County
- League of Women Voters of the Cincinnati Area (http://web.archive.org/web/20151031073547/http://bit.ly/1jA5bV8)
- League of Women Voters of Greater Cleveland
- League of Women Voters of Greater Cleveland, Rocky River Chapter
- League of Women Voters of Greater Cleveland, Shaker Heights Chapter
- League of Women Voters of Kent
- League of Women Voters of Metropolitan Columbus
- League of Women Voters of Ohio (http://web.archive.org/web/20151031073547/http://lwvohio.org/)
- Lucas County Democratic Party
- Miami Voter Protection Coalition
- Mom's Clean Air Force of Ohio
- NARAL Pro-Choice Ohio (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/blog/issue-1-a-way-to-hold-elected-officials-accountable-to-voters)
- No Labels Ohio
- Northeast Ohio Alliance for Hope
- Northeast Ohio Coalition for the Homeless (http://web.archive.org/web/20151031073547/http://bit.ly/1Sc6C8q)

Collaborative

Trish Demeter of the Ohio Environmental Council

yesforissue1.org (http://web.archive.org/web/20151031073547/http://bit.ly/1PLAFST)
Petee Talley of the Ohio Unity Coalition



(http://web.archive.org/web/20151031073547/http://bit.ly/1G7H5vH)
Bill Faith of the Coalition on Homelessness and Housing in Ohio

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- Northeast Ohio Voter Advocates
- Nuns on the Bus Ohio (http://web.archive.org/web/20151031073547/http://bit.ly/1kHRYKU)
- Ohio AFL-CIO (http://web.archive.org/web/20151031073547/http://ohioaflcio.com/ohio-afl-cio-endorses-issue-1/)
- Ohio Agri Business Association (http://web.archive.org/web/20151031073547/http://bit.ly/1KItk1u)
- Ohio Association of REALTORS (http://web.archive.org/web/20151031073547/http://www.akronclevelandrealtors.com/2015/10/16/oar-supports-passage-of-state-issue-1/)
- Ohio Cattlemen's Association (http://web.archive.org/web/20151031073547/http://bit.ly/1OCoXN5)
- Ohio Chamber of Commerce (http://web.archive.org/web/20151031073547/http://bit.ly/1GMYidH)
- Ohio Chemistry Technology Council
- Ohio Coalition Against Gun Violence
- Ohio Conference American Association of University Professors
- Ohio Conference of the NAACP
- Ohio Council of Churches
- Ohio Council of Retail Merchants (http://web.archive.org/web/20151031073547/http://bit.ly/1kHRYKU)
- Ohio County Commissioners Association
- Ohio Democratic Party (http://web.archive.org/web/20151031073547/http://ohiodems.org/)
- Ohio Democratic County Chairs Association (http://web.archive.org/web/20151031073547/http://www.ohiodcca.org/know-the-petition-process-before-you-sign-a-petition/)
- Ohio Democratic Women's Caucus
- Ohio Education Association (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/blog/why-im-supporting-state-issue-1)
- Ohio Environmental Council (http://web.archive.org/web/20151031073547/http://www.theoec.org/one-ohio)
- Ohio Farm Bureau
- Ohio Farmers Union
- Ohio Federation of Teachers
- Ohio Green Party (http://web.archive.org/web/20151031073547/http://www.ohiogreens.org/story/green-party-ohio-announces-recommendations-ohio-statewide-ballot-issues)
- Ohio Grocers Association (http://web.archive.org/web/20151031073547/http://bit.ly/1Wkdpm4)
- Ohio Legislative Black Caucus (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/blog/press-release-ohio-legislative-black-caucus-endorses-issue-1)
- Ohio Manufacturers' Association (http://web.archive.org/web/20151031073547/http://www.yesforissue1.org/blog/press-release-ohio-manufacturers-association-endorses-issue-1)
- Ohio Organizing Collaborative
- Ohio Progressive Army

Randi Gregory of NARAL Pro-Choice Ohio

Terra Goodnight of Innovation Ohio

Ellis Jacobs of the Miami Voter Protection Coalition

HIST_0113

- Ohio Progressive Talk
- Ohio Religious Coalition for Reproductive Choice
- Ohio Republican Party
- Ohio Right to Life
- Ohio Society of CPA's (http://web.archive.org/web/20151031073547/http://bit.ly/1PPQees)
- Ohio Soybean Association (http://web.archive.org/web/20151031073547/http://bit.ly/1Rgwkb4)
- Ohio State Bar Association (http://web.archive.org/web/20151031073547/http://bit.ly/1kHRYKU)
- Ohio State Medical Association's Political Action Committee (OSMAPAC) (http://web.archive.org/web/20151031073547/https://www.osma.org/Public-Affairs/News/OSMA-Yes-on-Issues-1-and-2/?zbrandid=3004&zidType=CH&zid=29920404&zsubscriberId=750046852&zbdom=http%3A%2F%2Fosma.informz.net)
- Ohio Student Association
- Ohio Township Association (http://web.archive.org/web/20151031073547/http://bit.ly/1XCmkfY)
- Ohio Unity Coalition (http://web.archive.org/web/20151031073547/http://bit.ly/1PLAFST)
- Ohio University College Democrats
- Ohio Voice
- Ohio Voter Fund
- Ohio Voter Rights Coalition (http://web.archive.org/web/20151031073547/http://ohiovrc.blogspot.com/)
- One Ohio Now
- Ottawa County Democrats
- ProgressOhio (http://web.archive.org/web/20151031073547/http://progressohio.org/)

- Region V of the Black Trade Unionists
- Richland County Democratic Party
- Sandusky County Democratic Party
- Shelby Area Democratic Club
- Stonewall Democrats of Central Ohio
- Summit County Progressive Democrats (http://web.archive.org/web/20151031073547/http://summitprogdems.org/)
- Toledo Regional Chamber of Commerce

- United Auto Workers Region 2B
- United Food and Commercial Workers Local 75

- United Food and Commercial Workers Local 1059
- Unitarian Universalist Justice Ohio
- Upper Arlington Progressive Action
- URGE: Unite for Reproductive & Gender Equity
- Warren County Democratic Party
- Westerville Progressive Alliance
- Woman's City Club of Greater Cleveland
- Wood County Board of Commissioners (http://web.archive.org

Lindsey Stewart of America Votes

Allie Lahey of URGE

Carolyn Perkins of the NAACP

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/web/20151031073547/http://www.presspublications.com/16743-wood-county-commissioners-yes-to-state-issues-1-and-2-no-to-issue-3)

- Wood County Democratic party
- Worthington Area Democratic Club
- Youngstown Chamber of Commerce
- Youngstown Warren Black Caucus

Carole DePaola of the Ohio Democratic Women's Caucus

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Exhibit 4

Yes On Issue 1! Fair Districts = Fair Elections (/web/20151107105403/http://www.yesforissue1.org/)

- Home (/web/20151107105403/http://www.yesforissue1.org/)
- Details of the Proposal (/web/20151107105403/http://www.yesforissue1.org/details-of-the-proposal.html)
- What is Gerrymandering? (/web/20151107105403/http://www.yesforissue1.org/what-is-gerrymandering.html)
- Take Action (/web/20151107105403/http://www.yesforissue1.org/take-action.html)
- Endorsements (/web/20151107105403/http://www.yesforissue1.org/endorsements.html)
- Media (/web/20151107105403/http://www.yesforissue1.org/media.html)
- Voting in Ohio (https://web.archive.org/web/20151107105403/http://ohiovrc.blogspot.com/p/blog-page_11.html)
- Blog (/web/20151107105403/http://www.yesforissue1.org/blog.html)
- Contact (/web/20151107105403/http://www.yesforissue1.org/contact.html)

- Home (/web/20151107105403/http://www.yesforissue1.org/)
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- Endorsements (/web/20151107105403/http://www.yesforissue1.org/endorsements.html)
- Media (/web/20151107105403/http://www.yesforissue1.org/media.html)
- Voting in Ohio (https://web.archive.org/web/20151107105403/http://ohiovrc.blogspot.com/p/blog-page_11.html)
-
- Contact (/web/20151107105403/http://www.yesforissue1.org/contact.html)

Fair Districts = Fair Elections

The Proposal

House Joint Resolution 12 (https://web.archive.org/web/20151107105403/http://archives.legislature.state.oh.us/res.cfm?ID=130_HJR_12)
Issue 1 Ballot Wording (https://web.archive.org/web/20151107105403/http://www.sos.state.oh.us/sos/upload/ballotboard/2015/1-Language.pdf)
Issue 1 Ballot Explanation (/web/20151107105403/http://www.yesforissue1.org/uploads/5/8/7/9/58794833/issue_1_explanation_pro.pdf)
Ohio Bipartisan Redistricting Commission Amendment, Issue 1 (2015) - Ballotpedia (https://web.archive.org/web/20151107105403/http://ballotpedia.org/Ohio_Bipartisan_Redistricting_Commission_Amendment,_Issue_1_%282015%29)

The Current Redistricting Process in Ohio

Redistricting in Ohio - Ballotpedia
View current district maps (https://web.archive.org/web/20151107105403/http://www.sos.state.oh.us/sos/elections/candidates/District%20Maps.aspx)
Ohio Redistricting Transparency Report, 2011 (https://web.archive.org/web/20151107105403/http://www.lwvohio.org/assets/attachments/file/The%20Elephant%20in%20the%20Room%20-%20Transparency%20Report.pdf)

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Issue 1 is supported by the Ohio Democratic Party, the Ohio Republican Party, the Ohio Green Party and (https://web.archive.org/web/20151107105403/http://www.yesforissue1.org/endorsements.html)over 100 local and state organizations (https://web.archive.org/web/20151107105403/http://www.yesforissue1.org/endorsements.html).

Campaign Information: Fair Districts for Ohio (https://web.archive.org/web/20151107105403/http://fairdistrictsforohio.com/)
Statement from Ohio Secretary of State Jon Husted on Redistricting Reform (https://web.archive.org/web/20151107105403/http://www.sos.state.oh.us/SOS/mediaCenter/2015/2015-07-08-a.aspx)

- Lawyers Committee for Civil Rights Under Law (https://web.archive.org/web/20151107105403/http://www.866ourvote.org/pages/ohio-issue-1)

- Common Cause Ohio (https://web.archive.org/web/20151107105403/http://www.commoncause.org/issues/voting-and-elections/redistricting/ohio/ohio.html)
- Democracy Wire Blog (https://web.archive.org/web/20151107105403/http://www.commoncause.org/democracy-wire/fair-districts-fair.html)
- League of Women Voters of Ohio (https://web.archive.org/web/20151107105403/http://lwvohio.org/)
- ACLU of Ohio (https://web.archive.org/web/20151107105403/http://www.acluohio.org/blog-posts/gerrymandering-a-look-at-ohio)

Reforms in Issue 1 include:

- **Better partisan balance: creation of a seven-person bipartisan commission with at least two members of the minority party.**
- **Members include:**

  - Governor
  - State Auditor
  - Secretary of State
  - 1 person appointed by the Ohio Senate President
  - 1 person appointed by the Speaker of the Ohio House
  - 1 person appointed by the Ohio Senate Minority Leader
  - 1 person appointed by the Ohio House Minority Leader

- **Ban on partisan gerrymandering: explicit prohibition against drawing districts primarily to favor or disfavor a political party.**
- **Requirement that districts reflect how voters actually voted: a plan could face a legal challenge if, for example, a party that wins about half of the votes for the General Assembly does not win about half of**

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the seats.

- **Limitations on maps lacking bipartisan support: If the commission approves a map without at least two votes from the minority party, the map will only be in effect for four years rather than 10. This creates an incentive for bipartisan cooperation because the majority party on the commission has no guarantee it will remain in the majority four years later.**


In 2011, legislators drew districts in secret in a hotel room they called "the bunker." Photo by Rasevic.

The current process for drawing lines is rigged.

Right now the Ohio Constitution allows one political party in Ohio to draw General Assembly districts to increase partisan advantage instead of ensuring fair representation. In 2011, map-makers labeled the hotel room where they drew maps in secret "the bunker" and used partisan information to draw as many districts as possible for their party. They even changed district lines for a major political donor.
If voters amend Ohio's Constitution by approving Issue 1 in November, they would end a system of hyper-partisan manipulation of state legislative map-making with no transparency and no accountability.

_(https://web.archive.org/web/20151107105403/http://archives.legislature.state.oh.us/res.cfm?ID=130_HJR_12)

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