STATE OF NORTH CAROLINA

COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION
18-CVS-9805

ROY A. COOPER, III, in his official
capacity as GOVERNOR OF THE
STATE OF NORTH CAROLINA,

Plaintiff,

v.

PHILLIP E. BERGER,
in his official capacity as
PRESIDENT PRO TEMPORE OF
THE NORTH CAROLINA SENATE;
and TIMOTHY K. MOORE,
in his official capacity as
SPEAKER OF THE NORTH
CAROLINA HOUSE OF
REPRESENTATIVES, *et al.*,

Defendants.

AMICI CURIAE THE BRENNAN CENTER FOR JUSTICE AT N.Y.U. SCHOOL OF LAW AND DEMOCRACY NORTH CAROLINA'S MOTION FOR LEAVE TO FILE AMICUS BRIEF IN SUPPORT OF PLAINTIFF ROY A. COOPER, III

The Brennan Center for Justice at N.Y.U. School of Law[1] and Democracy

North Carolina (collectively, "Amici") respectfully request leave to file the

accompanying brief in support of Plaintiff Roy A. Cooper, III, the Governor of the

State of North Carolina.

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[1]   Neither this motion nor the accompanying brief purport to represent the
views of the N.Y.U. School of Law, if any.

AMICI'S INTEREST IN THIS CASE

The Brennan Center

The Brennan Center is a non-partisan, not-for-profit think tank and public-interest law institute that seeks to improve systems of democracy and justice. It was founded in 1995 to honor the extraordinary contributions of Justice William J. Brennan, Jr. to American law and society.

Through its Democracy Program, the Brennan Center seeks to bring the idea of representative self-government closer to reality. The Brennan Center conducts empirical, qualitative, historical, and legal research on electoral practices, and regularly participates as an amicus before the U.S. Supreme Court, federal circuit courts, and state appellate courts. In *Cooper v. Berger*, 809 S.E.2d 98 (N.C. 2018), for example, the Brennan Center was grateful for the opportunity to participate as an amicus.

The Brennan Center has a strong interest in this case for two reasons:

First, this case involves political entrenchment, the partisan manipulation of the democratic process to avoid public accountability. Second, this case involves ballot language that, by misleading voters, negates the fundamental right to vote.

These measures and their presentation threaten bedrock democratic principles, the core focus of the Brennan Center. Thus, the Brennan Center has a strong interest in this case.

Democracy NC

Democracy NC is a non-partisan organization that uses research, organizing, and advocacy to increase voter participation and achieve a government that is representative of, and accountable to, the people. For more than 25 years, Democracy NC and its predecessor organization have promoted reforms to make the election system more accessible to underrepresented voters, while also sponsoring educational programs to expand public involvement in the political process.

Democracy NC has six offices across the state with staff members who conduct dozens of trainings and educational forums each year about the election process. It distributes hundreds of thousands of brochures, voter guides, and other materials to encourage public involvement in elections. It has also filed legal actions against Democratic and Republican elected officials, candidates, parties, and political committees whose actions undermine the public's faith in fair elections.

Political entrenchment threatens the core principle that elections are the pathway for the people to choose their representatives. If entrenchment succeeds, people will lose confidence in elections and a representative government.

For this reason, Democracy NC has a strong interest in this case.

<u>REASONS WHY AN AMICUS BRIEF IS DESIRABLE</u>

The concise brief that Amici are conditionally filing with this motion is not a repetition of the arguments made by any other party. Rather, the brief addresses two substantive points that the parties have not made thus far in this litigation.

First, Amici seek to explain how the issues in this case should be viewed against the backdrop of political entrenchment—here, the attempt by one political party to use its legislative supermajority to entrench itself in power and shield its power from future loss of public support.[2] Second, Amici seek to explain how the misleading ballot language here negates the right of millions of North Carolina voters—non-parties to this litigation—to vote on amendments to the state constitution.

Amici hope that their perspective will help the Court resolve this case in a manner that reinforces important principles of representative self-government.

ISSUES OF LAW TO BE ADDRESSED

Amici seek to address the following issues:

- Is political entrenchment a goal and effect of the legislative action at issue in this case, and if so, does that political entrenchment run counter to our federal and state constitutional traditions?

- Does misleading ballot language for proposed state constitutional amendments, like the language at issue in this case, negate the right to vote protected by the North Carolina and U.S. Constitutions?

If the motion for leave is granted, Amici intend to argue that the answer to each of these questions is yes, and, therefore, the Court can and should grant the Governor's request for immediate injunctive relief.

* * *

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[2] In *Cooper v. Berger*, 809 S.E.2d 98, the North Carolina Supreme Court permitted Amici to raise similar issues for consideration.

For these reasons, Amici respectfully request that the Court allow this motion and accept for filing the conditionally filed amicus brief attached as Exhibit A.

Respectfully submitted the 14th day of August, 2018.

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This the 14th day of August, 2018.

Andrew H. Erteschik

Exhibit A

STATE OF NORTH CAROLINA

COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE
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[1]   This brief does not purport to convey the position, if any, of the N.Y.U. School
of Law.

INTRODUCTION

Amici are nonpartisan organizations committed to furthering democracy and democratic values in North Carolina and across the nation. They come before the Court to emphasize two fundamental points about the General Assembly's use of affirmatively misleading ballot language for the constitutional amendments it has put before the voters.[2]

First, the effort to entrench one party in power by misleading voters clashes with bedrock principles of democratic accountability that form the basis of the North Carolina and U.S. Constitutions. This case involves no ordinary effort to deceive voters, but a continuation of the General Assembly's years-long effort to entrench its majority party in power. Political entrenchment happens when the party in power changes the rules to lock in its political dominance and insulate itself from loss of popular support. As Amici argued to the North Carolina Supreme Court in *Cooper v. Berger*, 809 S.E.2d 98 (N.C. 2018), government action that is designed to entrench one party in power is inconsistent with democratic principles, and it is inherently suspect under both the North Carolina and U.S. Constitutions.

Here, there is no other plausible explanation for the General Assembly's actions. The constitutional amendments it has put before the voters of North Carolina would materially restructure state government to give the General Assembly significant new powers: filling judicial vacancies, appointing state election

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[2] This brief takes no position on whether, absent these efforts to mislead, it was permissible for the General Assembly to place the two amendments on the ballot.

officials, and naming the heads of executive agencies. Rather than allow voters to carefully consider these changes, the General Assembly is attempting to present to the voters this substantial rebalancing of power using affirmatively misleading ballot language. And it has barred the Constitutional Amendments Publication Commission ("CAPC")—the body previously charged with producing ballot language (two of whose three members are statewide elected officers from the opposing party)—from drafting accurate captions.

Second, the General Assembly's attempt to mislead voters also negates their fundamental right to vote protected by the United States and North Carolina Constitutions. The right to vote means nothing unless voters know what they are voting on. The requirement that the ballot be free from government deception is implicit in any framework requiring constitutional amendments to be submitted to the people for approval. For that reason, too, the General Assembly's actions should not be allowed to stand.

Amici readily acknowledge that both major parties in North Carolina have manipulated the political process to frustrate the will of the voters when they had the chance. But as Amici argued in *Cooper v. Berger*, "they did it too" is not a valid defense when the political rights of all North Carolinians are on the line. After all, political power in North Carolina "is vested in and derived from the people" and "founded on their will only." N.C. Const. art. I, § 2. And there is hardly a more important expression of the people's sovereignty than a vote to amend the state constitution.

If the legislative branch will not abide by basic guardrails that safeguard the people's right to self-government, it is incumbent on this Court to vindicate those "fundamental principles" to which "frequent recurrence" is "absolutely necessary to preserve the blessings of liberty." N.C. Const. art. I, § 35.

For these reasons, Amici urge the Court to grant the Governor's request for immediate injunctive relief.

ARGUMENT

I.   The General Assembly's ballot language is affirmatively misleading.

It cannot be denied that the ballot language for both proposed amendments is affirmatively misleading.

First, the ballot language for the judicial-selection amendment (hereinafter, the "Judicial Vacancies Amendment") fundamentally mischaracterizes what the amendment would do. This amendment will appear on the ballot as a measure to "implement a nonpartisan merit-based system that relies on professional qualifications instead of political influence" for filling judicial vacancies. 2018 N.C. Sess. Law 118 § 6. There is no mention of the critical fact that the amendment would give the lion's share of the power to fill vacancies not to a nonpartisan commission, but to the General Assembly.[3] 2018 N.C. Sess. Law 118 § 6.

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[3]   The power to fill vacancies is a significant one. The Brennan Center has found that in states that elect supreme court justices, nearly half of all justices were initially appointed due to an interim vacancy. Kate Berry and Cathleen Lisk, *Appointed and Advantaged: How Interim Vacancies Shape State Courts*, Brennan Center for Justice, https://goo.gl/JkiKtp.

Simply put, this is not a "merit-based" system. The North Carolina Senate's Select Committee on Judicial Reform and Redistricting invited the Brennan Center to present extensive testimony on this issue last year. *See Hearing Before the S. Select. Comm. on Judicial Reform and Redistricting*, 2017-2018 Leg. Sess. (N.C. 2017), https://goo.gl/hg8yd1 (testimony of Alicia Bannon) [hereinafter, "Bannon Testimony"].

As the Brennan Center explained in its testimony, a merit-based judicial appointment system—typically called "merit selection"—takes concrete steps to insulate judicial selection from politics, usually by giving an independent commission the role of screening and evaluating judicial candidates and requiring that the governor choose from a short list created by that commission. *See id.* at 5.

Here, by contrast, the amendment would establish a commission to merely assess whether a candidate has the basic qualifications to serve—for example, to confirm that they are old enough and have a law license. It would assign the actual power to evaluate qualified candidates to the General Assembly, which could select as few as two candidates to send to the Governor. Nothing would prevent the selection of candidates based on party loyalty or other political factors, as has occurred in the two states with similar systems.[4]

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[4] Only two states currently give their legislatures as much authority to select supreme court justices. Douglas Keith & Laila Robbins, *Legislative Appointments for Judges: Lessons from South Carolina, Virginia, and Rhode Island*, Brennan Center for Justice (Sept. 29, 2017), https://goo.gl/rAK9uK. Far from "nonpartisan," those processes have been highly politicized. In 2000, every member of the South Carolina Supreme Court was a former legislator, and aspiring judges reportedly waited on the capitol steps or in the parking garage to greet legislators. *Id.*

The ballot language for the other proposed amendment (hereinafter, the "Separation of Powers Amendment") is equally misleading. This amendment would award the General Assembly the power to appoint members of the State Board of Elections and every other state "board or commission," 2018 N.C. Sess. Law 117 § 2, nullifying the North Carolina Supreme Court's decisions preventing the General Assembly from doing so. *See Cooper v. Berger*, 809 S.E.2d at 116; *McCrory v. Berger*, 368 N.C. 633, 649, 781 S.E.2d 248, 258 (2016). Yet it will appear on the ballot as nothing more than a proposal to "establish a bipartisan Board of Ethics and Elections" and "clarify the appointment authority of the Legislative and Judicial Branches[.]" 2018 N.C. Sess. Law 117 § 5. Indeed, despite the fact that this ballot measure strips away the Governor's appointment authority for hundreds of critical positions, the ballot language does not even mention the Governor.

The General Assembly's proposed ballot language for both amendments does not remotely convey to voters the substance of the major constitutional changes they are being asked to make. Nor will the General Assembly allow the CAPC to add any clarity to the ballot by drafting accurate captions. *See* 2018 N.C. Sess. Law 131.

In sum, the intent to affirmatively mislead North Carolina voters is clear.

II. The General Assembly's effort to mislead voters is designed to entrench its majority party in power in violation of bedrock constitutional principles.

The case for invalidating the proposed ballot language here is especially strong because the General Assembly's deception is plainly intended to further the

goal of entrenching its majority party in power. As Amici argued to the North Carolina Supreme Court in *Cooper v. Berger*, political entrenchment is inconsistent with bedrock principles of both the North Carolina and U.S. Constitutions. *See generally* Amici Curiae The Brennan Center for Justice at N.Y.U. School of Law and Democracy North Carolina's Amicus Brief in Support of Plaintiff-Appellant, *Cooper v. Berger*, No. 52PA17-2 (filed Aug. 3, 2017) (attached hereto as Exhibit 1).

A. Political entrenchment violates bedrock principles under the North Carolina and U.S. Constitutions.

Both the North Carolina and U.S. Constitutions are deeply hostile to political entrenchment. Both constitutions are animated by a strong suspicion of unchecked political power, coupled with an overriding emphasis on the accountability of rulers to the people. Exhibit 1 at 10-11. And both constitutions contain a number of provisions designed to restrain temporary officeholders from overriding the people's will in order to stay in power.

The North Carolina Constitution is clear on this point. It provides that "[a]ll political power is vested in and derived from the people[,]" for whom "government . . . is instituted solely for the good of the whole." N.C. Const. art. I, § 2. Elections must not only be "free," but "often held" to ensure prompt "redress of grievances" committed by incumbent officeholders. N.C. Const. art. I, §§ 9-10; *see also* John V. Orth & Paul M. Newby, *The North Carolina State Constitution* 56 (2d ed. 2013) (quoting *Proceedings and Debates of the Convention of North-Carolina*, 197 (Raleigh, J. Gales 1836)) (noting that the North Carolina Constitution provides for elections to enable "redress of monstrous grievances").

To prevent entrenchment by incumbent legislators, the North Carolina Constitution also contains several provisions limiting legislative discretion in apportionment. N.C. Const. art. II, §§ 3, 5; Orth & Newby, *supra*, at 37, 96-98. The U.S. Constitution contains many similar provisions.[5]

Courts have long built on this constitutional foundation, applying "more exacting judicial scrutiny" to "legislation which restricts those political processes which can ordinarily be expected to bring about repeal of undesirable legislation[.]" *United States v. Carolene Prods. Co.*, 304 U.S. 144, 152 n.4 (1938). They have been particularly attuned to the threat of entrenchment in cases, like this one, that deal directly with the electoral process. *See, e.g., Jenness v. Fortson*, 403 U.S. 431, 438 (1971) (ballot access restrictions may not be used to "freeze the political status quo"); *Reynolds v. Sims*, 377 U.S. 533, 565 (1964) (population disparities between legislative districts may not be used to preserve existing seat distributions); *DeLaney v. Bartlett*, 370 F. Supp. 2d 373, 377 (M.D.N.C. 2004) (candidate eligibility requirements may not unduly limit the ability of independent voters to "associate in the electoral arena to enhance their political effectiveness" and "impact the State's political landscape") (quoting *Anderson v. Celebrezze*, 460 U.S. 780, 794 (1983));

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[5]   The provisions of the U.S. Constitution designed at least partly to foreclose entrenchment include its limitation on Congress's ability to impose additional qualifications on members; the requirement that congressional seats be reapportioned every decade; the provisions of the Elections Clause that allow Congress to override state efforts to manipulate federal elections; the prohibition on bills of legislative bills of attainder, which could be used by the faction in power to disenfranchise its enemies; and the Fourteenth and Fifteenth Amendment protections for voting rights. *See* Exhibit 1 at 10-13.

Whitford v. Gill, 218 F. Supp. 3d 837, 886 (W.D. Wis. 2016) (three-judge panel) (invalidating state legislative districting plan that "entrench[ed] a political party in power"), *rev'd on other grounds*, 138 S. Ct. 1916 (2018); Exhibit 1 at 15-18 (collecting other cases).

In a recent case challenging patronage appointments of government officials, the North Carolina Court of Appeals aptly stated why excessive limits on executive appointment power in particular can be as problematic as leaving that power unfettered:

> While acts of old school political patronage that turn the highest levels of State government . . . are perhaps more publicized, on an abstract level the prospect of the old guard embedding itself bureaucratically on its way out the door in order to stall its successors' progress strikes us as potentially being every bit as corrosive to the goal of representative self-governance.

N.C. Dep't of Pub. Safety v. Ledford, 247 N.C. App. 266, 300-301, 786 S.E.2d 50, 72 (2016).

In short, hostility to political entrenchment has shaped our constitutional order, and it has guided courts in safeguarding the people's right to representative government in this state and this nation. These fundamental principles are at play here, where one party hopes to mislead voters into changing the state constitution as a means of locking in its political dominance and insulating itself from the loss of popular support.

B. Political entrenchment is the key goal and effect of the proposed amendments.

The proposed amendments are clearly designed to entrench the Republican party in power.

Both amendments will greatly increase the power of the General Assembly—the only branch that Republicans currently control (with supermajorities in both houses)—relative to the other branches. As described above, if the amendments pass, the Republican majority will gain vast new power that it will be able to exercise even if it loses the supermajorities that allow it to override the Governor's vetoes.

Unfortunately, this is not an isolated controversy. Rather, it is the latest chapter in the General Assembly's multi-year effort to change longstanding legal rules to benefit its Republican majority.

Perhaps most notably, the General Assembly's tactics have included extreme gerrymandering. Thanks to its efforts, North Carolina, a quintessential "purple state," now has one of the most skewed legislative maps in the country, ensuring that it is harder for Democrats to win back control even if they win more votes. *See* Expert Report of Simon Jackman, *Whitford v. Gill*, No. 3:15-cv-421 (W.D. Wis. Nov. 21, 2016), ECF No. 62 at 44, 63, 73 (attached hereto as Exhibit 2). Indeed, the expert who drew these districts is the same expert who admitted, in litigation over North Carolina's Congressional districts, that the General Assembly had engaged in extreme political gerrymandering "to minimize the number of districts in which Democrats would have an opportunity to elect a Democratic candidate." *Common Cause v. Rucho*, 279 F. Supp. 3d 587, 600 (M.D.N.C. 2018).

The General Assembly has also engaged in unconstitutional racial gerrymandering. *See North Carolina v. Covington*, 138 S. Ct. 2548 (2018) (per

curiam). This racial gerrymandering has minimized the power of Democratic-leaning African-American voters, and its effects have still not been rectified. *Id.* Similarly, the General Assembly has tried to pass other measures to suppress African-American turnout, including a 2013 omnibus election law targeting black voters with what the Fourth Circuited dubbed as "almost surgical precision."[6] *NAACP v. McCrory*, 831 F.3d 204, 214 (4th Cir. 2016), *cert. denied sub. nom North Carolina v. NAACP*, 139 S. Ct. 1399 (2017).

The proposed amendments are a continuation of this trend, which explains why the General Assembly prefers not to allow members of the opposing party on the CAPC to help draft caption language for the ballot.

Notably, the amendments would not only aggrandize the majority's power generally, but they would also make future attempts at political entrenchment more likely to succeed.

For example, by overruling *Cooper v. Berger* and enabling the General Assembly's takeover of the State Board of Elections, the Separation of Powers Amendment will once more give Republicans effective control of the state's electoral machinery, despite the longstanding allocation of authority to the Governor to fill the seats on that board. *See* Exhibit 1 at 5-6. And while the Amendment purports

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[6] The General Assembly now hopes to constitutionalize one of these measures, a strict photo identification requirement, in a separate amendment. 2018 N.C. Sess. Law 128. Like the other amendments described above, this proposed amendment affirmatively misleads voters by mandating "photo identification" while failing to define its scope and failing to even mention that this is a term that must be later defined. *Id.*

to require a "bipartisan" board with no more than four Republicans out of eight members, nothing would require the other seats to go to Democrats, or even to be filled at all. 2018 N.C. Sess. Law 117 § 1. Furthermore, with the Judicial Vacancies Amendment, the new board's actions would be reviewed by a judiciary many of whose members the General Assembly's Republican leaders hand selected. *See supra* Part I.

In short, there is no plausible way to view the proposed amendments other than as part of a pattern of entrenchment that has already drawn intense criticism from the courts. *See* Exhibit 1 at 10 n.8. As in those cases, this latest entrenchment attempt warrants this Court's intervention.

III. The General Assembly's misleading ballot language also unconstitutionally negates every North Carolinian's fundamental right to vote.

Apart from seeking to entrench Republicans in power, the misrepresentations on the ballot also negate the fundamental right to vote guaranteed to all North Carolinians by the United States and North Carolina Constitutions. *See generally Anderson*, 460 U.S. at 787-89; *Stephenson v. Bartlett*, 355 N.C. 354, 378, 562 S.E.2d 377, 393 (2002). The right to vote is fundamental because it is preservative of all other rights. *Yick Wo v. Hopkins*, 118 U.S. 356, 370 (1886). This is especially true for the right to vote on changes to a state constitution, the highest expression of the voters' will.

The General Assembly's attempt to use misleading ballot language—and, then, to prevent the CAPC from fulfilling its duty to provide a clear explanation to

the voters—cannot be squared with that fundamental right. The misrepresentations it has put on the ballot will frustrate the ability of many North Carolina voters to make an authentic choice at the polls. As the U.S. Supreme Court has observed in another context, "[i]n a republic where the people are sovereign, the ability of the citizenry to make informed choices . . . is essential[.]" *Buckley v. Valeo*, 424 U.S. 1, 14-15 (1976). Misleading voters about the nature of the choice they are making renders their votes meaningless.

That is why, as the Governor also argues, state courts across the nation have invalidated ballot language and, in some cases, excised constitutional amendments that were ratified under false pretenses. As the Florida Supreme Court recognized in one such case, if a matter is required to be submitted to the voters, there is an "implicit" accuracy requirement for ballot language; were it otherwise, voters would not know what they are voting on. *Armstrong v. Harris*, 773 So.2d 7, 11-12 (Fla. 2000).[7] Federal courts have dealt less frequently with these issues, but they too have admonished that "deception on the face of the ballot clearly debase[s] the

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[7] *See also, e.g., State ex rel. Voters First v. Ohio Ballot Bd.*, 978 N.E.2d 119, 129-31 (Ohio 2012); *Armstrong*, 773 So.2d at 21; *Kimmelman v. Burgio*, 204 N.J. Super. 44 (N.J. Super. Ct. App. Div. 1985); *Gormley v. Lan*, 438 A.2d 519, 525 (N.J. 1981); *Bradley v. Hall*, 251 S.W.2d 470, 471 (Ark. 1952); *Lane v. Lukens*, 283 P. 532 (Idaho 1929). The fact that some of these cases purport to apply a statutory framework, rather than a state constitutional framework, does not make them any less persuasive. As the *Armstrong* court explained, statutory provisions of this kind merely codify basic constitutional presumptions of ballot accuracy. *Armstrong*, 773 So.2d at 12. Indeed, North Carolina's own statutory requirement that ballots "[p]resent all candidates and questions in a fair and non-discriminatory manner" reflects this basic expectation. N.C. Gen. Stat. § 163A-1108(2).

rights of all voters in the election." *Smith v. Cherry*, 489 F.2d 1098, 1102 (7th Cir. 1973).

In sum, the right to vote means little if the state can use deceptive ballot language to mislead voters. For this reason, too, the Court should grant immediate injunctive relief.

CONCLUSION

Amici respectfully request that the Court grant the Governor's request for immediate injunctive relief.

Respectfully submitted the 14th day of August, 2018.

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This the 14th day of August, 2018.

Andrew H. Erteschik

APPENDIX

No. 52PA17-2 TENTH DISTRICT

SUPREME COURT OF NORTH CAROLINA

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ROY A. COOPER, III, in his official capacity as GOVERNOR OF THE STATE OF NORTH CAROLINA,) Plaintiff-Appellant,) v.) PHILLIP E. BERGER, in his official capacity as PRESIDENT PRO TEMPORE OF THE NORTH CAROLINA SENATE; and TIMOTHY K. MOORE, in his official capacity as SPEAKER OF THE NORTH CAROLINA HOUSE OF REPRESENTATIVES,) Defendants-Appellees.)	<u>From the Court of Appeals</u> P17-101 P17-412 COA17-694 <u>From Wake County</u> 16-CVS-15636 17-CVS-5084

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AMICI CURIAE THE BRENNAN CENTER FOR JUSTICE AT N.Y.U. SCHOOL OF LAW AND DEMOCRACY NORTH CAROLINA'S AMICUS BRIEF IN SUPPORT OF PLAINTIFF-APPELLANT

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EXHIBIT
1

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SUPREME COURT OF NORTH CAROLINA

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ROY A. COOPER, III, in his official)
capacity as GOVERNOR OF THE)
STATE OF NORTH CAROLINA,)
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    Plaintiff-Appellant,)
) From the Court of Appeals
)   P17-101
    v.   )   P17-412
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in his official capacity as)   From Wake County
PRESIDENT PRO TEMPORE OF)   16-CVS-15636
THE NORTH CAROLINA SENATE;)   17-CVS-5084
and TIMOTHY K. MOORE,)
in his official capacity as SPEAKER)
OF THE NORTH CAROLINA)
HOUSE OF REPRESENTATIVES,)
)
    Defendants-Appellees.)

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AMICI CURIAE THE BRENNAN CENTER FOR JUSTICE AT N.Y.U. SCHOOL OF LAW[1] AND DEMOCRACY NORTH CAROLINA'S AMICUS BRIEF IN SUPPORT OF PLAINTIFF-APPELLANT

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[1] This brief does not purport to convey the position, if any, of the N.Y.U. School of Law.

INTRODUCTION

Amici come before the Court to emphasize that the reorganization of North Carolina's electoral machinery in Session Law 2017-6 is no ordinary encroachment by one branch of government on another, but the centerpiece of a sweeping effort by the General Assembly to entrench one political party in power regardless of its loss of voter support. Unless this Court intervenes, the challenged law would foster precisely the sort of unchecked, unaccountable government dominated by one faction that the separation of powers exists to prevent.

Political entrenchment is more than partisan or factional advantage. It reflects the manipulation of electoral rules and governmental structures to make it so that the rule-making party prevails irrespective of the voters' will. The rules governing democracy may at times benefit one side. Entrenchment happens when the group in power tries to make that advantage permanent. That is the case here.

Political entrenchment clashes with bedrock principles underlying the constitutional order of this state and our nation. Indeed, the General Assembly's previous entrenchment attempts have repeatedly drawn rebuke from federal courts, including the U.S. Supreme Court. This latest gambit similarly merits invalidation.

To be sure, attempts by factions to entrench themselves in power are older than the Republic itself. As the late Justice Antonin Scalia put it, "[t]he first instinct of power is the retention of power . . . ." *McConnell v. FEC*, 540 U.S. 93, 263 (2003) (concurring in part and dissenting in part). But the fact that entrenchment has long been with us does not render it a constitutionally valid government interest.

To the contrary, both the United States and North Carolina Constitutions were structured to prevent officeholders and political factions from manipulating rules to shield themselves from democratic accountability. Building on this constitutional history, courts have interpreted the law to thwart entrenchment efforts in many circumstances involving the electoral and political processes.

Our constitutional system's innate hostility toward political entrenchment is key to resolving this case. Opposition to entrenchment is exactly the sort of "fundamental principle[] . . . absolutely necessary to preserve the blessings of liberty" to which the North Carolina Constitution requires "frequent recurrence," N.C. Const. art. I, § 35, especially when the constitutional text affords no clear answer. *See* John V. Orth & Paul M. Newby, *The North Carolina State Constitution* 92 (2d ed. 2013) (noting that Article I, § 35 guides courts in deciding "cases within the spirit, but without

the letter of the Constitution") (quoting *Kamper v. Hawkins*, 3 Va. 20, 40 (Va. 1788)).

Amici recognize that political entrenchment in North Carolina has been a bipartisan phenomenon. The Democratic Party also sought to manipulate the political process to frustrate the will of North Carolina voters when it had the chance. But "they did it too" is not a legal defense, especially when the real losers from the escalating series of violations are not North Carolina's political class, but the rest of this state's citizens. "We the people" are entitled to a political system in which elected leaders are responsive to citizens and can be held accountable for their decisions.

Where, as in this case, the other branches abdicate or otherwise cannot fulfill their duty to safeguard the people's fundamental interest in representative government, it is incumbent upon this Court to intervene. We urge the Court to do so.

ARGUMENT

I. **Political entrenchment is the key goal and effect of Session Law 2017-6.**

Despite references to "bipartisan cooperation" in its preamble, Session Law 2017-6's key provisions show that the legislation was designed to—and will—entrench the Republican Party in control of North Carolina's election machinery.

Briefly, the law transforms the State Board of Elections, which has been controlled by the Governor's party for more than a century, *see* 1901 N.C. Sess. Laws 244, by combining it with the State Ethics Commission, creating one Board with an equal number of Republicans and Democrats appointed from names submitted by the state party chairs. Session Law 2017-6 § 4(c). Because all decisions of the new Board require at least a majority vote, Session Law 2017-6 gives Republican appointees the power to veto any matter under consideration, including changes to the rules or procedures adopted by the previous Republican-controlled Board. (R 9 pp 54-55, 705 ¶ 3, 713 ¶¶ 14, 19).

The new law also provides for evenly divided partisan membership on county Boards of Elections. This gives Republican appointees veto control over local election administration decisions, thereby similarly cementing past decisions by local Republican election administrators. Testimony in the record demonstrates that party-line deadlocks may be used to curtail early voting,

prevent satellite polling locations, and make other changes likely to benefit Republican candidates. (*See* R 9 p 56, 61, 707-08 ¶¶ 16-20, 712 ¶ 10).[2]

Crucially, the law also mandates that the Republican-appointed Executive Director of the current State Board of Elections, Kimberly Strach—chosen on a 3-2 party-line vote[3]—*must* be named as the Executive Director of the new combined state Board through the 2018 election. After this, she can be removed only with the consent of at least one Republican Board member. Session Law 2017-6 § 4(c). This is significant because the Executive Director is North Carolina's "chief State elections official." *Id.* As Ms. Strach herself testified, the Executive Director has immense responsibility, including overseeing "all elections in the state," enforcing campaign finance laws, and supervising all county election boards. (R 9 pp 17-18) (describing provisions of Session Law 2016-125 that were retained in 2017-6). Supervising county

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[2]   *See, e.g.,* Julia Harte, *Insight: Emails show how Republicans lobbied to limit voting hours in North Carolina*, Reuters (Nov. 3, 2016), *available at* http://www.reuters.com/article/us-usa-election-northcarolina-insight-idUSKB N12Y0ZY; *Full Email Sent By Dallas Woodhouse*, WRAL (Aug. 17, 2016), *available at* http://www.wral.com/full-email-sent-by-dallas-woodhouse/1593 8449/. The "Court[ ] may take judicial notice of facts generally known from radio, television, and press coverage . . . ." *State v. McDougald*, 38 N.C. App. 244, 248, 248 S.E.2d 72, 77 (1978) (citing *State v. Williams*, 263 N.C. 800, 803-04, 140 S.E.2d 529, 532 (1965)).

[3]   Mark Binker, *Elections board picks new director*, WRAL (May 1, 2013), *available at* http://www.wral.com/elections-board-picks-new-director/123995 49/.

boards includes the power to suspend their executive directors. N.C.G.S. § 163-35.

Session Law 2017-6 also mandates that the rotating chairmanship of the state and all county boards go to Republican members during critical presidential and gubernatorial election years, allowing Republicans to preside over and set the time and agenda for board meetings during those years. Session Law 2017-6 § 7(i).[4]

In sum, by codifying the continued service of a Republican-appointed Executive Director, the law ensures Republican control over the execution of all election laws, rules, and procedures, and over staffing and administration of the state board and, indirectly, the county boards. By restructuring state and county boards such that Republican members can block or veto any proposal, the law allows those members to freeze the status quo, preventing any alteration of rules or procedures adopted by the previous Republican-controlled state board and county boards. By providing that the state and county boards be chaired by a Republican in vital election years, the law makes certain that the Republican members dictate when state and county board

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[4] The Chair must be from the party with the "second highest number of registered affiliates," Session Law 2017-6 §§ 4(c), 7(h); despite their current dominance, this has always been the Republican Party and is projected to continue to be so. *See Voter Registration Statistics Statewide Total*, N.C. State Board of Elections (Jul. 29, 2017), *available at* https://vt.ncsbe.gov/RegStat/Results/?date=07%2F15%2F2017.

meetings are called, and set their agendas, during the most crucial times for administering major elections.

This entrenchment of Republicans in control of the election system is no accident. Session Law 2017-6 is a slightly modified version of its predecessor, Session Law 2016-125, which a three-judge panel of the Wake County Superior Court struck down. (R 9 pp 675-79, 691). The earlier law was passed just nine days after Governor Pat McCrory conceded defeat to Governor Cooper,[5] and legislators made no bones about the fact that its passage was prompted by the outcome of the election. For instance, Senator Ralph Hise, chair of the Senate Select Committee on Elections, said the new law was "something we feel is a necessity. This is about what we've done over six years as a legislature *and protecting those (accomplishments)*."[6] (emphasis added). Likewise, Representative David Lewis, chair of the House Committee on Elections,

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[5]   Matthew Burns, *McCrory concedes gubernatorial race to Cooper*, WRAL (Dec. 5, 2016), *available at* http://www.wral.com/mccrory-concedes-gubernat orial-race-to-cooper/16308570/; North Carolina General Assembly, Senate Bill 4 / S.L. 2016-125, DRS45001-STf-1, *available at* http://www.ncleg.net/ Applications/BillLookUp/LoadBillDocument.aspx?SessionCode=2015E4&Doc Num=10&SeqNum=0.

[6]   Kirk Ross, *December surprises: Two special sessions pass bills, third one fizzles out*, Carolina Public Press (Dec. 20, 2016), *available at* http://carolinapublicpress.org/26306/december-surprises-two-special-sessions-pass-bills-third-fizzles/.

declared the General Assembly's intent "to establish that [Republicans] are going to continue to be a relevant party in governing this state."[7]

The General Assembly's effort to manipulate the election law is part of a series of actions taken to entrench Republicans in power. The U.S. Supreme Court recently struck down the party's racially gerrymandered congressional and legislative district plans, which were admittedly developed to advantage Republicans by packing Democratic-leaning African-American voters into a limited number of districts. *Cooper v. Harris*, 137 S. Ct. 1455, 1476 (2017); *North Carolina v. Covington*, 137 S. Ct. 1624 (2017). In 2016, the Fourth Circuit struck down a separate attempt by the General Assembly to weaken Democrats by curtailing African-American voting power—this time by manipulating voting hours, registration rules, and other variables after requesting racial voting data. *NAACP v. McCrory*, 831 F.3d 204, 230 (4th Cir. 2016), *cert. denied sub. nom North Carolina v. NAACP*, 139 S. Ct. 1399 (2017). Another Fourth Circuit panel invalidated the General Assembly's attempt to advantage Republicans by manipulating Wake County school board districts, holding that "the challenged redistricting here subverts political fairness and proportional representation and sublimates partisan gamesmanship." *Raleigh*

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[7] Craig Jarvis and Colin Campbell, *Lawmakers look to limit Cooper's power as governor*, Charlotte Observer (Dec. 14, 2016), *available at* http://www.charlotteobserver.com/news/politics-government/article120847418.html.

Wake Citizens Ass'n v. Wake Cty. Bd. of Elections, 827 F.3d 333, 347-48 (4th Cir. 2016).

In short, Session Law 2017-6 is part of a pattern of entrenchment, one that has drawn intense criticism from courts and many other observers across the spectrum.[8]

II.   Political entrenchment runs counter to fundamental principles underlying the United States and North Carolina Constitutions.

Political entrenchment of the sort described above is at odds with bedrock U.S. and North Carolina constitutional principles.

The generation that crafted both the U.S. Constitution and the original North Carolina Constitution was the product of an Enlightenment tradition concerned with the "encroaching nature" of political power. Bernard Bailyn, *The Ideological Origins of the American Revolution* 56 (1966). The great innovation of the Framers was to combine suspicion of unchecked political

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[8]   *See, e.g.,* Andrew Reynolds, *North Carolina is No Longer Classified as a Democracy*, News & Observer (Dec. 22, 2016), *available at* http://www.newsobserver.com/opinion/op-ed/article122593759.html (noting study whose authors found that North Carolina no longer meets criteria for being considered a full democracy); Robert F. Orr, *I'm Republican, but N.C. Legislature Went Too Far*, Charlotte Observer (July 12, 2017), *available at* http://www.charlotteobserver.com/opinion/editorials/article160985504.html (criticizing a number of measures, including reorganization of Board of Elections); Richard L. Hasen, *Race or Party? How Courts Should Think About Republican Efforts to Make it Harder to Vote in North Carolina and Elsewhere*, 127 Harv. L. Rev. F. 58, 63 (2014) (describing North Carolina voting restrictions as part of larger national effort to use changes to election law to gain partisan advantage).

power with a new emphasis on the accountability of rulers to the people.
Whereas the British monarch, while somewhat constrained, was still the
ultimate sovereign, the Declaration of Independence proclaims that republican
government "derives its just powers from the consent of the governed." *See
also* Gordon S. Wood, *The Creation of the American Republic 1776-1787*, 382-
83 (1967) (contrasting British and American views of sovereignty).

That consent must be frequently renewed. As James Madison explained,
"the genius of republican liberty seems to demand . . . not only that all power
should be derived from the people, but that those entrusted with it should be
kept in dependence on the people" by, among other things, having to stand
regularly for election. The Federalist No. 37 (James Madison) (emphasis
added).

The Framers were also highly attuned to the "mischief of faction," and
argued that a system with strong checks and balances was the best way to keep
any one group from achieving lasting dominance at the expense of other
citizens. The Federalist No. 10 (James Madison).

Fears of unchecked power, lack of accountability, and factionalism all
come into play any time a temporary governing majority seeks to manipulate
democratic rules to entrench itself in power. Preventing such entrenchment is
a central goal of many different constitutional provisions.

For instance, in Article I of the U.S. Constitution, the Framers "denied Congress the power to impose additional qualifications upon its members . . . for fear that congressmen would endeavor to entrench themselves in office." Michael J. Klarman, *Majoritarian Judicial Review: The Entrenchment Problem*, 85 Geo. L.J. 491, 499 n.45 (1997). They also "mandated reallocation of congressional seats every ten years (after the decennial census) because they doubted whether congressmen whose states benefited from the status quo would voluntarily support changing it." *Id.*

Fear that legislators would manipulate rules to politically entrench their factions was the principal basis for the Elections Clause, one of the few provisions in the original Constitution to explicitly give the national government power over states. *Ariz. State Legis. v. Ariz. Indep. Redistricting Comm'n*, 135 S. Ct. 2652, 2672 (2015) (holding that Congress was empowered to set rules for federal elections "as a safeguard against manipulation of electoral rules by politicians and factions in the States," who might seek "to entrench themselves or place their interests over those of the electorate"). Indeed, in response to South Carolina's motion to exclude this federal power, Madison explained that absent the clause, "'[w]henever the State Legislatures had a favorite measure to carry, they would take care so to mould their regulations as to favor the candidates they wished to succeed.'" *Id.* (quoting 2 Max Ferrand, *Records of the Federal Convention of 1787*, 241 (rev. 1966)).

Preventing entrenchment also motivated the Framers to forbid legislative bills of attainder finding individuals guilty of treason or other crimes without trial. As Alexander Hamilton put it, "[i]f the legislature can disfranchise any number of citizens at please by general descriptions, it may soon confine all the votes to a small number of partisans, and establish an aristocracy or an oligarchy." *United States v. Brown*, 381 U.S. 437, 444 (1965) (citing 3 John C. Hamilton, *History of the Republic of the United States* 34 (1959)). Almost a century later, Radical Republicans used similar arguments to justify protections for African-American voting rights that they later enshrined in the Fourteenth and Fifteenth Amendments. *See* Charles O. Lerche, Jr., *Congressional Interpretations of the Guarantee of a Republican Form of Government*, 15 J. Southern History 192, 198 (1949).

Hostility to political entrenchment also pervades the North Carolina Constitution, particularly the provisions that incorporate elements of the original Constitution of 1776 and the amendments of subsequent decades.

For example, the North Carolina Constitution provides that "[a]ll political power is vested in and derived from the people," for whom "government . . . is instituted solely for *the good of the whole*." N.C. Const. art. I, § 2 (emphasis added). Elections must not only be "free," but also "often held." N.C. Const. art. I, §§ 9-10. The latter requirement, first added in 1835, was intended to ensure that the electoral process could be used for prompt "redress

of monstrous grievances" committed by incumbent officeholders. *See* Orth &

Newby, *supra*, at 56 (quoting *Proceedings and Debates of the Convention of*

North-Carolina 197 (Raleigh, J. Gales 1836)). Another provision ratified at the

same time mandated popular election of the governor to "[break] the general

assembly's monopoly on power," along with gubernatorial term limits to make

sure the governor himself did not become too powerful. John V. Orth, *North*

Carolina Constitutional History, 70 N.C. L. Rev. 1759, 1772 (1992); *see also*

N.C. Const. art. III.[9]

The 1868 Constitution incorporated these provisions and placed

additional limits on the General Assembly's power still in effect—including

requiring legislative apportionment by population and a ban on mid-decade

reapportionments. Orth & Newby, *supra*, at 37; *id.* at 96-98; N.C. Const. art.

II, §§ 3, 5.

In sum, the enduring concern in both the U.S. and North Carolina

Constitutions about temporary officeholders overriding the people's will makes

opposition to entrenchment one of the "fundamental principles" whose

"frequent recurrence . . . is absolutely necessary to preserve the blessings of

liberty." N.C. Const. art. I, § 35.

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[9]   The Governor still had far less power than the General Assembly, but
the two have since moved towards parity. *See* Jack D. Fleer, *Governors Speak*
28-29 (2007).

III. Courts routinely seek to curb political entrenchment in cases involving the democratic process, as should this Court.

Building on our constitutional history, the U.S. Supreme Court and other courts, including in North Carolina, routinely intervene in cases where political entrenchment threatens to distort democracy and deprive citizens of their right to responsive government. *See United States v. Carolene Prods. Co.*, 304 U.S. 144, 152 n.4 (1938) (holding that "more exacting judicial scrutiny" is appropriate for "legislation which restricts those political processes which can ordinarily be expected to bring about repeal of undesirable legislation"). This Court should do the same.

To be sure, courts have recognized the need to avoid constant meddling with "the rough-and-tumble of politics." *Republican Party v. White*, 536 U.S. 765, 794 (2002) (Kennedy, J., concurring). But there is a difference between ordinary politics and extraordinary violations of constitutional norms. *Rutan v. Republican Party*, 497 U.S. 62, 64 (1990) ("To the victor belong only those spoils that may be constitutionally obtained."). Nor has it ever been a sufficient defense to note that an anti-democratic practice has long been tolerated. *See id*. at 83 ("'[The] answer to [a] constitutional question is not foreclosed by the fact that the spoils system has been entrenched in American history for almost two hundred years.'") (Stevens, J., concurring).

Courts are especially attuned to the threat of entrenchment in cases directly dealing with the electoral process. For instance, concerns about political entrenchment underlie our constitutional jurisprudence governing redistricting. The U.S. Supreme Court has long held that unreasonable population disparities between legislative districts designed to preserve existing seat distributions violate the U.S. Constitution by denying citizens an "equally effective voice." *Reynolds v. Sims*, 377 U.S. 533, 565 (1964). Racially discriminatory districting plans raise similar concerns, because they insulate representatives from accountability to minority communities, to whose needs they become "unresponsive and insensitive." *Rogers v. Lodge*, 458 U.S. 613, 625 (1982).

The Supreme Court also recognizes that "partisan gerrymander[s]" seeking to "entrench . . . [one] party in power" are "incompatible with democratic principles.'" *Ariz. State Legis.*, 135 S. Ct. at 2658 (quoting *Vieth v. Jubelirer*, 541 U.S. 267, 292 (2004) (plurality opinion)). Relying on the justices' reasoning, a federal three-judge panel recently invalidated a state legislative plan because it "entrench[ed] a political party in power, making . . . the state government [ ] impervious to the interests of citizens affiliated with other political parties." *Whitford v. Gill*, 218 F. Supp. 3d 837, 886 (W.D. Wis. 2016). That case will be before the Supreme Court in October.

Courts have also acted to curb ballot access restrictions that keep certain candidates off the ballot to "freeze the political status quo." *Jenness v. Fortson*, 403 U.S. 431, 438 (1971). Such restrictions harm not only the excluded candidates, but also voters locked into a political system that limits their choices. *See Bullock v. Carter*, 405 U.S. 134, 143 (1972). Here in North Carolina, for example, a federal court invalidated heightened eligibility requirements for unaffiliated candidates for governor, reasoning that they "limit[ed] the opportunities of independent-minded voters to associate in the electoral arena to enhance their political effectiveness as a group . . . .[and] impact the State's political landscape." *DeLaney v. Bartlett*, 370 F. Supp. 2d 373, 377 (M.D.N.C. 2004) (quoting *Anderson v. Celebrezze*, 460 U.S. 780, 794 (1983)).

Similarly, one of the principal concerns in campaign-finance cases is a suspicion that challenged regulations were adopted to entrench incumbent officeholders or major political parties in power. *E.g., Randall v. Sorrell*, 548 U.S. 230, 248-49 (2006) (Breyer, J., controlling opinion) (noting that burdensome contribution limits "can also harm the electoral process by preventing challengers from mounting effective campaigns against incumbent officeholders, thereby reducing democratic accountability"); *N.C. Right to Life, Inc. v. Leake*, 525 F.3d 274, 305 (4th Cir. 2008) (holding that excessive limits "can very easily serve as a front for incumbency protection"); *see also Green*

Party of Conn. v. Garfield, 616 F.3d 213, 234 (2d Cir. 2010) (holding that discriminatory public financing "risks entrenching the major parties and shutting out the rare minor-party candidate who is able to garner enough public support to win an election").

Finally, courts have pointed to anti-entrenchment principles as grounds to justify limits on patronage practices in civil service. *See, e.g., Elrod v. Burns*, 427 U.S. 347, 369 (1976) ("Patronage can result in the entrenchment of one or a few parties to the exclusion of others."). Importantly, however, they have also recognized that entrenchment concerns go both ways in this area. As the North Carolina Court of Appeals recently put it:

> While acts of old school political patronage that turn the highest levels of State government . . . are perhaps more publicized, on an abstract level the prospect of the old guard embedding itself bureaucratically on its way out the door in order to stall its successors' progress strikes us as potentially being every bit as corrosive to the goal of representative self-governance.

N.C. Dep't of Pub. Safety v. Ledford, 786 S.E.2d 50, 72 (N.C. Ct. App. 2016); *Young v. Bailey*, 368 N.C. 665, 671, 781 S.E.2d 277, 281 (2016) ("[E]mployees in policymaking positions legally can be dismissed . . . to the end that representative government not be undercut by tactics obstructing . . . a new administration . . . .") (quotation omitted); *Elrod*, 427 U.S. at 367 (same).

* * *

In sum, hostility to political entrenchment has shaped our constitutional order and the approach of courts looking to safeguard the people's right to representative government. The same anti-entrenchment imperative weighs decisively against the challenged provisions of Session Law 2017-6. Those provisions seek to maintain Republican control over North Carolina's electoral system by, *inter alia,* codifying the continued service of the Republican-appointed Executive Director of the State Board of Elections, North Carolina's chief state elections official; allowing Republican members of the new state board and all county boards to veto any attempt by Democrats to alter rules or procedures adopted by previous Republican-controlled boards; and mandating that Republicans chair the state board and all county boards during critical presidential and gubernatorial election years. *See* Argument, Part I, *supra.*

In opposing these changes, Governor Cooper relies primarily on the separation-of-powers doctrine, the basic purposes of which are to curtail unchecked power and reinforce the government's accountability to the people. Wood, *supra,* at 559; *see also State ex rel. McCrory v. Berger,* 368 N.C. 633, 634, 781 S.E.2d 248, 249 (2016). The Framers also envisioned the executive in particular as a safeguard "against the effects of faction" in the legislature. The Federalist No. 73 (Hamilton); *see also INS v. Chadha,* 462 U.S. 919, 961 (1983) (Powell, J., concurring) ("The supremacy of legislatures came to be recognized

as the supremacy of faction and the tyranny of shifting majorities.")
(quotations omitted).

It is difficult to imagine a situation that implicates those concerns more than one in which a party loses the governorship, then seeks to use its temporary dominance of the legislature to entrench itself in control of the state's electoral machinery.

For this reason and others, the Court can and should intervene to block the General Assembly's bald attempt at partisan entrenchment.

CONCLUSION

Amici respectfully request that the Court reverse the three-judge panel and hold that the challenged provisions of Session Law 2017-6 are unconstitutional.

Respectfully submitted the 3rd day of August, 2017.

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        NORTH CAROLINA**

Assessing the Current Wisconsin State Legislative Districting Plan

Simon Jackman

July 7, 2015

Contents

1   Introduction

My name is Simon Jackman. I am currently a Professor of Political Science at Stanford University, and, by courtesy, a Professor of Statistics. I joined the Stanford faculty in 1996. I teach classes on American politics and statistical methods in the social sciences.

I have been asked by counsel representing the plaintiffs in this lawsuit (the "Plaintiffs") to analyze relevant data and provide expert opinions in the case titled above. More specifically, I have been asked

- to determine if the current Wisconsin legislative districting plan constitutes a partisan gerrymander;

- to explain a summary measure of a districting plan known as "the efficiency gap" (Stephanopolous and McGhee, 2015), what it measures, how it is calculated, and to assess how well it measures partisan gerrymandering;

- to compare the efficiency gap to extant summary measures of districting plans such as partisan bias;

- to analyze data from state legislative elections in recent decades, so as to assess the properties of the efficiency gap and to identify plans with high values of the efficiency gap;

- to suggest a threshold or other measure that can be used to determine if a districting plan is an extreme partisan gerrymander;

- to describe how the efficiency gap for the Wisconsin districting plan compares to the values of the efficiency gap observed in recent decades elsewhere in the United States;

- to describe where the efficiency gap for the current Wisconsin districting plan lies in comparison with the threshold for determining if a districting plan constitutes an extreme partisan gerrymander.

My opinions are based on the knowledge I have amassed over my education, training and experience, and follow from statistical analysis of the following data:

- a large, canonical data set on candidacies and results in state legislative elections, 1967 to the present available from the Inter-University Consortium for Political and Social Research (ICPSR study number 34297); I use a release of the data updated through 2014, maintained by Karl Klarner (Indiana State University and Harvard University).

- presidential election returns, 2000-2012, aggregated to state legislative districts.

2   Qualifications, Publications and Compensation

My Ph.D. is in Political Science, from the University of Rochester, where my graduate training included courses in econometrics and statistics. My curriculum vitae is attached to this report.

All publications that I have authored and published in the past ten years appear in my curriculum vitae. Those publications include peer-reviewed journals such as: *The Journal of Politics, Electoral Studies, The American Journal of Political Science, Legislative Studies Quarterly, Election Law Journal, Public Opinion Quarterly, Journal of Elections, Public Opinion and Parties,* and *PS: Political Science and Politics.*

I have published on properties of electoral systems and election administration in *Legislative Studies Quarterly,* the *Australian Journal of Political Science,* the *British Journal of Political Science,* and the *Democratic Audit of Australia.* I am a Fellow of the Society for Political Methodology and a member of the American Academy of Arts and Sciences.

I am being compensated at a rate of $250 per hour.

3   Summary

1. **Partisan gerrymandering and wasted votes.** In two-party, single-member district electoral systems, a partisan gerrymander operates by effectively "wasting" more votes cast for one party than for the other. Wasted votes are votes for a party in excess of what the party needed to win a given district or votes cast for a party in districts that the party doesn't win. Differences

in wasted vote rates between political parties measure the extent of partisan gerrymandering.

2. **The efficiency gap** (*EG*) is a relative, wasted vote measure, the ratio of one party's wasted vote rate to the other party's wasted vote rate. *EG* can be computed directly from a given election's results, without recourse to extensive statistical modeling or assumptions about counter-factual or hypothetical election outcomes, unlike other extant measures of the fairness of an electoral system (e.g., partisan bias).

3. The efficiency gap is an "excess seats" measure, reflecting the nature of a partisan gerrymander. An efficiency gap in favor one party sees it wasting fewer votes than its opponent, thus translating its votes across the jurisdiction into seats more efficiently than its opponent. This results in the party winning more seats than we'd expect given its vote share (*V*) and if wasted vote rates were the same between the parties. *EG* = 0 corresponds to no efficiency gap between the parties, or no partisan difference in wasted vote rates. In this analysis (but without loss of generality) *EG* is normed such that negative *EG* values indicate higher wasted vote rates for Democrats relative to Republicans, and *EG* > 0 the converse.

4. A districting plan in which *EG* is consistently observed to be positive is evidence that the plan embodies a pro-Democratic gerrymander; the magnitudes of the *EG* measures speak to the severity of the gerrymander. Conversely, a districting plan with consistently negative values of the efficiency gap is consistent with the plan embodying a pro-Republican gerrymander.

5. **Performance of the efficiency gap in 786 state legislative elections.** My analysis of 786 state legislative elections (1972-2014) examines properties of the efficiency gap. *EG* is estimated with some uncertainty in the presence of uncontested districts (and uncontested districts are quite prevalent in state legislative elections), but this source of uncertainty is small relative to differences in the *EG* across states and across districting plans.

6. **Stability of the efficiency gap.** *EG* is stable in pairs of temporally adjacent elections held under the same districting plan. In 580 pairs of consecutive

EG measures, the probability that each *EG* measure has the same sign is 74%. In 141 districting plans with three or more elections, 35% have a better than 95% probability of *EG* being negative or positive for the entire duration of the plan; in about half of the districting plans the probability that *EG* doesn't change sign is above 75%.

7. **Recent decades show more pro-Republican gerrymandering, as measured by the efficiency gap.** Efficiency gap measures in recent decades show a pronounced shift in a negative direction, indicative of an increased prevalence of districting plans favoring Republicans. Among the 10 most pro-Democratic *EG* measures in my analysis, *none* were recorded after 2000.

8. **The current Wisconsin state legislative districting plan** (the "Current Wisconsin Plan"). In Wisconsin in 2012, the average Democratic share of district-level, two-party vote (*V*) is estimated to be 51.4% (±0.6, the uncertainty stemming from imputations for uncontested seats); recall that Obama won 53.5% of the two-party presidential vote in Wisconsin in 2012. Yet Democrats won only 39 seats in the 99 seat legislature (*S* = 39.4%), making Wisconsin one of 7 states in 2012 where we estimate *V* > 50% but *S* < 50%. In Wisconsin in 2014, *V* is estimated to be 48.0% (±0.8) and Democrats won 36 of 99 seats (*S* = 36.4%).

9. Accordingly, Wisconsin's *EG* measures in 2012 and 2014 are large and negative: -.13 and -.10 (to two digits of precision). The 2012 estimate is the largest *EG* estimate in Wisconsin over the 42 year period spanned by this analysis (1972-2014).

10. Among 79 *EG* measures generated from state legislative elections after the 2010 round of redistricting, Wisconsin's *EG* scores rank 9th (2012, 95% CI 4 to 13) and 18th (2014, 95% CI 14 to 21). Among 786 *EG* measures in the 1972-2014 analysis, the magnitude of Wisconsin's 2012 *EG* measure is surpassed by only 27 (3.4%) other cases.

11. Analysis of efficiency gaps measures in the post-1990 era indicates that conditional on the magnitude of the Wisconsin 2012 efficiency gap (the first election under the Current Wisconsin Plan), there is a 100% probability

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that *all subsequent elections* held under that plan will also have efficiency gaps disadvantageous to Democrats.

12. **The Current Wisconsin Plan presents overwhelming evidence of being a pro-Republican gerrymander.** In the entire set of 786 state legislative elections and their accompanying *EG* measures, there are *no precedents* prior to this cycle in which a districting plan generates an initial two-election sequence of *EG* scores that are each as large as those observed in *WI*.

13. The Current Wisconsin Plan is generating *EG* measures that make it *extremely likely* that it has a systematic, historically large and enduring, pro-Republican advantage in the translation of votes into seats in Wisconsin's state legislative elections.

14. **An actionable threshold based on the efficiency gap.** Historical analysis of the relationship between the first *EG* measure we observe under a new districting plan and the subsequent *EG* measures lets us assess the extent to which that first *EG* estimate is a *reliable* indicators of a *durable* and hence *systematic* feature of the plan. In turn, this let us assess the *confidence* associated with a range of possible *actionable EG thresholds*.

15. My analysis suggests that *EG* greater than .07 in absolute value be used as an actionable threshold. Relatively few plans produce a first election with an *EG* measure in excess of this threshold, and of those that do, the historical analysis suggests that most go on to produce a sequence of *EG* estimates indicative of systematic, partisan advantage consistent with the first election *EG* estimates, At the 0.07 threshold, 95% of plans would be either (a) undisturbed by the courts, or (b) struck down because we are sufficiently confident that the plan, if left undisturbed, would go on to produce a one-sided sequence of *EG* estimates, consistent with the plan being a partisan gerrymander. In short, our "confidence level" in the 0.07 threshold is 95%.

16. **The Current Wisconsin Plan is generating estimates of the efficiency gap far in excess of this proposed, actionable threshold.** In 2012 elections to the Wisconsin state legislature, the efficiency gap is estimated to be -.13; in

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2014, the efficiency gap is estimated to be -.10. Both measures are separately well beyond the conservative .07 threshold suggested by the analysis of efficiency gap measures observed from 1972 to the present.

A vivid, graphical summary of my analysis appears in Figure 1, showing the average value of the efficiency gap in 206 districting plans, spanning 41 states and 786 state legislative elections from 1972 to 2014. The Current Wisconsin Plan has been in place for two elections (2012 and 2014), with an average efficiency gap of -.115. Details on the interpretation and calculation of the efficiency gap come later in my report, but for now note that negative values of the efficiency gap indicate a districting plan favoring Republicans, while positive values indicate a plan favoring Democrats. Note that *only four other districting plans have lower average efficiency gap scores than the Current Wisconsin Plan*, and these are also from the post-2010 round of redistricting. That is, Wisconsin's current plan is generating the 5th lowest average efficiency gap observed in over 200 other districting plans used in state legislative elections throughout the United States over the last 40 years. The analysis I report here documents why the efficiency gap is a valid and reliable measure of partian gerrymandering and why are confident that the current Wisconsin plan exceeds even a conservative definition of partisan gerrymandering.

4   Redistricting plans

A districting plan is an exercise in map drawing, partitioning a jurisdiction into districts, typically required to be contiguous, mutually exclusive and exhaustive regions, and — at least in the contemporary United States — of approximately the same population size. In a single-member, simple plurality (SMSP) electoral system, the highest vote getter in each district is declared the winner of the election. Partisan gerrymandering is the process of drawing districts that favor one party, typically by creating a set of districts that help the party win an excess of seats (districts) relative to its jurisdiction-wide level of support.

What might constitute evidence of partisan gerrymandering? One indication might be a series of elections conducted under the same districting plan in which a party's seat share (S) is unusually large (or small) relative to its vote share (V).
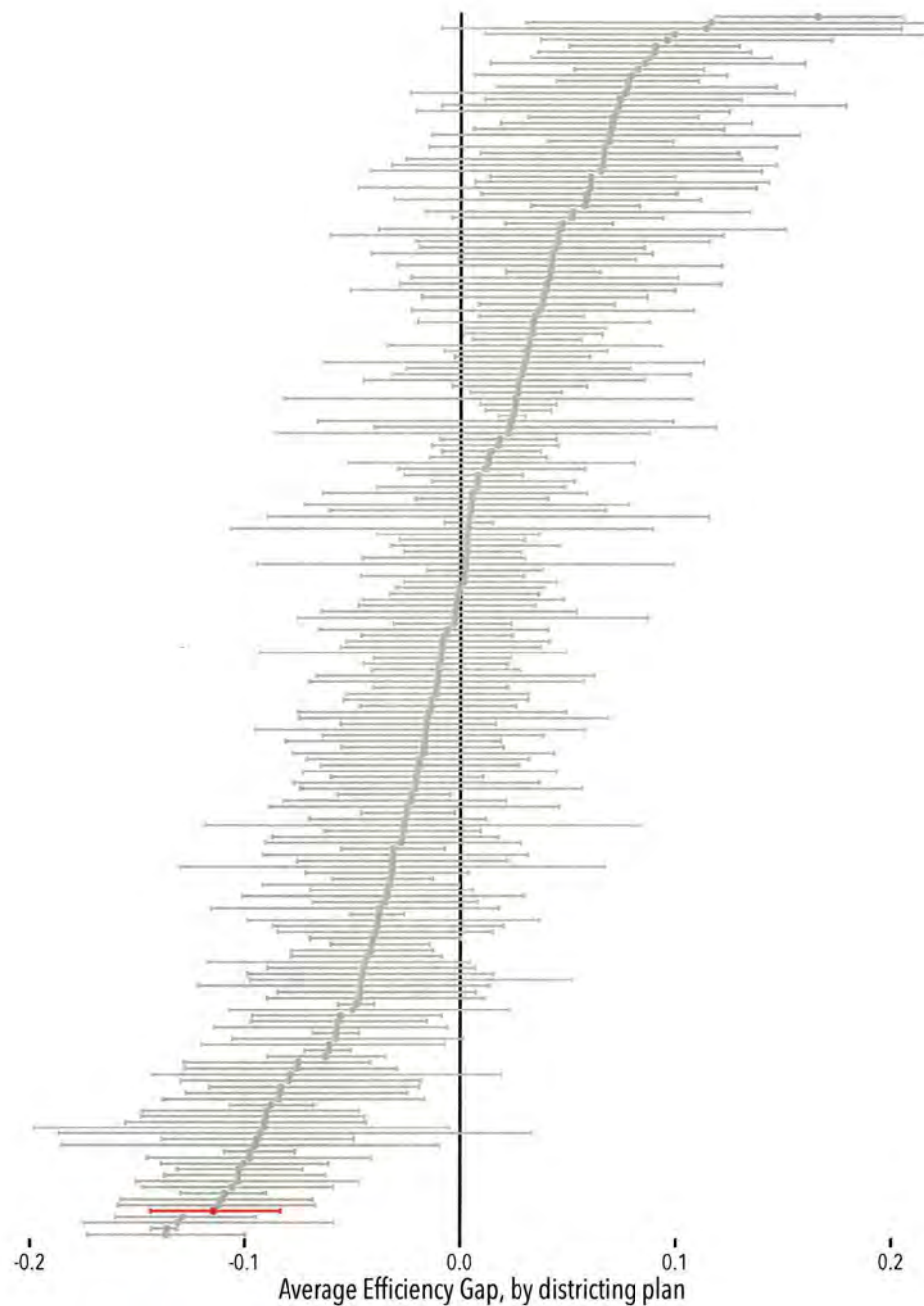
Figure 1: Average efficiency gap score, 206 districting plans, 1972-2014. Plans have been sorted from low average *EG* scores to high. Horizontal lines cover 95% confidence intervals. Negative efficiency gap scores are plans that disadvantage Democrats; positive efficiency gap scores favor Democrats. The Current Wisconsin Plan is shown in red. See also Figure 36.

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There may be elections where a party wins a majority of seats (and control of the jurisdiction's legislature) despite not winning a majority of votes: $S > .5$ while $V < .5$ and vice-versa. In fact, there are numerous instances of mismatches between the party winning the statewide vote and the party controlling the state legislature in recent decades. I estimate that since 1972 there have been 63 cases of Democrats winning a majority of the vote in state legislative elections, while not winning a majority of the seats, and 23 cases of the reverse phenomenon, where Democrats won a majority of the seats with less than 50% of the statewide, two-party vote.

Geographic clustering of partisans is typically a prerequisite for partisan gerrymandering. This is nothing other than partisan "packing": a gerrymandered districting plan creates a relatively small number of districts that have unusually large proportions of partisans from party B. The geographic concentration of party B partisans might make creating these districts a straightforward task. In other districts in the jurisdiction, party B supporters never (or seldom) constitute a majority (or a plurality), making those districts "safe" for party A. This districting plan helps ensure party A wins a majority of seats even though party B has a majority of support across the jurisdiction, or at the very least, the districting plan helps ensures that party A's seat share exceeds its vote share in any given election.

It is conventional in political science to say that such a plan allows party A to "more efficiently" translate its votes into seats, relative to the way the plan translates party B's votes into seats. This nomenclature is telling, as we will see when we consider the *efficiency gap* measure, below.

Assessing the partisan fairness of a districting plan is fundamentally about measuring a party's excess (or deficit) in its seat share relative to its vote share. The efficiency gap is such a summary measure. To assess the properties of the efficiency gap, I first review some core concepts in the analysis of districting plans: vote shares, seat shares, and the relationship between the two quantities in single-member districts.

4.1   Seats-Votes Curves

Electoral systems translate parties' vote shares (V) into seat shares (S). Both V and S are proportions. Plotting the two quantities V and S against one another yields the "seats-votes" curve, a staple in the analysis of electoral systems and districting plans. Two seats-votes curves are shown in Figure 2, one showing a non-linear relationship between seats and votes typical of single-member district systems,[1] the other showing a linear relationship between seats and votes observed under proportional representation systems.

In pure proportional representation (PR) voting systems, seats-votes curves are 45 degree lines by design, crossing the $(V, S) = (.5, .5)$ point: i.e., under PR, $S = V$ and a party that wins 50% of the vote will be allocated 50% of the seats. Absent a deterministic allocation rule like pure PR, seats-votes curves are most usefully thought of in probabilistic terms, due to the fact that there are many possible configurations of district-specific outcomes corresponding to a given jurisdiction-wide V, and hence uncertainty — represented by a probability *distribution* — over possible values of S given V.

In single-member, simple plurality (SMSP) systems, we often see non-linear, "S"-shaped seats-votes curves. With an approximately symmetric mix of districts (in terms of partisan leanings), large changes in seat shares (S) can result from relatively small changes in votes shares (V) at the middle of the distribution of district types. This presumes a districting plan such that both parties have a small number of "strongholds," with extremely large changes in vote shares needed to threaten these districts, and so the seats-votes curve tends to "flatten out" as jurisdiction-wide vote share (V) takes on relatively large or small values. Other shapes are possible too: e.g., bipartisan, incumbent-protection plans generate seats-votes curves that are largely flat for most values of V, save for the constraint that the curve run through the points $(V, S) = (0, 0)$ and $(1, 1)$; i.e., relatively large movements in V generates relatively little change in seats shares.

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[1]The curve labeled "Cube Law" in Figure 2 is generated assuming that $S/(1-S) = [V/(1-V)]^3$, an approximation for the lack of proportionality we observe in single-member district systems, though hardly a "law."
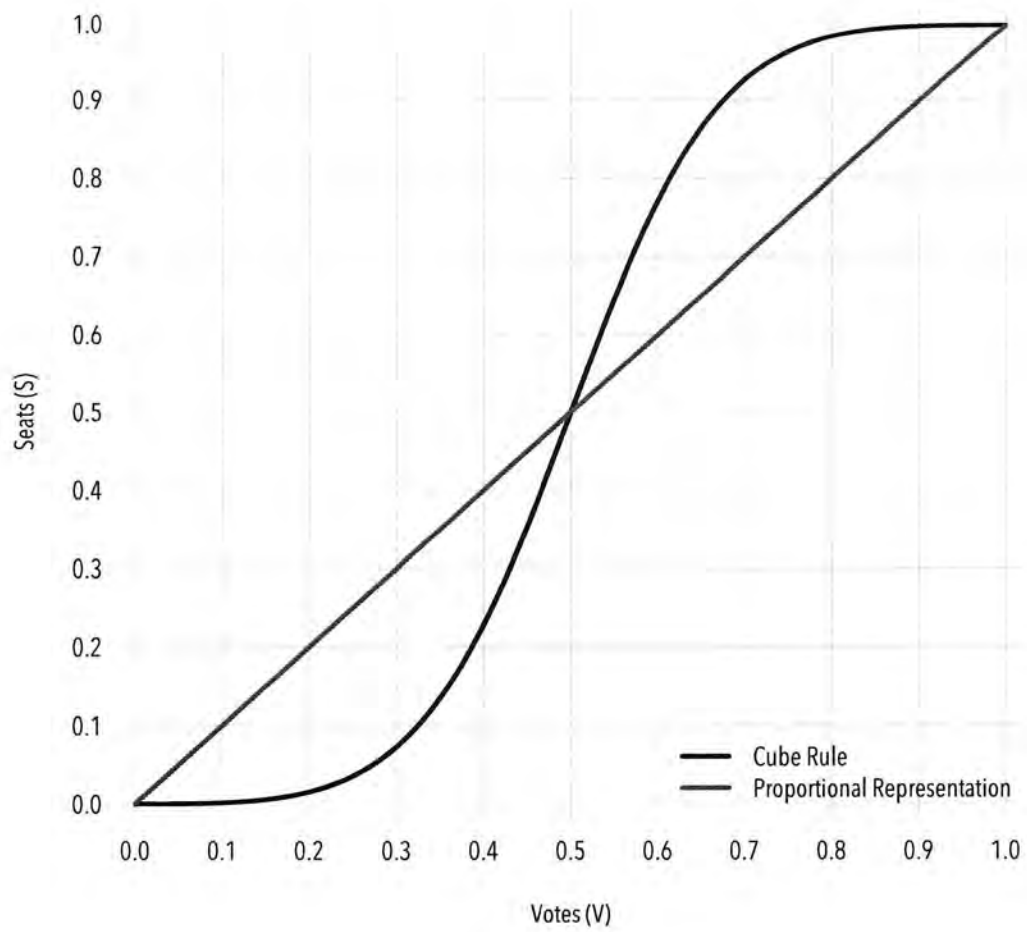
Figure 2: Two Theoretical Seats-Votes Curves

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5   Partisan bias

Both of the hypothetical seats-votes curves in Figure 2 run through the "50-50" point, where $V = .5$ and $S = .5$. An interesting empirical question is whether *actual* seats-votes curves run through this point, or more generally, whether the seats-votes curve is symmetric about $V = .5$. Formally, symmetry of the seats-vote curve is the condition that $E(S|V) = 1 - E(S|1-V)$, where E is the expectation operator, averaging over the uncertainty with respect to S given V. The vertical offset from the $(.5, .5)$ point for a seats-votes curve is known as *partisan bias*: the extent to which a party's expected seat share lies above or below 50%, conditional on that party winning 50% of the jurisdiction-wide vote.

Figure 3 shows three seats-votes curves, with the graph clipped to the region $V \in [.4, 6.]$ and $S \in [.4, .6]$ so as to emphasize the nature of partisan bias. The blue, positive bias curve "lifts" the seats-votes curve; it crosses $S = .5$ with $V < .5$ and passes through the upper-left quadrant of the graph. That is, with positive bias, a party can win a majority of the seats with *less* then a majority of the jurisdiction-wide or average vote; equivalently, if the party wins $V = .5$, it can expect to win *more* than 50% of the seats. Conversely, with negative bias, the opposite phenomenon occurs: the party can't expect to win a majority of the seats until it wins more than a majority of the jurisdiction-wide or average vote.

5.1   Multi-year method

With data from multiple elections under the same district plan, partisan bias can be estimated by fitting a seats-votes curve to the observed seat and vote shares, typically via a simple statistical technique such as linear regression; this approach has a long and distinguished lineage in both political science and statistics (e.g., Edgeworth, 1898; Kendall and Stuart, 1950; Tufte, 1973). Niemi and Fett (1986) referred to this method of estimating the partisan bias of an electoral system as the "multi-year" method, reflecting the fact that the underlying data comes from a sequence of elections.

This approach is of limited utility when assessing a new or proposed districting plan. More generally, it is of no great help to insist that a sequence of elections must be conducted under a redistricting plan before the plan can be properly assessed. Indeed, few plans stay intact long enough to permit reliable analysis in
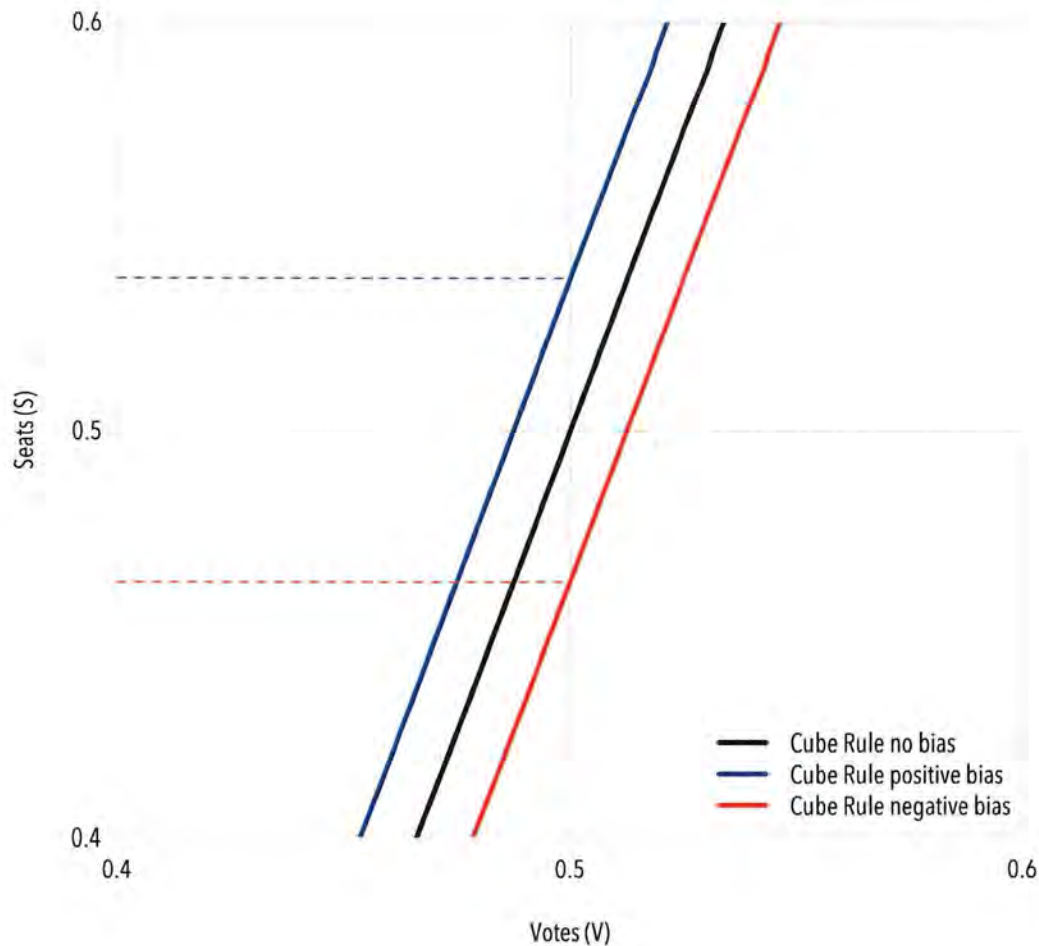
Figure 3: Theoretical seats-votes curves, with different levels of partisan bias. This graph is "zoomed in" on the region $V \in [.4, .6]$ and $S \in [.4, .6]$; the seats-votes "curves" are approximately linear in this region.

this way. State-level plans in the United States might generate as many five elections between decennial censuses. Accordingly, many uses of the "multi-year" method pool multiple plans and/or across jurisdictions, so as to estimate average partisan bias. For instance, Niemi and Jackman (1991) estimated average levels of partisan bias in state legislative districting plans, collecting data spanning multiple decades and multiple states, and grouping districting plans by the partisanship of the plan's authors (e.g., plans drawn under Republican control, Democratic control, mixed, or independent).

Assessing the properties of a districting plan after a tiny number of elections — or *no* elections — requires some assumptions and/or modeling. A single election yields just a single (V, S) data point, through which no unique seats-vote curve can be fitted and so partisan bias can't be estimated without further assumptions. Absent *any* actual elections under the plan, we might examine votes from a previous election, say, with precinct level results re-aggregated to the new districts.

5.2   Uniform swing

One approach—dating back to Sir David Butler's (1974) pioneering work on British elections—is the uniform partisan swing approach. Let $\mathbf{v} = (v_1, \dots, v_n)'$ be the set of vote shares for party A observed in an election with n districts. Party A wins seat i if $v_i > .5$, assuming just two parties (or defining v as the share of two-party vote); i.e., $s_i = 1$ if $v_i > .5$) and otherwise $s_i = 0$. Party A's seat share is $S = \frac{1}{n}\sum_{i=1}^{n} s_i$. V is the jurisdiction-wide vote share for party A, and if each district had the same number of voters $V = \bar{v} = \frac{1}{n}\sum_{i=1}^{n} v_i$, the average of the district-level v_i. Districts are never *exactly* equal sized, in which case we can define V as follows: let t_i be the number of voters in district i, and $V = \sum_{i=1}^{n} t_i v_i / \sum_{i=1}^{n} t_i$.

The uniform swing approach perturbs the observed district-level results $\mathbf{v}$ by a constant factor δ, corresponding to a hypothetical amount of *uniform swing* across all districts. For a given δ, let $v_i^* = v_i + \delta$ which in turn generates $V^* = V + \delta$ and an implied seat share S^*. Now let δ vary over a grid of values ranging from $-V$ to $1 - V$; then V^* varies from 0 to 1 and a corresponding value of S^* can also be computed at every grid point. The resulting set of (V^*, S^*) points are then plotted to form a seats-vote curve (actually, a step function). Partisan bias is

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simply "read off" this set of results, computed as $S^*|(V^* = .5) - .5$.

There is an elegant simplicity to this approach, taking an observed set of district-level vote shares **v** and shifting them by the constant δ. The observed distribution of district level vote shares observed in a given election is presumed to hold under *any* election we might observe under the redistricting plan, save for the shift given by the uniform swing term δ.

5.3   Critiques of partisan bias

Among political scientists, the uniform swing approach was criticized for its determinism. Swings are never exactly uniform across districts. There are many permutations of observed vote shares that generate a statewide vote share of 50% other than simply shifting observed district-level results by a constant factor. A less deterministic approach to assessing partisan bias was developed over a series of papers by Gary King and Andrew Gelman in the early 1990s (e.g., Gelman and King, 1990). This approach fits a statistical model to district-level vote shares — and, optionally, utilizing available predictors of district-level vote shares — to model the way particular districts might exhibit bigger or smaller swings than a given level of state-wide swing. Perhaps one way to think about the approach is that it is "approximate" uniform swing, with statistical models fit to historical election results to predict and bound variation around a state-wide average swing. The result is a seats-vote curve and an estimate of partisan bias that comes equipped with uncertainty measures, reflecting uncertainty in the way that individual districts might plausibly deviate from the state-wide average swing yet still produce a state-wide average vote of 50%.

The King and Gelman model-based simulation approaches remain the most sophisticated methods of generating seats-votes curves, extrapolating from as little as one election to estimate a seats-votes curve and hence an estimate of partisan bias. Despite the technical sophistication with which we can estimate partisan bias, legal debate has centered on a more fundamental issue, the *hypothetical* character of partisan bias itself. Recall that partisan bias is defined as "seats in excess of 50% *had the jurisdiction-wide vote split 50-50*." The premise that $V = .5$ is the problem, since this will almost always be a counter-factual or hypothetical scenario. The further V is away from .5 in a given election, the

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counter-factual we must contemplate (when assessing the partisan bias of a districting plan) becomes all the more speculative.

In no small measure this is a marketing failure, of sorts. Partisan bias (at least under the uniform swing assumption) is essentially a measure of skew or asymmetry in *actual* vote shares. Partisan bias garners great rhetorical and normative appeal by directing attention to what happens at $V = .5$; it seems only "fair" that if a party wins 50% or more of the vote it should expect to win a majority of the districts.

Yet this distracts us from the fact that *asymmetry* in the distribution of vote shares across districts is the key, operative feature of a districting plan, and the extent to which it advantages one party or the other. Critically, we need not make appeals to counter-factual, hypothetical elections in order to assess this asymmetry.

6   The Efficiency Gap

The efficiency gap (*EG*) is also an asymmetry measure, as we see below. But unlike partisan bias, the interpretation of the efficiency gap is *not* explicitly tied to any counter-factual election outcome. In this way, the efficiency gap provides a way to assess districting plans that is free of the criticisms that have stymied the partisan bias measure.

Stephanopoulos and McGhee (2015) derive the *EG* measure with the concept of wasted votes. A party only needs $v_i = 50\% + 1$ of the votes to win district *i*. Anything more are votes that could have been deployed in other districts. Conversely, votes in districts where the party doesn't win are "wasted," from the perspective of generating seats: any districts with $v_i < .5$ generate no seats.

Wasted votes get at the core of what partisan gerrymandering is, and how it operates. A gerrymander against party *A* creates a relatively small number of districts that "lock up" a lot of its votes ("packing" with $v_i > .5$) and a larger number of districts that disperse votes through districts won by party *B* ("cracking" with $v_i < .5$). To be sure, both parties are wasting votes. But partisan advantage ensues when one party is wasting fewer votes than the other, or, equivalently, more efficiently translating votes into seats. Note also how the efficiency gap measure is also closely tied to asymmetry in the distribution of v_i.

Some notation will help make the point more clearly. If $v_i > .5$ then party A wins the district and $s_i = 1$; otherwise $s_i = 0$. The efficiency gap is defined by McGhee (2014, 68) as "relative wasted votes" or

$$EG = \frac{W_B}{n} - \frac{W_A}{n}$$

where

$$W_A = \sum_{i=1}^{n} s_i(v_i - .5) + (1 - s_i)v_i$$

is the sum of wasted vote proportions for party A and

$$W_B = \sum_{i=1}^{n} (1 - s_i)(.5 - v_i) + s_i(1 - v_i)$$

is the sum of wasted vote proportions for party B and n is the number of districts in the jurisdiction. If $EG > 0$ then party B is wasting more votes than A, or A is translating votes into seats more efficiently than B; if $EG < 0$ then the converse, party A is wasting more votes than B and B is translating votes into seats more efficiently than A.

6.1   The efficiency gap when districts are of equal size

Under the assumption of equally sized districts McGhee (2014, 80) re-expresses the efficiency gap as:

$$EG = S - .5 - 2(V - .5) \tag{1}$$

recalling that $S = n^{-1} \sum_{i=1}^{n} s_i$ is the proportion of seats won by party A and $V = n^{-1} \sum_{i=1}^{n} v_i$ is the proportion of votes won by party A.

The assumption of equally-sized districts is especially helpful for the analysis reported below, since the calculation of EG in a given election then reduces to using the jurisdiction-level quantities S and V as in equation 1. For the analysis of historical election results reported below, it isn't possible to obtain measures of district populations, meaning that we really have no option other than to rely on the jurisdiction-level quantities S and V when estimating the EG.

I operationalize V as the average (over districts) of the Democratic share of the two-party vote, in seats won by either a Democratic or Republican candidate;

this set of seats includes uncontested seats, where I will use imputation procedures to estimate two-party vote share. If districts are of equal size (and ignoring seats won by independents and minor party candidates) then this average over districts will correspond to the Democratic share of the state-wide, two-party vote.

6.2   The seats-vote curve when the efficiency gap is zero

This simple expression for the efficiency gap implies that *if the efficiency gap is zero*, we obtain a particular type of seats-votes curve, shown in Figure 4:

1. the seats-votes curve runs through the 50-50 point. If the jurisdiction wide vote is split 50-50 between party A and party B then with an efficiency gap of zero, $S = .5$.

2. conditional on $V = .5$ (an even split of the vote), the efficiency gap is the same as partisan bias: $V = .5 \iff EG = S - .5$, the seat share for party A in excess of 50%. That is, the efficiency gap reduces to partisan bias *under the counter-factual scenario $V = .5$* that the partisan bias measure requires us to contemplate. On the other hand, the efficiency gap is not premised on that counter-factual holding, or any other counter-factual for that matter; the efficiency gap summarizes the distribution of observed district-level vote shares v_i.

3. the seats-votes curve is linear through the 50-50 point with a slope of 2. That is, with $EG = 0$, $S = 2V - .5$. Or, with a zero efficiency gap, each additional percentage point of vote share for party A generates *two* additional percentage points of seat share. A zero efficiency gap does not imply proportional representation (a seats-votes that is simply a 45 degree line).

4. a party winning 25% or less of the jurisdiction-wide vote should win zero seats under a plan with a zero efficiency gap; a party winning 75% or more of the jurisdiction-wide vote should win all of the seats under a plan with a zero efficiency gap. This is a consequence of the "2-to-1" seats/vote ratio and the symmetry implied by a zero efficiency gap. A party that wins an extremely low share of the vote ($V < .25$) can only be winning any seats if it enjoys an efficiency advantage over its opponent.
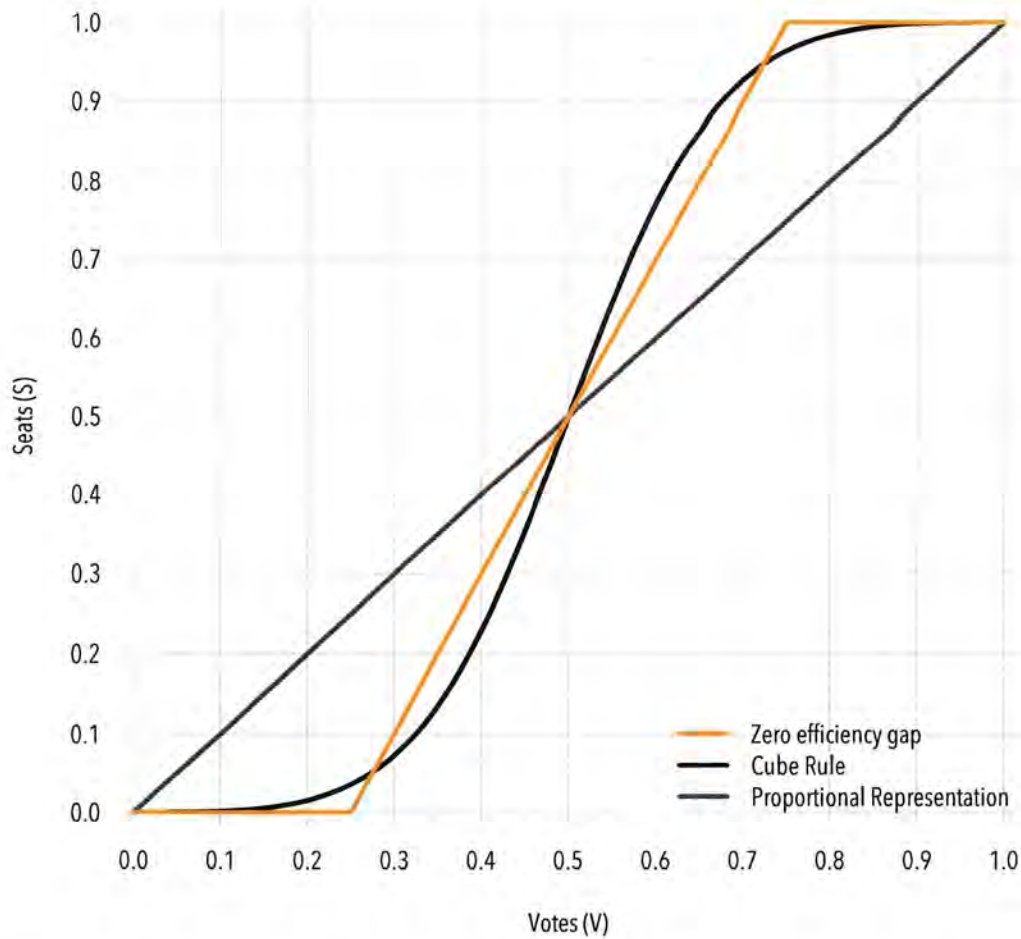
Figure 4: Theoretical seats-votes curves. The $EG = 0$ curve implies that (a) a party winning less than $V = .25$ jurisdiction-wide should not win any seats; (b) symmetrically, a party winning more than $V = .75$ jurisdistion-wide should win all the seats; and (c) the relationship between seat shares S and vote shares V over the interval $V \in [.25, .75]$ is a linear function with slope two (i.e., for every one percentage point gain in vote share, seat share should go up by two percentage points).

Moreover, the efficiency gap is trivial to compute once we have V and S for a given election. We don't need a sequence of elections under a plan in order to compute EG, nor do we need to anchor ourselves to a counter-factual scenario such as $V = .5$ as we do when computing partisan bias. For any given observed V, the hypothesis of zero efficiency gap tells us what level of S to expect.

6.3   The efficiency gap as an excess seats measure

In this sense the efficiency gap can be interpreted even more simply as an "excess seats" measure. Recall that $EG = 0 \iff S = 2V - .5$. In a given election we observe $EG = S - .5 - 2(V - .5)$. The efficiency gap can be computed by noting how far the observed S lies above or below the orange line in Figure 4.

A positive EG means "excess" seats for party A relative to a zero efficiency gap standard given the observed V in that election; conversely, a negative EG mean a deficit in seats for party A relative to a zero efficiency gap standard given the observed V.

7   State legislative elections, 1972-2014

We estimate the efficiency gap in state legislative elections over a large set of states and districting plans, covering the period 1972 to 2014. We begin the analysis in 1972 for two primary reasons: (a) state legislative election returns are harder to acquire prior to the mid-1960s, and not part of the large, canonical data collection we rely on (see below); and (b) districting plans and sequences of elections from 1972 onwards can be reasonably considered to be from the post-malapportionment era.

For each election we recover an estimate of the efficiency gap based on the election results actually observed in that election. To do this, I compute two quantities for each election:

1. V, the statewide share of the two-party vote for Democratic candidates, formed by averaging the district-level election results v_i (the Democratic share of the two-party vote in district i) in seats won by major party candidates, including uncontested seats, and

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2. *S*, the Democratic share of seats won by major parties.

Recall that these quantities are the inputs required when computing the efficiency gap (equation 1).

The analysis that follows relies on a data set widely used in political science and freely available from the Inter-University Consortium for Political and Social Research (ICPSR study number 34297). The release of the data I utilize covers state legislative election results from 1967 to 2014, updated by Karl Klarner (Indiana State University and Harvard University). I subset the original data set to general election results since 1972 in states whose lower houses are elected via single-member districts, or where single-member districts are the norm. Multi-member districts "with positions" are treated as if they are single-member districts.

Figure 5 provides a graphical depiction of the elections that satisfy the selection criteria described above.

- Arizona, Idaho, Louisiana, Maryland, Nebraska, New Hampshire, New Jersey, North Dakota and South Dakota all drop out of the analysis entirely, because of exceedingly high rates of uncontested races, using multi-member districts, non-partisan elections, or the use of a run-off system (Louisiana).

- Alaska, Hawaii, Illinois, Indiana, Kentucky, Maine, Minnesota, Montana, North Carolina, Vermont, Virginia, West Virginia and Wyoming do not supply data over the entire 1972-2014 span; this is sometimes due to earlier elections being subject to exceedingly high rates of uncontestedness, the use of multi-member districts or non-partisan elections.

- Alabama and Mississippi have four-year terms in their lower houses, contributing data at only half the rate of the vast bulk of states with two-year legislative terms.

- Twenty-three states supply data every two years from 1972 to 2014, including Michigan and Wisconsin.

- Data is more abundant in recent decades. For the period 2000 to 2014, 41 states contribute data to the analysis at two or four year intervals.

In summary, the data available for analysis span 83,269 district-level state legislative contests, from 786 elections across 41 states.
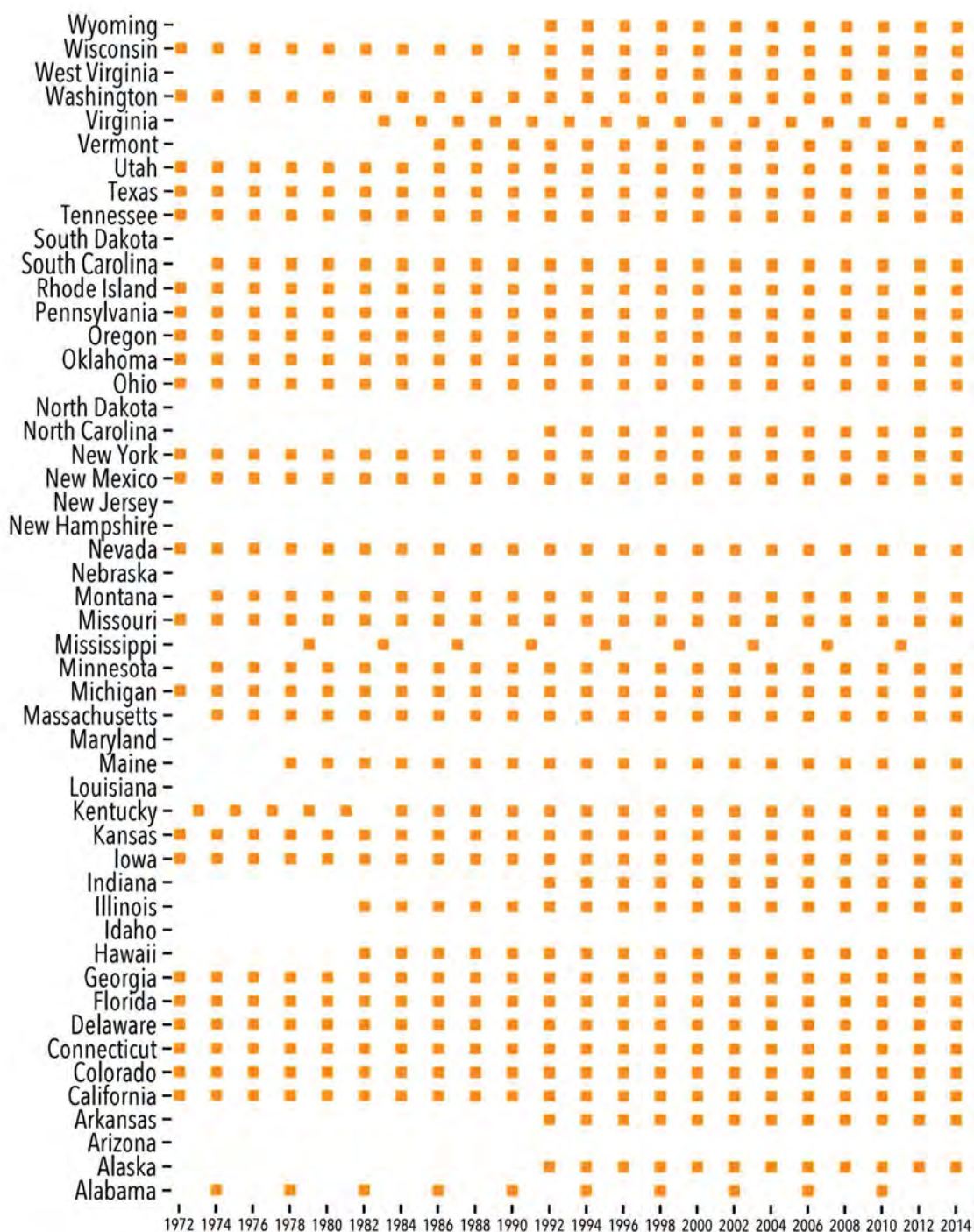
Figure 5: 786 state legislative elections available for analysis, 1972-2014, by state.

7.1   Grouping elections into redistricting plans

Districting plans remain in place for sequences of elections. An important component of my analysis involves tracking the efficiency gap across a series of elections held under the same districting plan. A key question is how much variation in the *EG* do we observe *within* districting plans, versus variation in the *EG between* districting plans.

To the extent that the *EG* is a feature of a districting plan per se, we should observe a small amount of within-plan variation relative to between plan variation. To perform this analysis we must group sequences of elections within states by the districting plan in place at the time.

Stephanopolous and McGhee (2015) provide a unique identifier for the districting plan in place for each state legislative election, for which I adopt here.

Figure 6 displays how the elections available for analysis group by districting plan. Districts are typically redrawn after each decennial census; the first election conducted under new district boundaries is often the "2" election (1982, 1992, etc). Occasionally we see just one election under a plan: examples include Alabama 1982, California, Hawaii 1982, Tennessee 1982, Ohio 1992, South Carolina 1992, North Carolina 2002, and South Carolina 2002.

Alaska, Kentucky, Pennsylvania and Texas held just one election under their respective districting plans adopted after the 2010 Census. In each of those states a different plan was in place for 2014 state legislative elections. Alabama's state legislature has a four year term and we observe only the 2014 election under its post-2010 plan. The last election from Mississippi was in 2011 and was held under the plan in place for its 2003 and 2007 elections.

7.2   Uncontested races

Uncontested races are common in state legislative elections, and are even the norm in some states. For 38.7% of the district-level results in this analysis, it isn't possible to directly compute a two-party vote share (v_i), either because the seat was uncontested or not contested by both a Democratic and Republican candidate, or (in a tiny handful of cases) the data are missing.

In some states, for some elections, the proportion of uncontested races is so high that we drop the election from the analysis. As noted earlier, examples
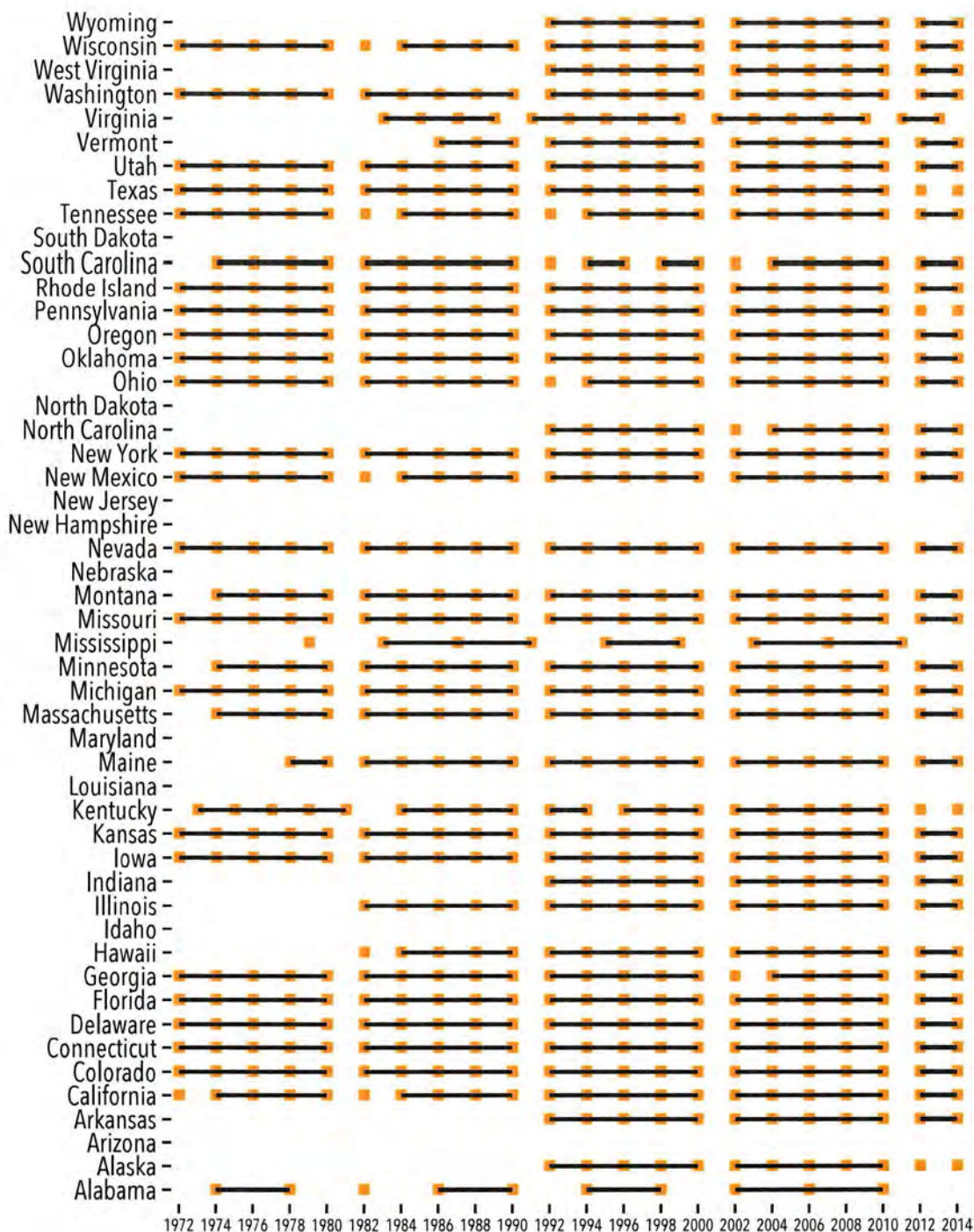
Figure 6: 786 state legislative elections available for analysis, 1972-2014, by state, grouped by districting plan (horizontal line).

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include Arkansas elections prior to 1992 and South Carolina in 1972.

Even with these elections dropped from the analysis, the extent of uncontestedness in the remaining set of state legislative election results is too large to be ignored. Of the remaining elections, 31% have missing two-party results in at least half of the districts.

A graphical summary of the prevalence of uncontested districts appears in Figure 7, showing the percentage of districts without Democratic and Republican vote counts, by election and by state. Uncontested races are the norm in a number of Southern states: e.g., Georgia, South Carolina, Mississippi, Arkansas, Texas, Alabama, Virginia, Kentucky and Tennessee record rates of uncontestedness that seldom, if ever, drop below 50% for the period covered by this analysis. Wyoming also records a high proportion of districts that do not have Democratic versus Republican contests. States that lean Democratic also have high levels of uncontestedness too: see Rhode Island, Massachusetts, Illinois and, in recent decades, Pennsylvania.

Michigan and Minnesota are among the states with the lowest levels of uncontested districts in their state legislative elections. Over the set of 786 state legislative elections we examine, there are just *three* instances of elections with Democrats and Republicans running candidates in every district: Michigan supplies two of these cases (2014 and 1996) and Minnesota the other (2008).

8   Imputations for Uncontested Races

Stephanopolous and McGhee (2015) note the prevalence of uncontested races and report using a statistical model to impute vote shares to uncontested districts. They write:

> We strongly discourage analysts from either dropping uncontested races from the computation or treating them as if they produced unanimous support for a party. The former approach eliminates important information about a plan, while the latter assumes that coerced votes accurately reflect political support.

I concur with this advice, utilizing an imputation strategy for uncontested districts with *two* distinct statistical models, predicting Democratic, two-party
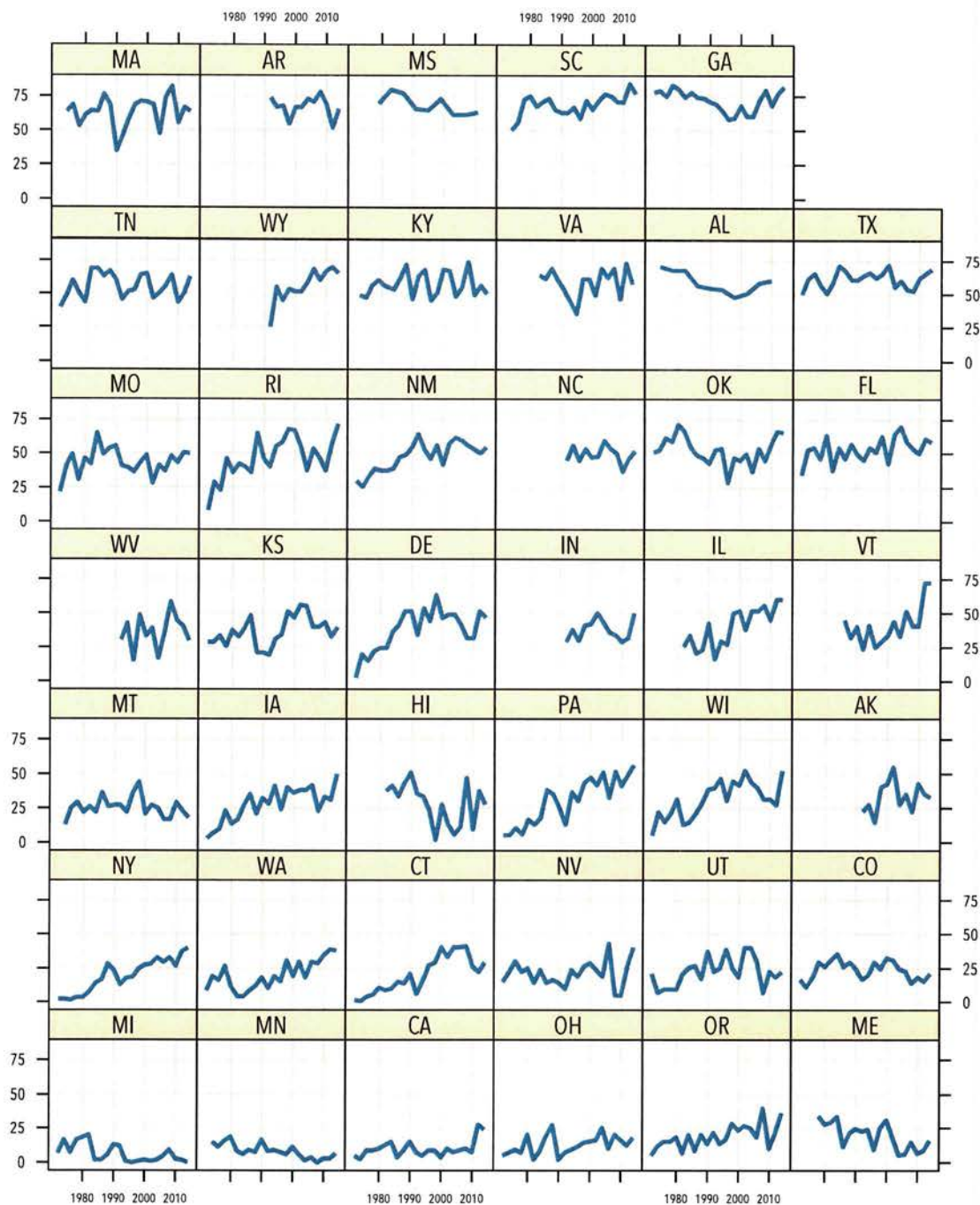
Figure 7: Percentage of districts missing two-party vote shares, by election, in 786 state legislative elections, 1972-2014. Missing data is almost always due to districts being uncontested by both major parties.

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vote share in state legislative districts (v_i).

8.1   Imputation model 1: presidential vote shares

The first imputation model relies on presidential election returns reported at the level of state legislative districts. Presidential election returns are excellent predictors of state legislative election outcomes and observed even when state legislative elections are uncontested. I fit a series of linear regressions of v_i on the Democratic share of the two-party vote for president in district i, as recorded in the most temporally-proximate presidential election for which data is available and for which the current election's districting plan was in place; separate slopes and intercepts are estimated depending on the incumbency status of district i (Democratic, Open/Other, Republican).

The model also embodies the following assumptions in generating imputations for unobserved vote shares in uncontested districts. In districts where a Republican incumbent ran unopposed, we assume that the Democratic share of the two-party vote would have been less than 50%; conversely, where Democratic incumbents ran unopposed, we assume that the Democratic share of the vote would have been greater than 50%.

In most states the analysis predicts 2014 and 2012 state legislative election results v_i using 2012 presidential vote shares; 2006, 2008 and 2010 v_i is regressed on 2008 presidential vote shares, and so on. Some care is needed matching state and presidential election results in states that hold their state legislative elections in odd-numbered years, or where redistricting intervenes. In a small number of cases, presidential election returns are not available, or are recorded with district identifiers that can't be matched in the state legislative elections data. We lack data on presidential election results by state legislative district prior to 2000, so 1992 is the earliest election with which we can match state legislative election results to presidential election results at the district level.

The imputation model generally fits well. Across the 447 elections, the median r^2 statistic is 0.82. The cases fitting less well include Vermont in 2012 ($r^2 = 0.29$), with relatively few contested seats and multi-member districts with positions.

We examine the performance of the imputation model in a series of graphs, below, for six sets of elections: Wisconsin in 2012 and 2014, Michigan in 2014
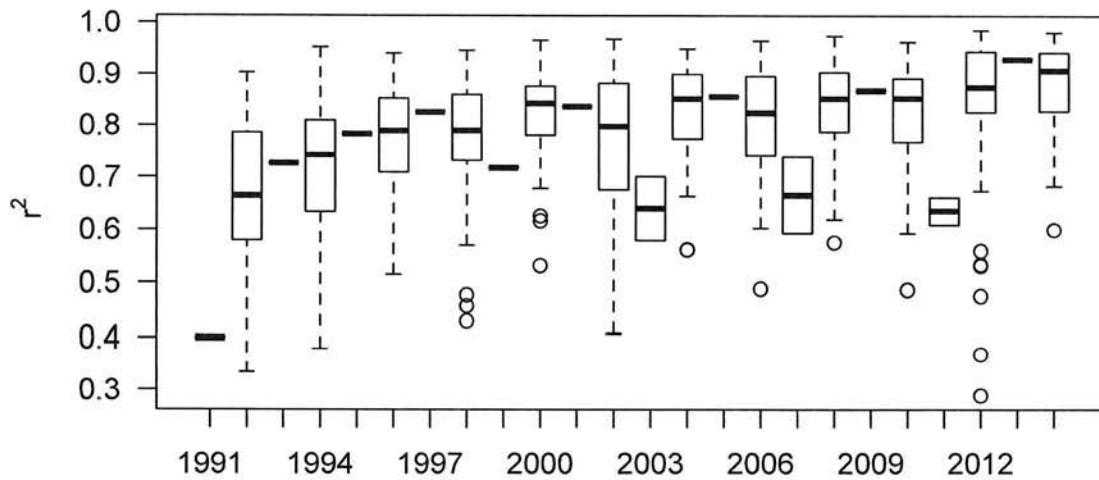
Figure 8: Distribution of r^2 statistics, regressions of Democratic share of two-party vote in state legislative election outcomes on Democratic share of the two-party for president.

(with no uncontested districts), South Carolina in 2012 (with the highest proportion of uncontested seats in the 2012 data), Virginia in 2013 and Wyoming in 2012 (the latter two generating extremely large, negative values of the efficiency gap). Vertical lines indicate 95% confidence intervals around imputed values for the Democratic share of the two-party vote in state legislative elections (vertical axis). Separate slopes and intercepts are fit for each incumbency type. Note also that the imputed data almost always lie on the regression lines.

Imputations for uncontested districts are accompanied by uncertainty. Although the imputation models generally fit well, like any realistic model they provides less than a perfect fit to the data. Note too that in any given election, there is only a finite amount of data and hence a limit to the precision with which we can make inferences about unobserved vote shares based on the relationship between observed vote shares and presidential vote shares.

Uncertainty in the imputations for v in uncontested districts generates uncertainty in "downstream" quantities of interest such as statewide Democratic vote share V and the efficiency gap measure EG. This is key, given the fact that uncontestedness is so pervasive in these data. We want any conclusions about the efficiency gap's properties or inferences about particular levels of the efficiency gap to reflect the uncertainty resulting from imputing vote shares in uncontested districts.
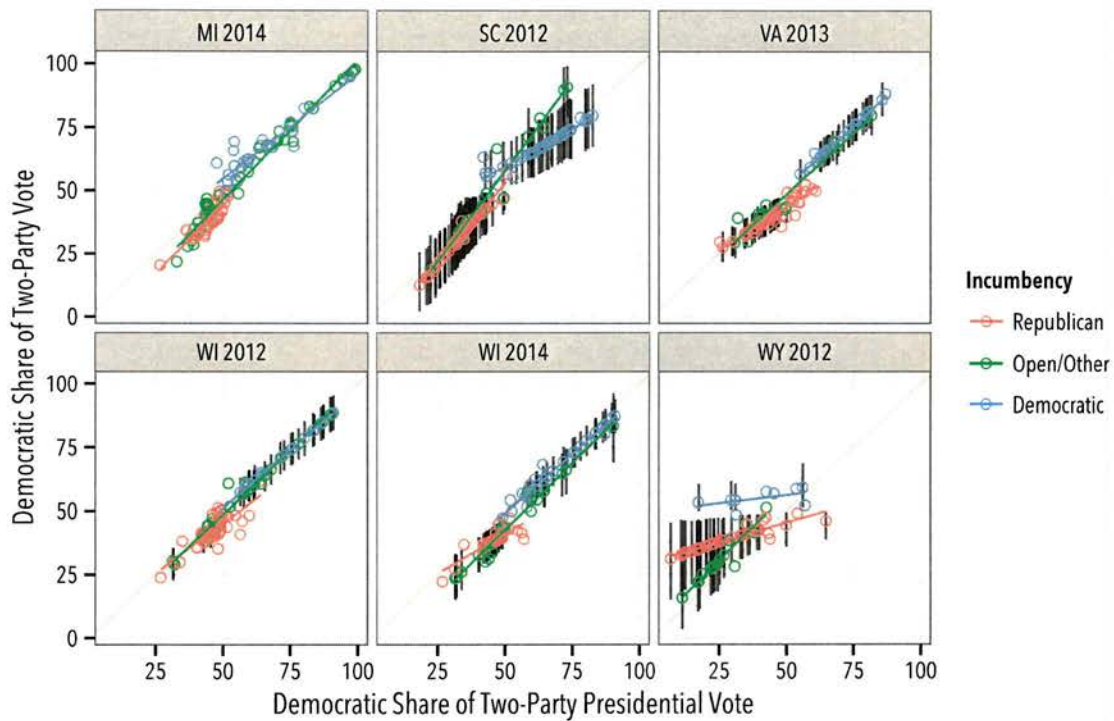
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Figure 9: Regression model for imputing unobserved vote shares in 6 selected elections. Vertical lines indicate 95% confidence intervals around imputed values for the Democratic share of the two-party vote in state legislative elections (vertical axis). Separate slopes and intercepts are fit for each incumbency type. Note also that the imputed data almost always lie on the regression lines.

8.2   Imputation model 2

We rely on imputations based on presidential election returns when they are available. But presidential vote isn't always available at the level of state legislative districts (not before 1992, in this analysis). To handle these cases, we rely on a second imputation procedure, one that models sequences of election results observed under a redistricting plan, interpolating unobserved Democratic vote shares given (1) previous and future results for a given district; (2) statewide swing in a given state election; and (3) change in the incumbency status of a given district. This model also embodies the assumption that unobserved vote shares would nonetheless be consistent with what we *did* observe in a given seat: where a Democrat wins in an uncontested district, any imputation for v in that district must lie above 50%, and where a Republican wins an uncontested district, any imputation for v must lie below 50%.

8.3   Combining the two sets of imputations

We now have two sets of imputations for uncontested districts: (1) using presidential vote as a basis for imputation, where available (447 state legislative elections from 1992 to 2014); and (2) the imputation model that relies on the trajectory of district results over the history of a districting plan, including incumbency and estimates of swing, which supplies imputations for uncontested districts in all years.

When there are no uncontested districts, obviously the two imputations must agree, for the trivial reason that are no imputations to perform. As the number of uncontested districts rises, the imputations from the two models have room to diverge. Where the two sets of imputations are available for a given election (elections where presidential vote shares by state legislative districts are available) we generally see a high level of agreement between the two methods.

The two sets of imputations for V correlate at .99. With only a few exceptions (see Figure 10), the discrepancies are generally small relative to the uncertainty in the imputations themselves. As the proportion of districts with missing data increases, clearly the scope for divergence between the two models increases.

To re-iterate, we prefer the imputations from "Model 1" based on the regressions utilizing presidential vote shares in state legislative districts, and use them

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whenever available (i.e., for most states in the analysis, the period 1992-2014). We only rely on "Model 2" when presidential vote shares are not available. We model the difference between the two sets of imputations, adjusting the "Model 2" imputations of V to better match what we have obtained from "Model 1", had the necessary presidential vote shares by state legislative district been available.
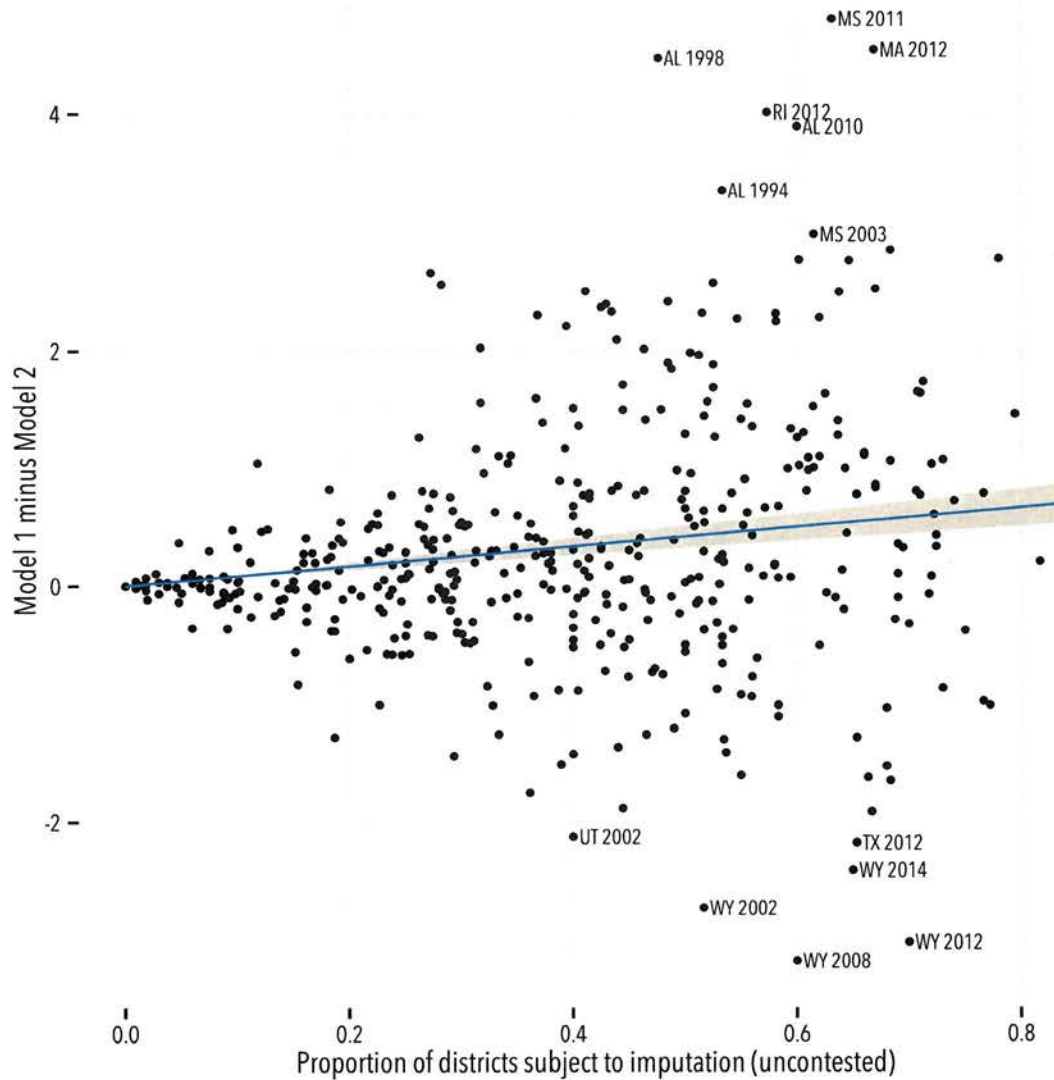
Figure 10: Difference between imputations for *V* by proportion of uncontested seats. The fitted regression line is constrained to respect the constraint that the imputations must coincide when there are no uncontested seats.

8.4   Seat and vote shares in 786 state legislative elections

After imputations for missing data, each election generates a seats-votes (V, S) pair. In Figure 11 we plot *all* of the V and S combinations over the 786 state elections in the analysis. We also overlay the seats-vote curve corresponding to an efficiency gap of zero. This provides us with a crude, visual sense of how often we see large departures from the zero *EG* benchmark.

The horizontal lines around each plotted point show the uncertainty associated with each estimate of V (statewide, Democratic, two-party vote share), given the imputations made for uncontested and missing district-level vote shares. Uncontested seats do not generate uncertainty with respect to the party winning the seat, and so the resulting uncertainty is with respect to vote shares, on the horizontal axis in Figure 11.

The efficiency gap in each election is the vertical displacement of each plotted (V, S) point from the orange, zero-efficiency gap line in Figure 11. Uncertainty as to the horizontal co-ordinate V (due to imputations for uncontested races) generates uncertainty in determining how far each point lies above or below the orange, zero efficiency gap benchmark.

9   The efficiency gap, by state and election

We now turn to the centerpiece of the analysis: assessing variation in the efficiency gap across districting plans.

We have 786 efficiency gap measures in 41 states, spanning 43 election years. These are computed by substituting each state election's estimate of V and the corresponding, observed seat share S into equation 1.

Figure 12 shows the efficiency gap estimates for each state election, grouped by state and ordered by year; vertical lines indicate 95% credible intervals arising from the fact that the imputation model for uncontested seats induces uncertainty in V and any quantity depending on V such as EG (recall equation 1). In many cases the uncertainty in EG stemming from imputation for uncontested seats is small relative to variation in EG both between and within districting plans.

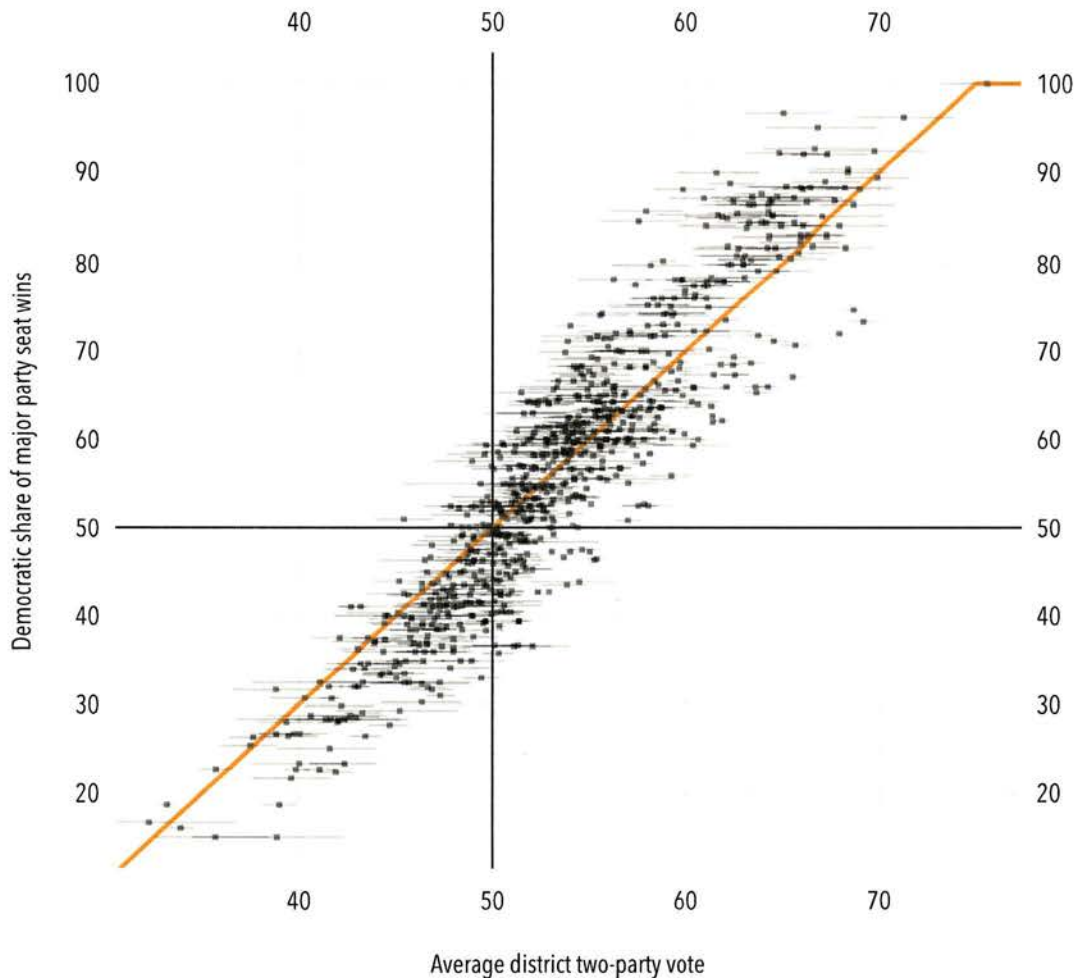We observe considerable variation in the EG estimates across states and elections. Some highlights:

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Figure 11: Democratic seat shares (*S*) and vote shares (*V*) in 786 state legislative elections, 1972-2014, in 41 states. Seat shares are defined with respect to single-member districts won by either a Republican or a Democratic candidate, including uncontested districts. Vote shares are defined as the average of district-level, Democratic share of the two-party vote, in the same set of districts used in defining seat shares. Horizontal lines indicate 95% credible intervals with respect to *V*, due to uncertainty arising from imputations for district-level vote shares in uncontested seats. The orange line shows the seats-votes relationship we expect if the efficiency gap were zero. Elections below the orange line have *EG* < 0 (Democratic disadvantage); points above the orange line have *EG* > 0 (Democratic advantage).
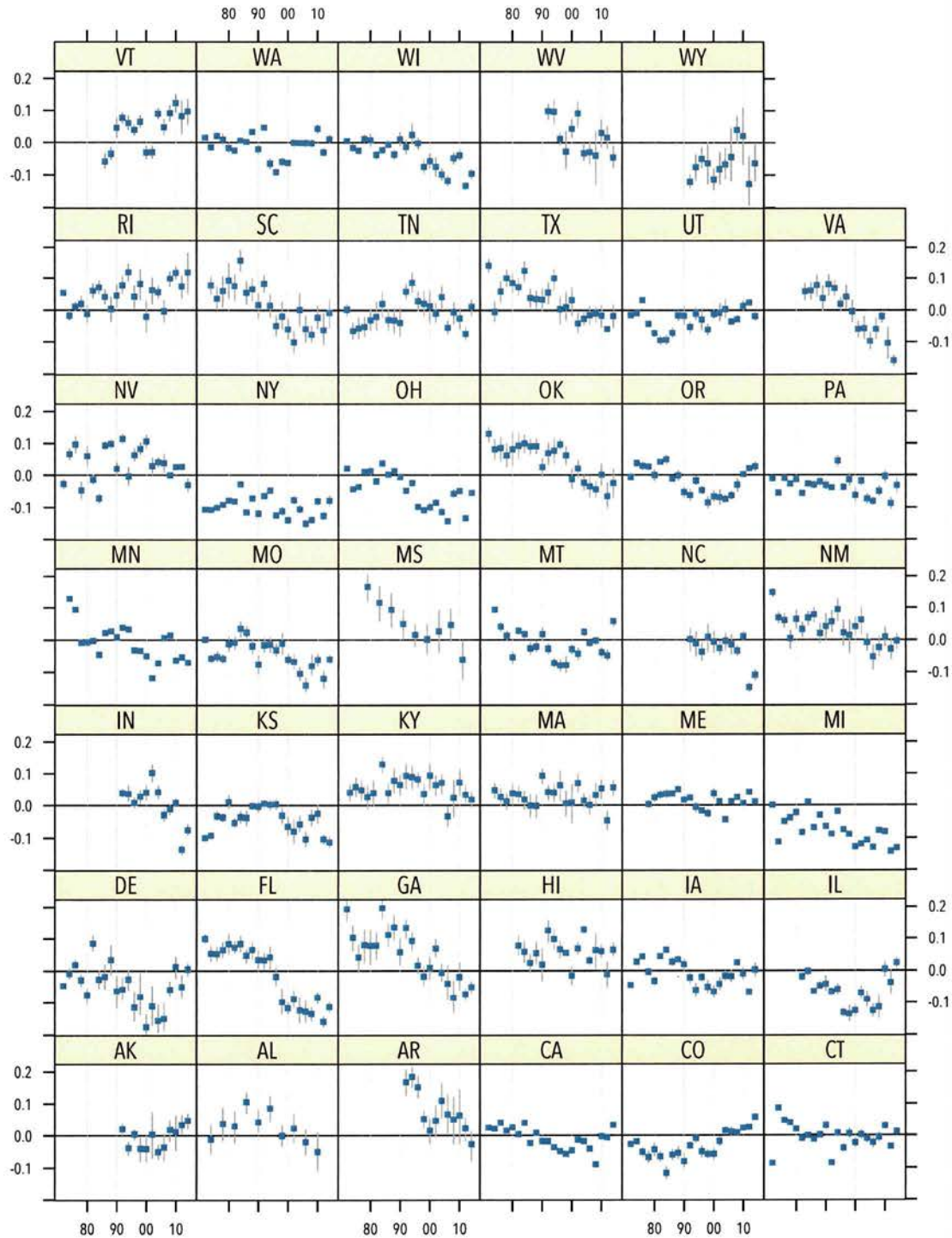
Efficiency gap, by state and year

Figure 12: Efficiency gap estimates in 786 state legislative elections, 1972-2014. Vertical lines cover 95% credible intervals.

1. estimates of *EG* range from −0.18 to 0.20 with an average value of −0.005.

2. The lowest value, −0.18 is from Delaware in 2000. There were 19 uncontested seats in the election to the 41 seat state legislature. Democrats won 15 seats ($S = 15/41 = 36.6\%$). I estimate *V* to be 52.1%. Via equation 1, this generates *EG* = −0.18. Considerable uncertainty accompanies this estimate, given the large number of uncontested seats. The 95% credible interval for *V* is ± 2.03 percentage points, and the 95% credible interval for the accompanying *EG* estimate is ± 0.04.

3. The highest value of *EG* is 0.20 is from Georgia in 1984. There were 140 uncontested seats in the election to the 180 seat state legislature. Democrats won 154 seats ($S = 154/180 = 85.6\%$). I estimate *V* to be 57.9%. Again, using equation 1, this generates *EG* = 0.2. Considerable uncertainty also accompanies this estimate, given the large number of uncontested seats. The 95% credible interval for *V* is ± 1.89 percentage points, and the 95% credible interval for the accompanying *EG* estimate is ± 0.04. Figure 13 contrasts the seats and votes recorded in Georgia against those for the entire data set, putting Georgia's large *EG* estimates in context.

4. New York has the lowest median *EG* estimates, ranging from -.15 (2006) to -.028 (1984). Statewide *V* ranges from 53.7% to 69.2%, but Democrats only win 70 (1972) to 112 (2012) seats in the 150 seat state legislature, so *S* ranges from .47 to .75, considerably below that we'd expect to see given the vote shares recorded by Democrats if the efficiency gap were zero. See Figure 15.

5. Arkansas has the highest median *EG* score by state, .10; see Figure 14.

6. Connecticut has the median, within-state median *EG* score of approximately zero; Figure 16 shows Connecticut's seats and votes have generally stayed close to the *EG* = 0 benchmark.

7. Michigan has the third lowest median *EG* scores by state, surpassed only by New York and Wyoming. Michigan's *EG* scores range from -.14 (2012) to .01 (1984). *V* ranges from 50.3% to 60.6%, a figure we estimate confidently given low and occasionally even zero levels of uncontested districts

in Michigan state legislative elections. Yet S ranges from 42.7% (Democrats won 47 out of 110 seats in 2002, 2010 and 2014) to 63.6% (Democrats won 70 out of 110 seats in 1978). See Figure 17.

8. Wisconsin's EG estimates range from -.14 (2012) to .02 (1994). Although the EG estimates for WI are not very large relative to other states in other years, Wisconsin has recorded an unbroken run of negative EG estimates from 1998 to 2014 and records two very large estimates of the efficiency gap in elections held under its current plan: -.13 (2012) and -.10 (2014). In short, Democrats are underperforming in state legislative elections in Wisconsin, winning fewer seats than a zero efficiency gap benchmark would imply, given, their statewide level of support. See Figure 18.

9.1   Are efficiency gap estimates statistically significant?

Recall that $EG < 0$ means that Democrats are disadvantaged, with relatively more wasted votes than Republicans; conversely $EG > 0$ means that Democrats are the beneficiaries of an efficiency gap, in that Democrats have fewer wasted votes than Republicans. But EG does vary from election to election, even with the same districting plan in place and EG is almost always not measured perfectly, but is estimated with imputations for uncontested seats.

In Figure 19 we plot the imprecision of each efficiency gap estimate (the half-width of its 95% credible interval) against the estimated EG value itself. Points lying inside the cones have EG estimates that are small relative to their credible intervals, such that we would not distinguish them from zero at conventional levels of statistical significance. Not all EG estimates can be distinguished from zero at conventional levels of statistical significance, nor should they. But many estimates of the EG *are* unambiguously non-zero. Critically, the two most recent Wisconsin EG estimates (-.13 in 2012, -.10 in 2014) are clearly non-negative, lying far away from the "cone of ambiguity" shown in Figure 19; the 95% credible interval for the 2012 estimates runs from -.146 to -.121 and from -.113 to -.081 for the 2014 estimate.
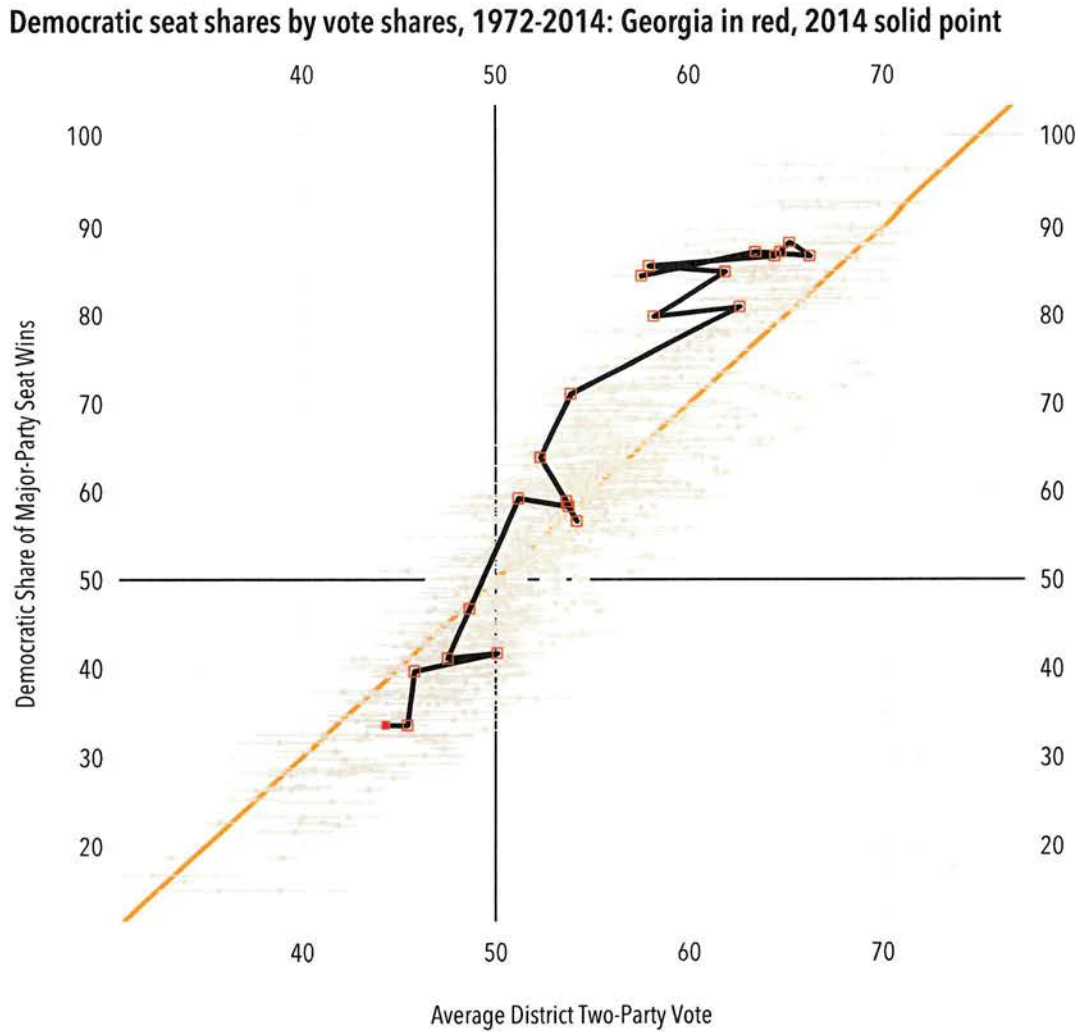
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Figure 13: Georgia, Democratic seat share and average district two-party vote share, 1972-2014. Orange line shows the seats-votes curve if the efficiency gap were zero; the efficiency gap in any election is the vertical distance from the corresponding data point to the orange line. Gray points indicate elections from other states and elections (1972-2014). Horizontal lines cover a 95% credible interval for Democratic average district two-party vote share, given imputations in uncontested districts.

Democratic seat shares by vote shares, 1972-2014: Arkansas in red, 2014 solid point
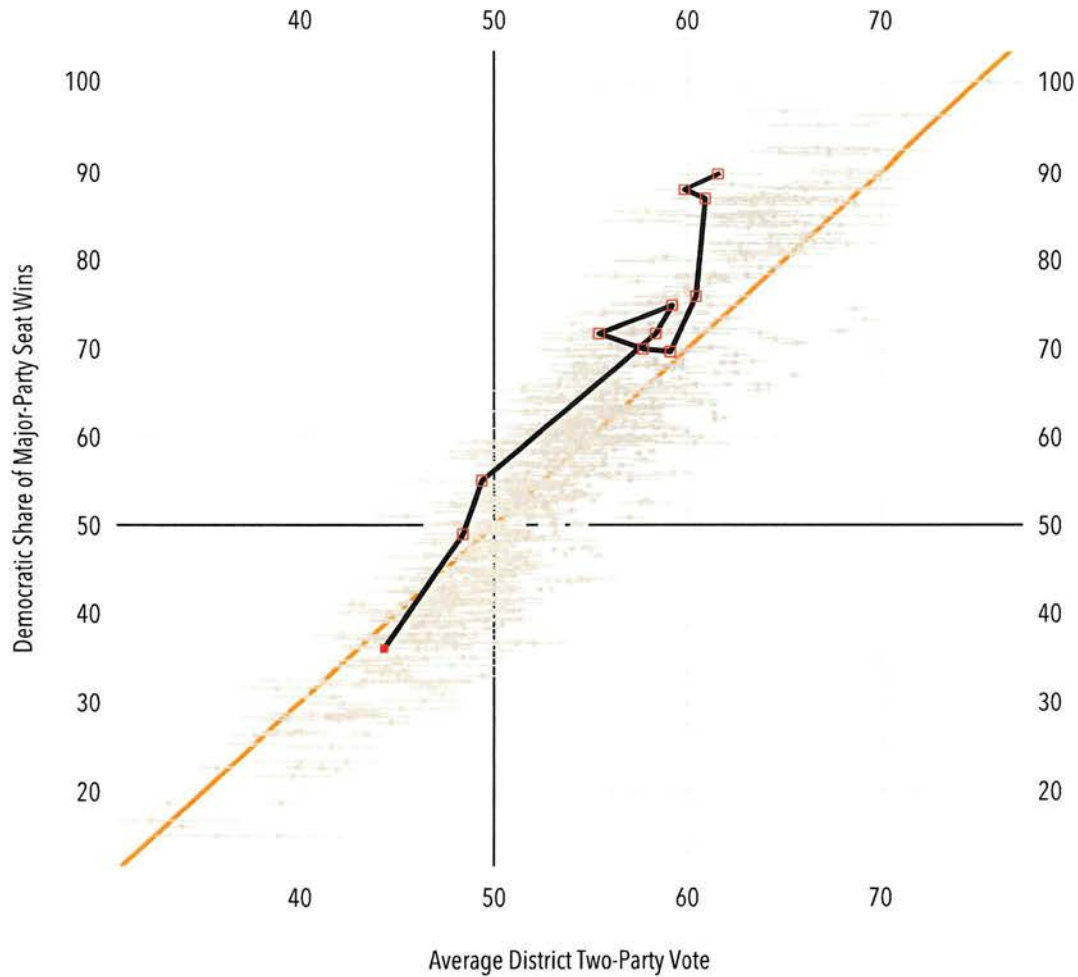
Figure 14: Arkansas, Democratic seat share and average district two-party vote share, 1992-2014. Orange line shows the seats-votes curve if the efficiency gap were zero; the efficiency gap in any election is the vertical distance from the corresponding data point to the orange line. Gray points indicate elections from other states and elections (1972-2014). Horizontal lines cover a 95% credible interval for Democratic average district two-party vote share, given imputations in uncontested districts.
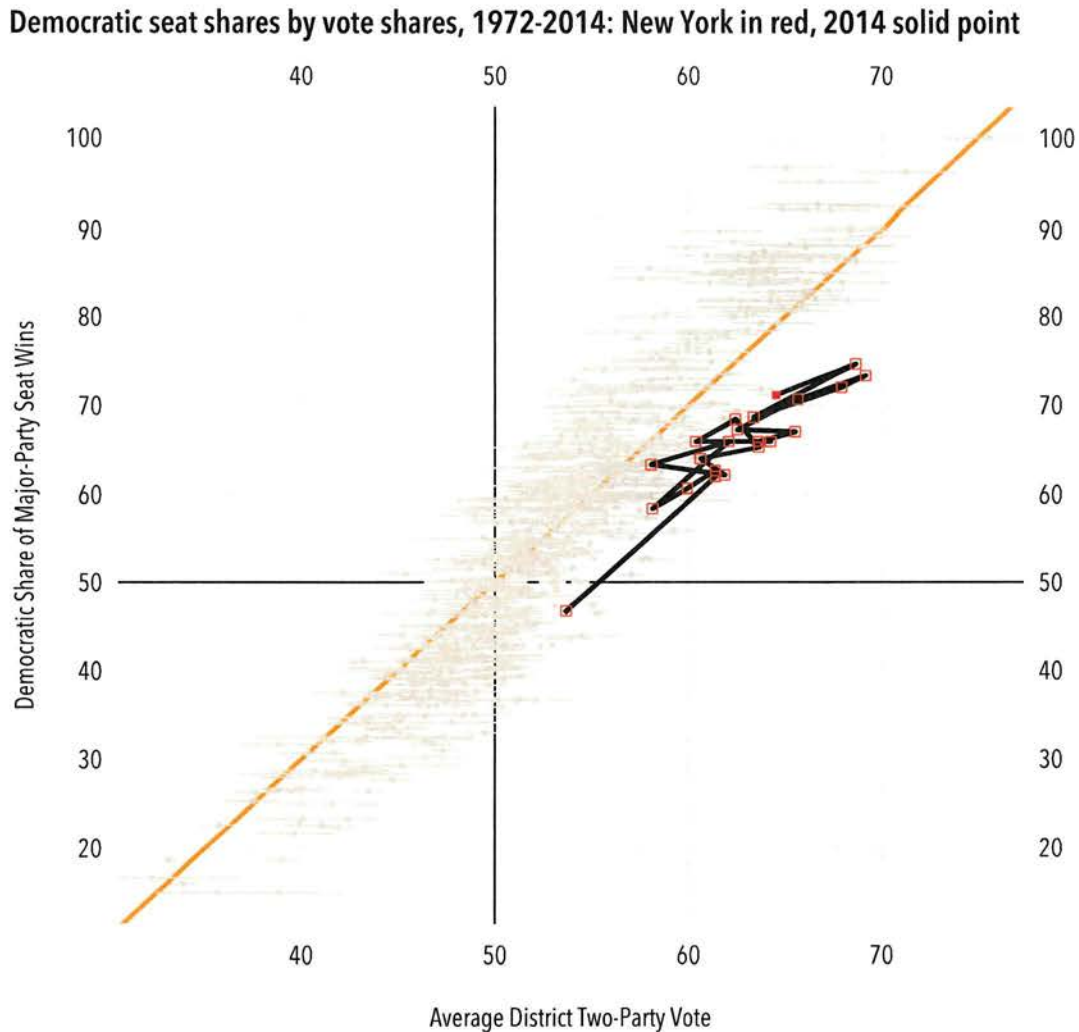
Figure 15: New York, Democratic seat share and average district two-party vote share, 1972-2014. Orange line shows the seats-votes curve if the efficiency gap were zero; the efficiency gap in any election is the vertical distance from the corresponding data point to the orange line. Gray points indicate elections from other states and elections (1972-2014). Horizontal lines cover a 95% credible interval for Democratic average district two-party vote share, given imputations in uncontested districts.
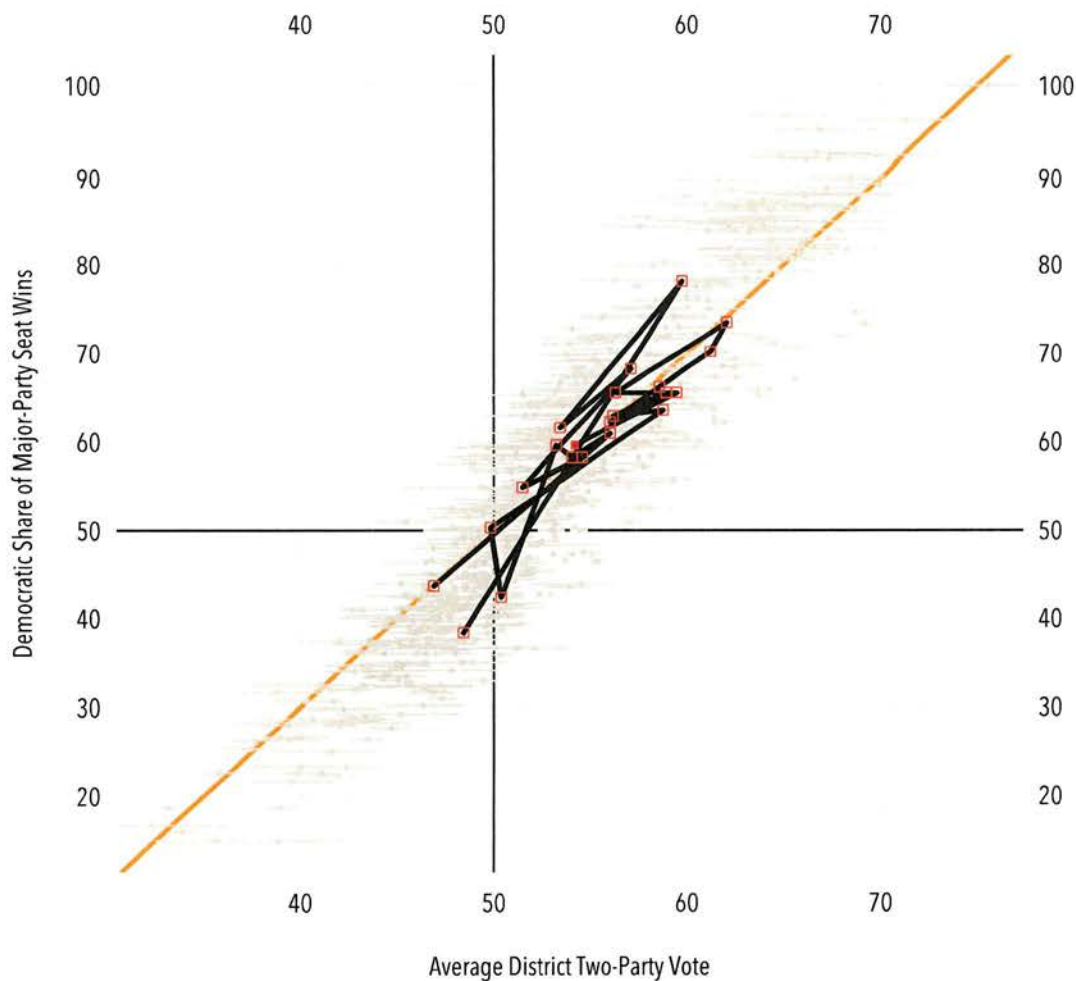
Figure 16: Connecticut, Democratic seat share and average district two-party vote share, 1972-2014. Orange line shows the seats-votes curve if the efficiency gap were zero; the efficiency gap in any election is the vertical distance from the corresponding data point to the orange line. Gray points indicate elections from other states and elections (1972-2014). Horizontal lines cover a 95% credible interval for Democratic average district two-party vote share, given imputations in uncontested districts.
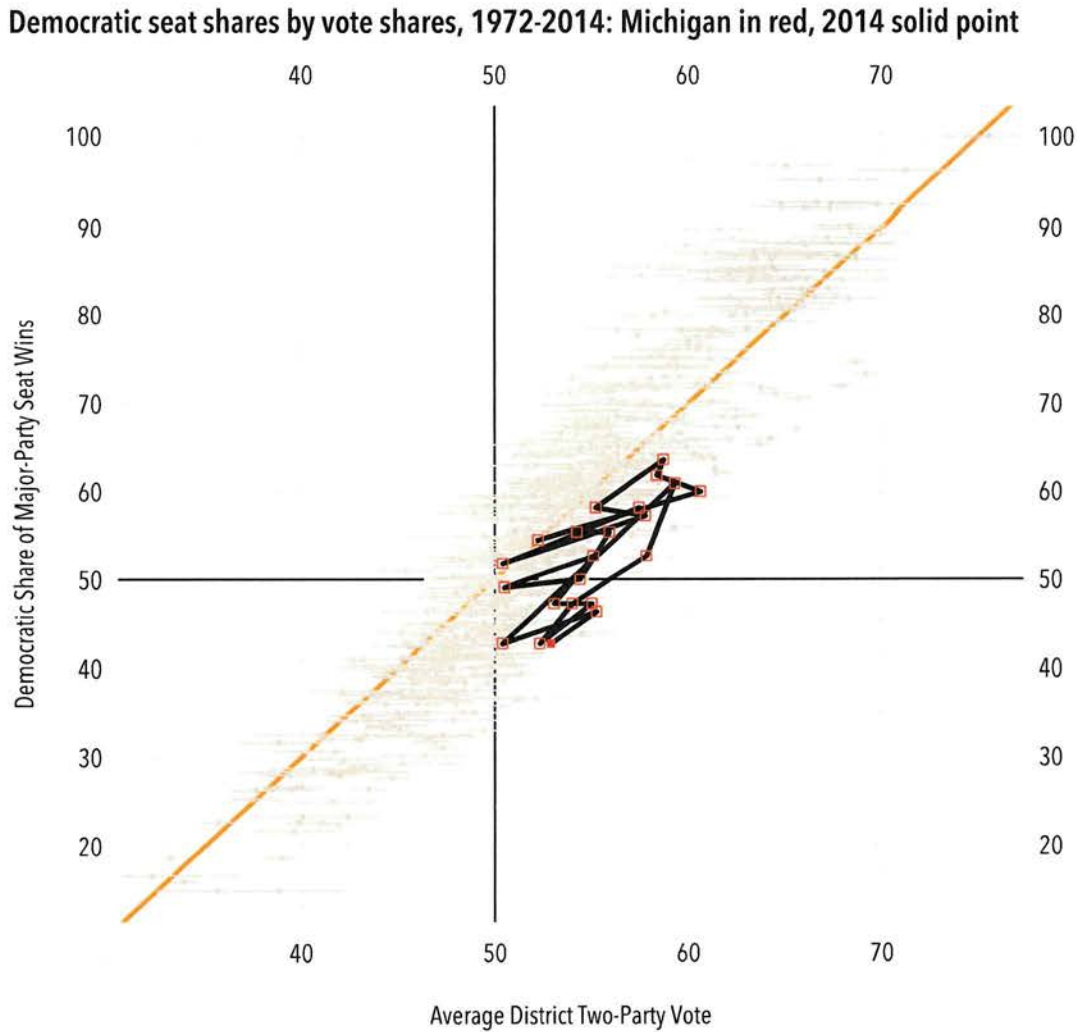
Figure 17: Michigan, Democratic seat share and average district two-party vote share, 1972-2014. Orange line shows the seats-votes curve if the efficiency gap were zero; the efficiency gap in any election is the vertical distance from the corresponding data point to the orange line. Gray points indicate elections from other states and elections (1972-2014). Horizontal lines cover a 95% credible interval for Democratic average district two-party vote share, given imputations in uncontested districts.
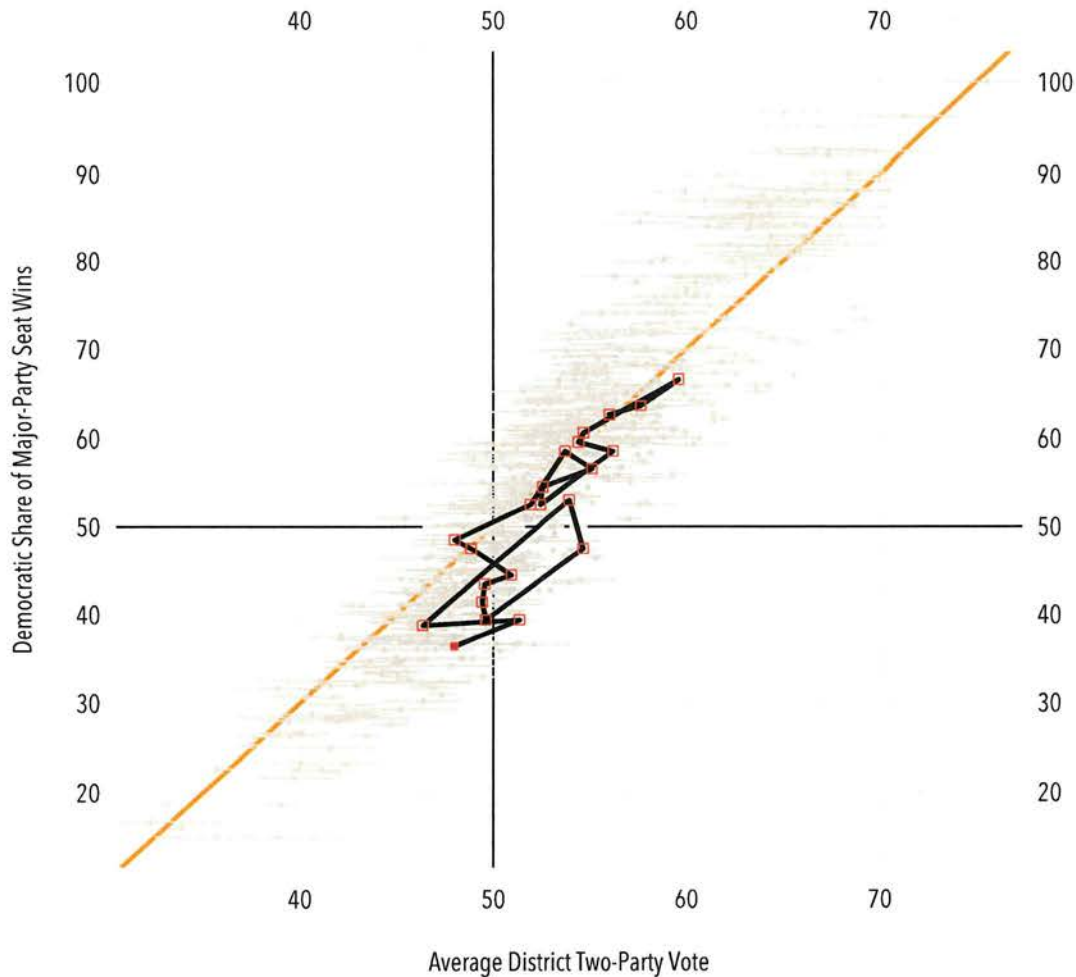
Figure 18: Wisconsin, Democratic seat share and average district two-party vote share, 1972-2014. Orange line shows the seats-votes curve if the efficiency gap were zero; the efficiency gap in any election is the vertical distance from the corresponding data point to the orange line. Gray points indicate elections from other states and elections (1972-2014). Horizontal lines cover a 95% credible interval for Democratic average district two-party vote share, given imputations in uncontested districts.
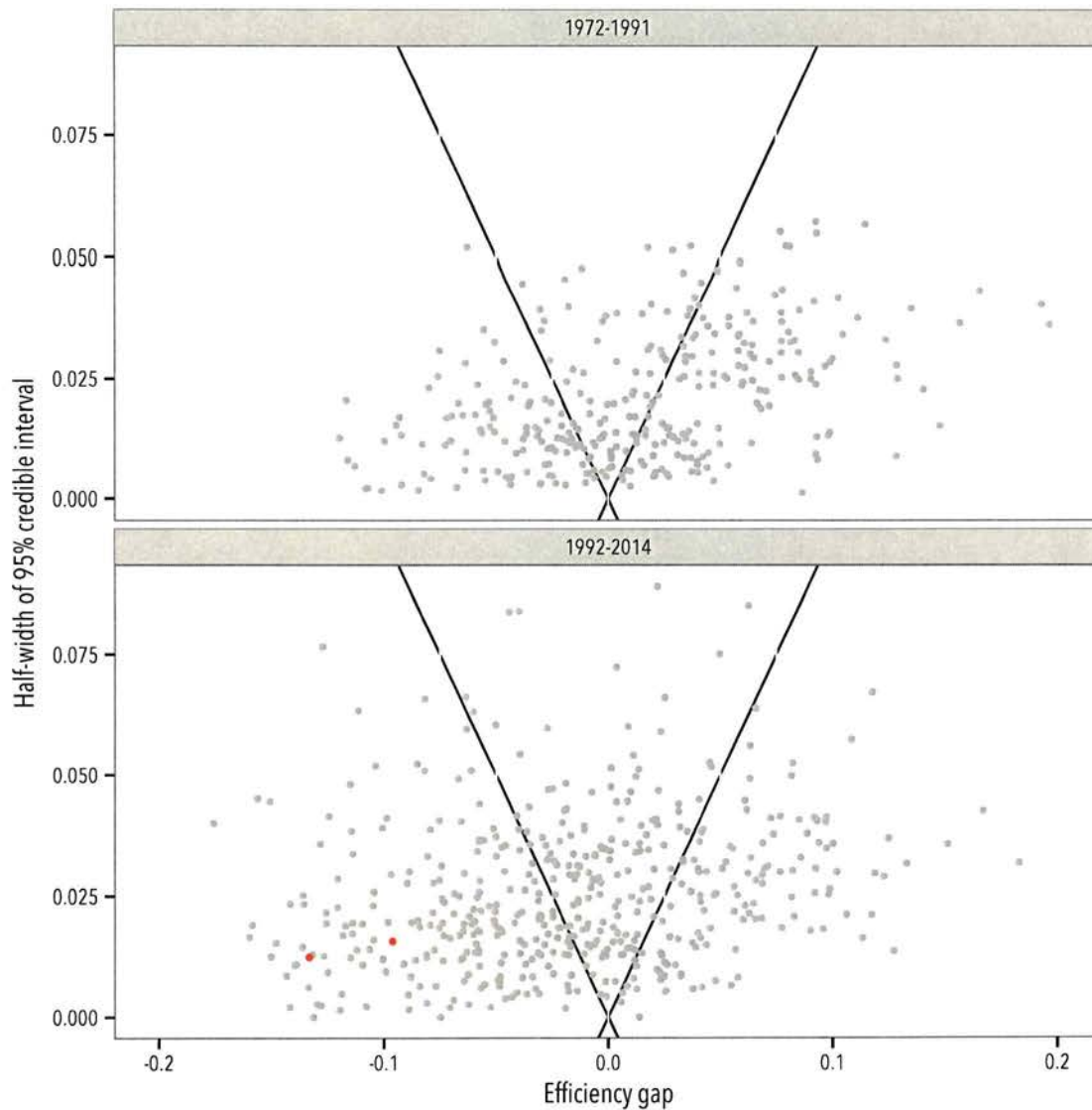
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Figure 19: Uncertainty in the efficiency gap, against the *EG* estimate itself. The vertical axis is the half-width of the 95% credible interval for each *EG* estimate (plotted against the horizontal axis); points lying inside the cones have *EG* estimates that are small relative to their credible intervals, such that we would not distinguish them from zero at conventional levels of statistical significance. *EG* estimates from Wisconsin in 2012 and 2014 are shown as red points in the lower panel. Note the greater prevalence of large, negative and precisely estimated *EG* measures in recent decades.

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9.2   Over-time change in the efficiency gap

Are large values of the efficiency gap less likely to be observed in recent decades? This is relevant to any discussion of a standard by which to assess redistricting plans. If recent decades have generally seen smaller values of the efficiency gap relative to past decades, then this might be informative as to how we should assess contemporary districting plans and their corresponding values of the *EG*.

Figure 20 plots *EG* estimates over time, overlaying estimates of the smoothed, weighted quantiles (25th, 50th and 75th) of the *EG* measures (the weights capture the uncertainty accompanying each estimate of the *EG*). The distribution of *EG* measures in the 1970s and 1980s appeared to slightly favor Democrats; about two-thirds of all *EG* measures in this period were positive. The distribution of *EG* measures trends in a pro-Republican direction through the 1990s, such that by the 2000s, *EG* measures were more likely to be negative (Republican efficiency advantage over Democrats); see Figure 21.

There is some evidence that the 2010 round of redistricting has generated an increase in the magnitude of the efficiency gap in state legislative elections. For most of the period under study, there seems to be no distinct trend in the magnitudes of the efficiency gap over time; see Figure 22. The median, absolute value of the efficiency gap has stayed around 0.04 over much of the period spanned by this analysis; elections since 2010 are producing higher levels of *EG* in magnitude.

It is also interesting to note that the estimate of the 75th percentile of the distribution of *EG* magnitudes jumps markedly after 2010, suggesting that districting plans enacted after the 2010 census are systematically more gerrymandered than in previous decades. Of the almost 800 *EG* estimates in the analysis, spanning 42 years of elections, the largest, negative estimates (an efficiency gap disadvantaging Democrats) are more likely to be recorded in the short series of elections after 2010. These include Alabama in 2014 (-.18), Florida in 2012 (-.16), Virginia in 2013 (-.16), North Carolina in 2012 (-.15) and Michigan in 2012 (-.14); these five elections are among the 10 least favorable to Democrats we observe in the entire set of elections. Among the 10 most pro-Democratic *EG* scores, *none* were recorded after 2000. The most favorable election to Democrats in terms of *EG* since 2010 is the 2014 election in Rhode Island (*EG* = .12), which is only the 20th largest (pro-Democratic) *EG* in the entire analysis.
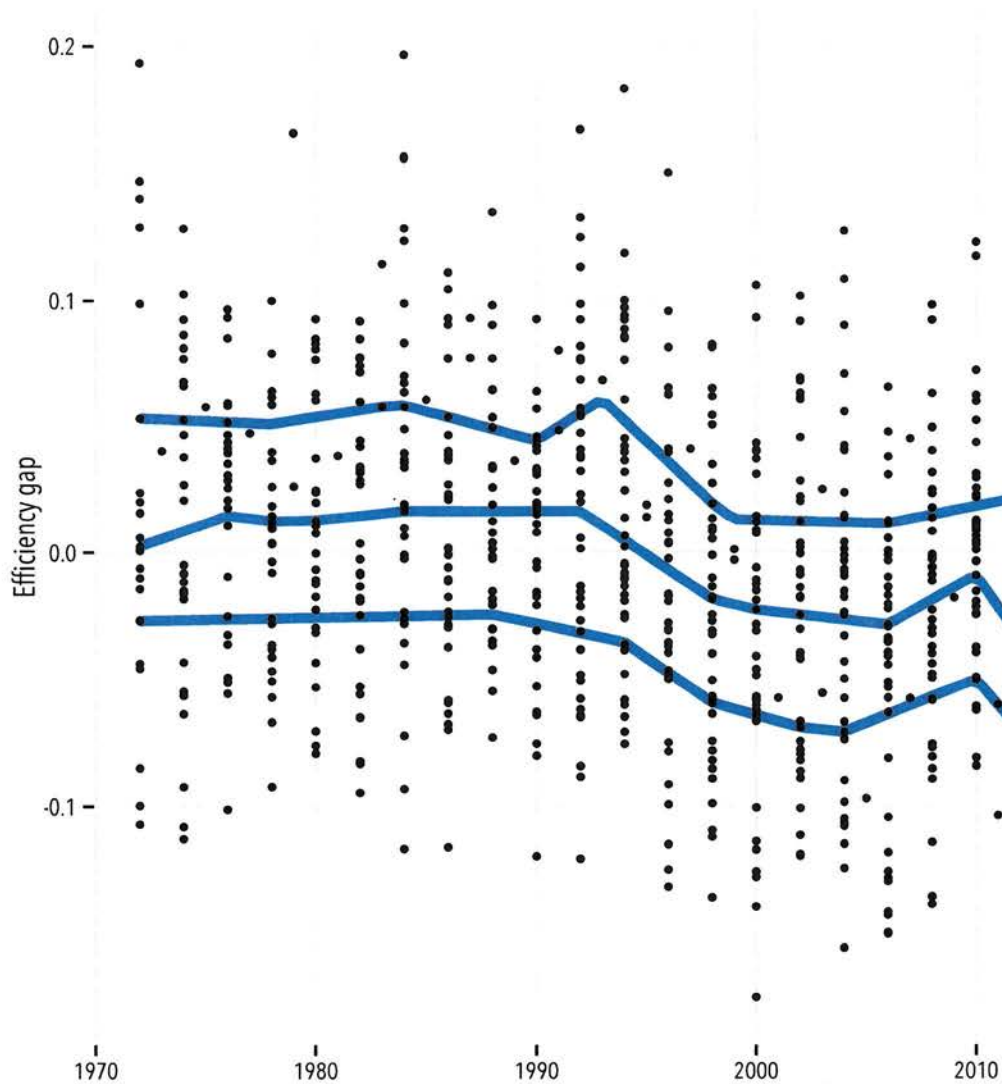
Figure 20: Efficiency gap estimates, over time. The lines are smoothed estimates of the 25th, 50th and 75th quantiles of the efficiency gap measures, weighted by the precision of each *EG* measure.
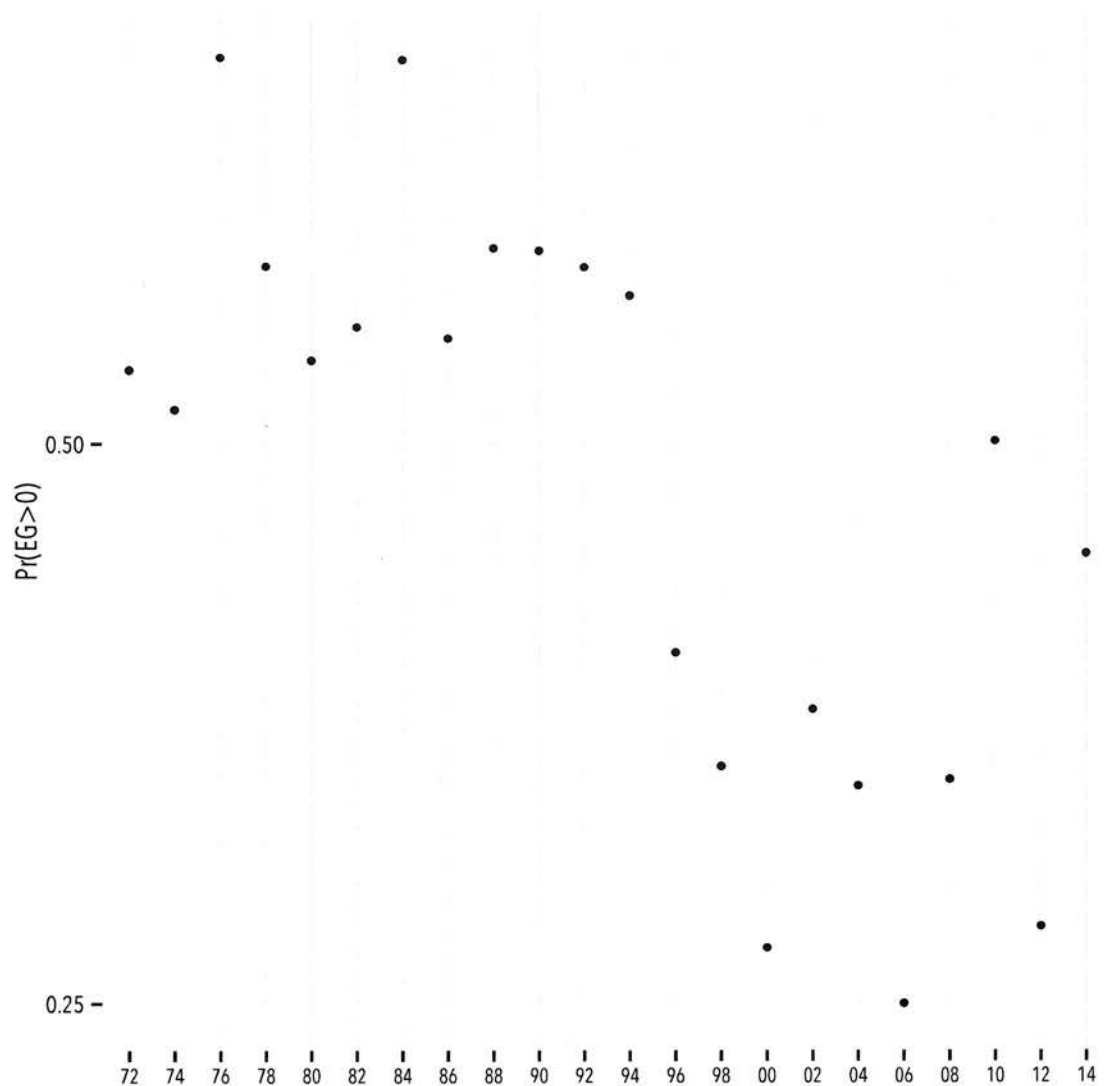
Figure 21: Proportion of efficiency gap measures that are positive, by two year intervals.
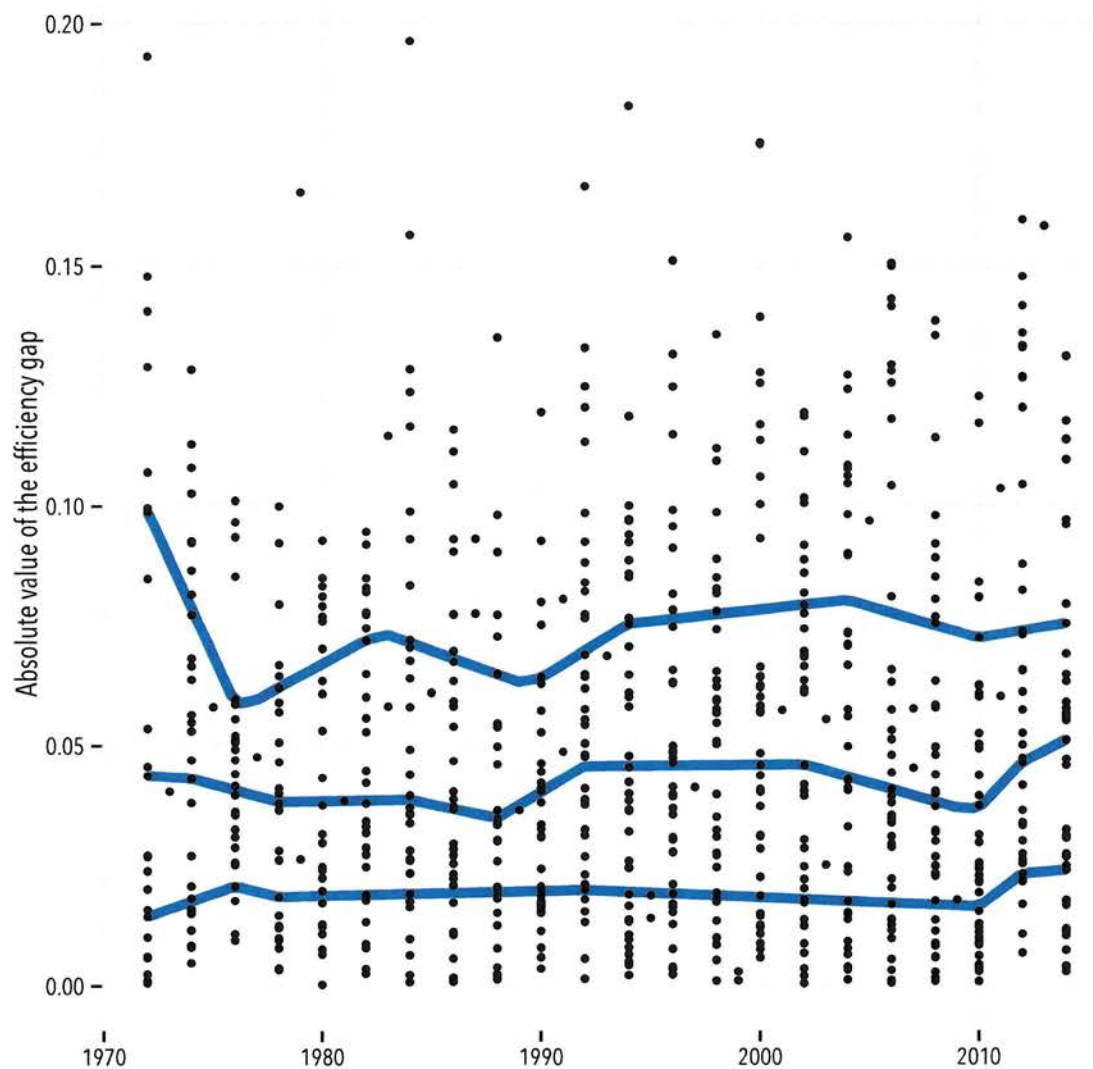
Figure 22: Absolute value of efficiency gap measures, over time. The lines are smoothed estimates of the 25th, 50th and 75th quantiles of the absolute value of the efficiency gap measure, weighted by the precision of each *EG* measure.

9.3   Within-plan variation in the efficiency gap

The efficiency gap is measured at each election, with a given districting plan typically generating up to five elections and hence five efficiency gap measures. Efficiency gap measures will change from election to election as the distribution of district-level vote shares varies over elections. Some of this variation is to be expected. Even with the same districting plan in place, districts will display "demographic drift," gradually changing the political complexion of those districts. Incumbents lose, retire or die in office; sometimes incumbents face major opposition, sometimes they don't. Variation in turnout — most prominently, from on-year to off-year — will also cause the distribution of vote shares to vary from election to election, even with the districting plan unchanged. All these election-specific factors will contribute to election-to-election variation in the efficiency gap.

Precisely because we expect a reasonable degree of election-to-election variation in the efficiency gap, we assess the magnitude of this "within-plan" variability in the measure. If a plan is a partisan gerrymander — with a systematic advantage for one party over the other — then the "between-plan" variation in EG should be relatively large relative to the "within-plan" variation in EG.

About 76% of the variation in the EG estimates is between-plan variation. The EG measure does vary election-to-election, but there is a moderate to strong "plan-specific" component to variation in the EG scores. We conclude that the efficiency gap *is* measuring an enduring feature of a districting plan.

We examine some particular districting plans. The 786 elections in this analysis span 150 districting plans. For plans with more than one election, we compute the standard deviation of the sequence of election-specific EG measures observed under the plan. These standard deviations range from .011 (Kentucky's plan in place for just two elections in 1992 and 1994, or Indiana's plan 1992-2000) to .079 (Delaware's plan between 2002 and 2010).

A highly variable plan: Deleware 2002-2010. Figure 23 shows the seats, votes and EG estimates produced under the Delaware 2002-2010 plan. This is among the most variable plans we observe with respect to the EG measure. An efficiency gap running against the Democrats for 2002, 2004 and 2006 (the latter election saw Democrats win only 18 seats out of 41 with 54.5% of the state wide vote) falls to a small gap in 2008 ($V = 0.584, S = 25/41 = .61, EG = -0.058$) and

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Delaware ends the decade with a positive efficiency gap in 2010. The Democratic district-average two-party vote share fell to $V = 0.561$ in 2010, but translated into $S = 26/41 = .63, EG = 0.012$.

A plan with moderate variability in the EG. The median, within-plan standard deviation of the *EG* is about .03. This roughly corresponds to the within-plan standard deviation of the *EG* observed under the plan in place for five Wisconsin state legislative elections 1992-2000, presented in Figure 24. This was a plan that generated relatively small values of *EG* that alternated sign over the life of the plan: negative in 1992, positive in 1994 and 1996, and negative in 1998 and 2000.

A low variance plan, Indiana 1992-2000. See Figure 25. The *EG* measures recorded under this plan are all relatively small and positive, ranging from 0.008 to 0.041 and correspond to an interesting period in Indiana state politics. Democrats won 55 of the 100 seats in the Indiana state house in the 1992 election with what I estimate to be just over 50% of the district-average vote (29 of 100 seats were uncontested). Democratic vote share fell to about 45% in the 1994 election (38 uncontested seats), and Democrats lost control of the legislature. The 1996 election resulted in a 50-50 split in the legislature. Democrats won legislative majorities in the 1998 and 2000 elections, while the last election might have been won by Democrats with just less than 50% of the district-vote; I estimate $V = 0.495 \pm .012$ and $EG = 0.041$.
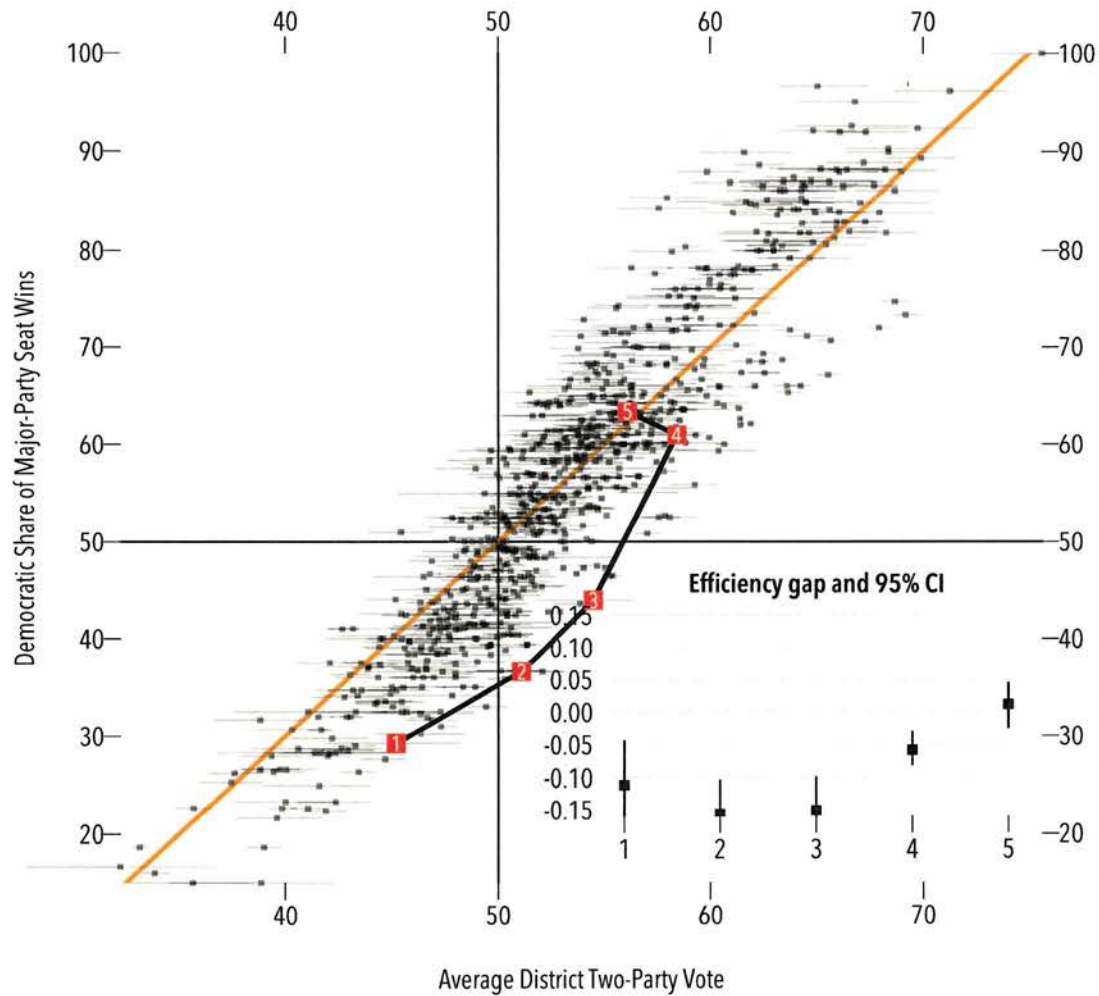
Figure 23: Seats, votes and the efficiency gap recorded under the Delaware plan, 2002-2010. Orange line shows the seats-votes curve if the efficiency gap were zero; the efficiency gap in any election is the vertical distance from the corresponding data point to the orange line. Gray points indicate elections from other states and elections (1972-2014). Horizontal lines cover a 95% credible interval for Democratic average district two-party vote share, given imputations in uncontested districts. The inset in the lower right shows the sequence of efficiency gap measures recorded under the plan; vertical lines are 95% credible intervals.

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Highlighting Wisconsin plan 3

Figure 24: Seats, votes and the efficiency gap recorded under the Wisconsin plan, 1992-2000. Orange line shows the seats-votes curve if the efficiency gap were zero; the efficiency gap in any election is the vertical distance from the corresponding data point to the orange line. Gray points indicate elections from other states and elections (1972-2014). Horizontal lines cover a 95% credible interval for Democratic average district two-party vote share, given imputations in uncontested districts. The inset in the lower right shows the sequence of efficiency gap measures recorded under the plan; vertical lines are 95% credible intervals.
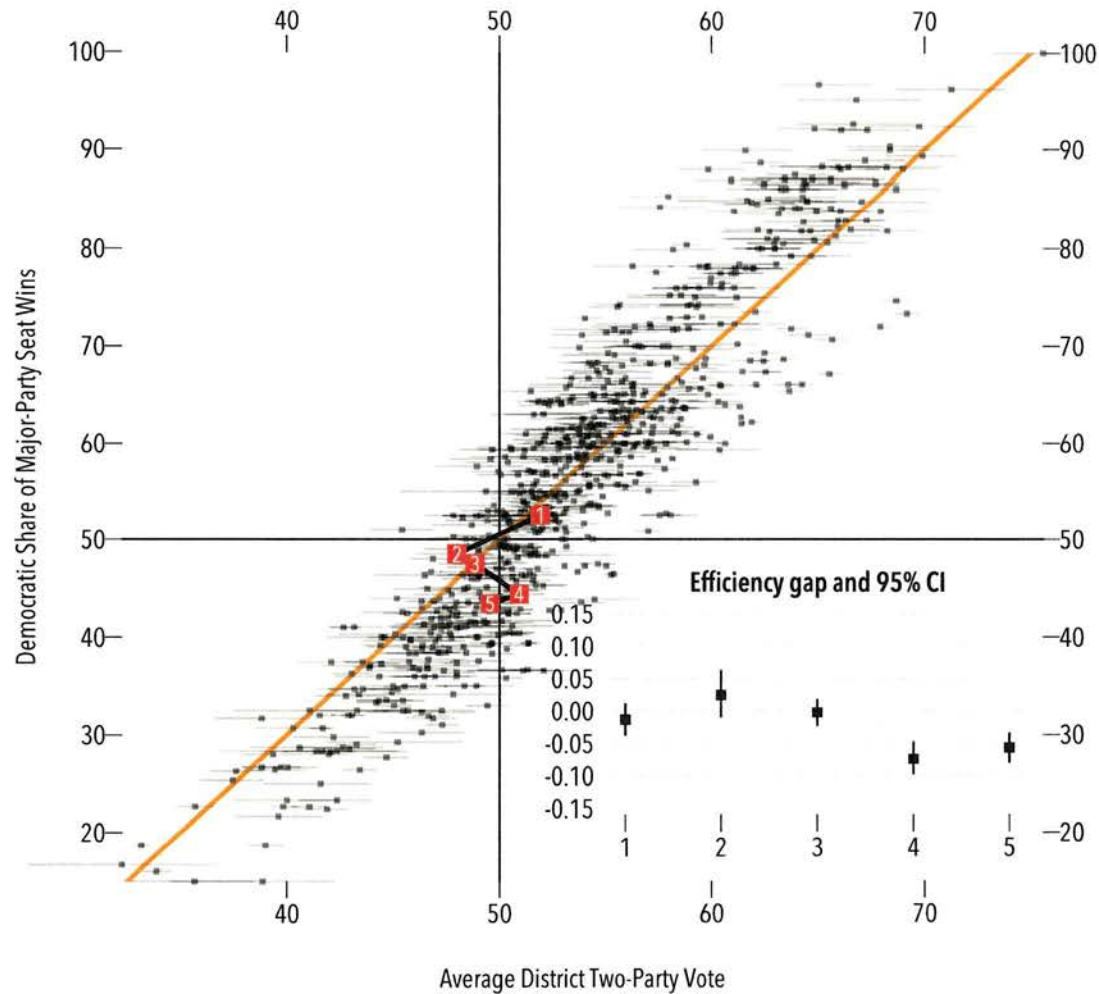
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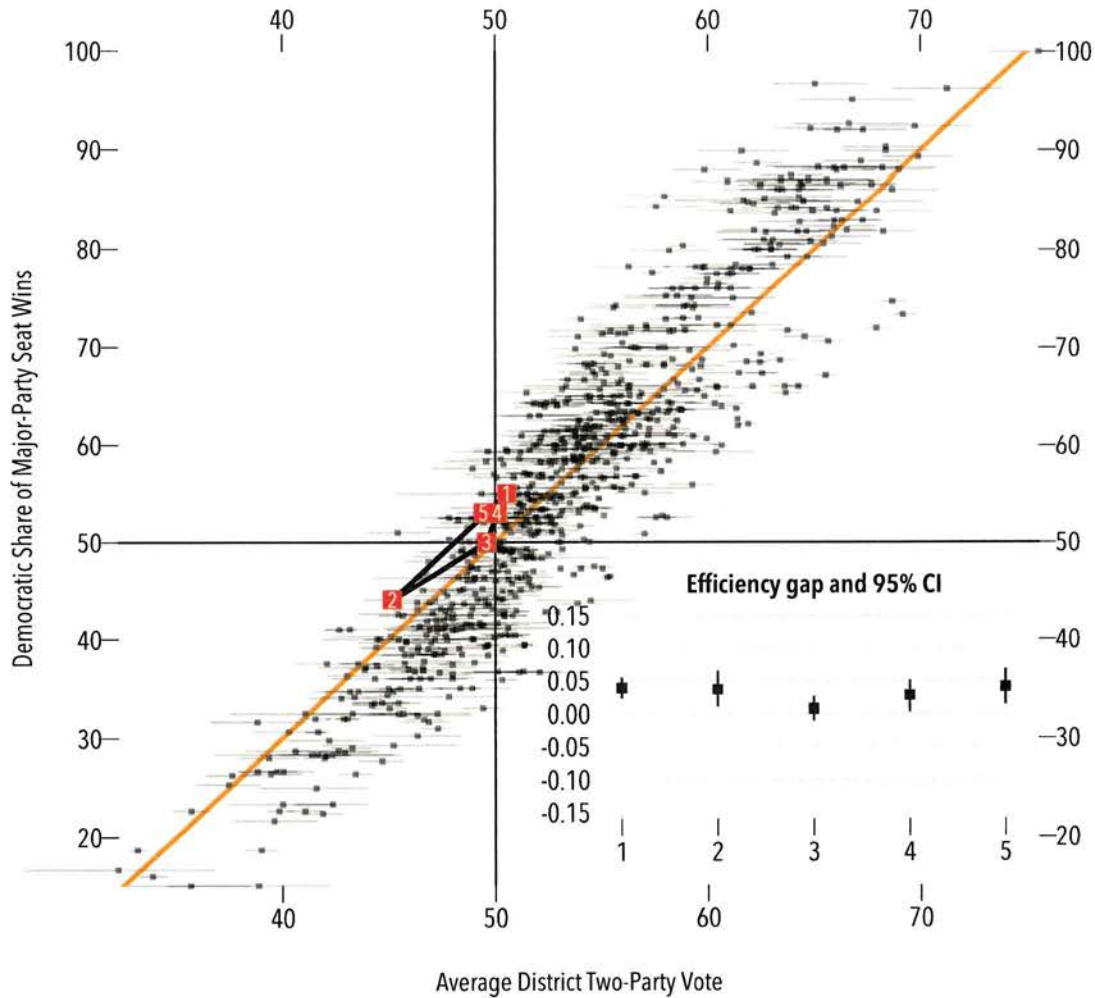
Figure 25: Seats, votes and the efficiency gap recorded under the Indiana plan, 1992-2000. Orange line shows the seats-votes curve if the efficiency gap were zero; the efficiency gap in any election is the vertical distance from the corresponding data point to the orange line. Gray points indicate elections from other states and elections (1972-2014). Horizontal lines cover a 95% credible interval for Democratic average district two-party vote share, given imputations in uncontested districts. The inset in the lower right shows the sequence of efficiency gap measures recorded under the plan; vertical lines are 95% credible intervals.

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## 9.4   How often does the efficiency gap change sign?

Having observed a particular value of *EG*, how confident are we that:

- the *EG* measure is distinguishable from zero at conventional levels of statistical significance? That is, how sure are we as to the sign of any particular *EG* estimate? We addressed this question in section 9.1.

- it will be followed by one or more estimates of *EG* that are of the same sign?

- over the life of a districting plan, *EG* remains on one side of zero or the other?

The latter two questions are key. It is especially important that we assess the *durability* of the sign of the *EG* measure under a districting plan, if we seek to assert that a districting plan is a partisan gerrymander. We will see that *magnitude* and *durability* of the efficiency gap go together: *large* values of the efficiency gap don't seem to be capricious, but likely to be repeated over the life of a districting plan, consistent with partisan disadvantage being a systematic feature of the plan.

We begin this part of the analysis by considering temporally adjacent *pairs* of *EG* estimates. Can we be confident that these have the same sign? In general, yes. Of the full set of 786 elections for which we compute an efficiency gap estimate, 580 are temporally adjacent, within state and districting plan. Figure 26 shows that we usually see efficiency gap measures with the same sign; this probability exceeds 90% for almost half of the temporally adjacent pairs of efficiency gap measures. Averaged over all pairs, this "same sign" probability is 74%. While the efficiency gap does vary election to election, these fluctuations are not so large that the *sign* of the efficiency gap is likely to change election to election.

What about over the life of an entire redistricting plan? How likely is it that the efficiency gap retains the same sign over, say, three to five elections in a given state, taking into account election-to-election variation *and* uncertainty arising from the imputation procedures used for uncontested districts?

We have 141 plans that supply three or more elections with estimate of the efficiency gap. Of these, 17 plans are *utterly unambiguous* with respect to the sign of the efficiency gap estimates recorded over the life of the plan: for each of these plans we estimate the probability that the *EG* has the same sign over the life of the plan to be 100%. These plans are listed below in Table 1.

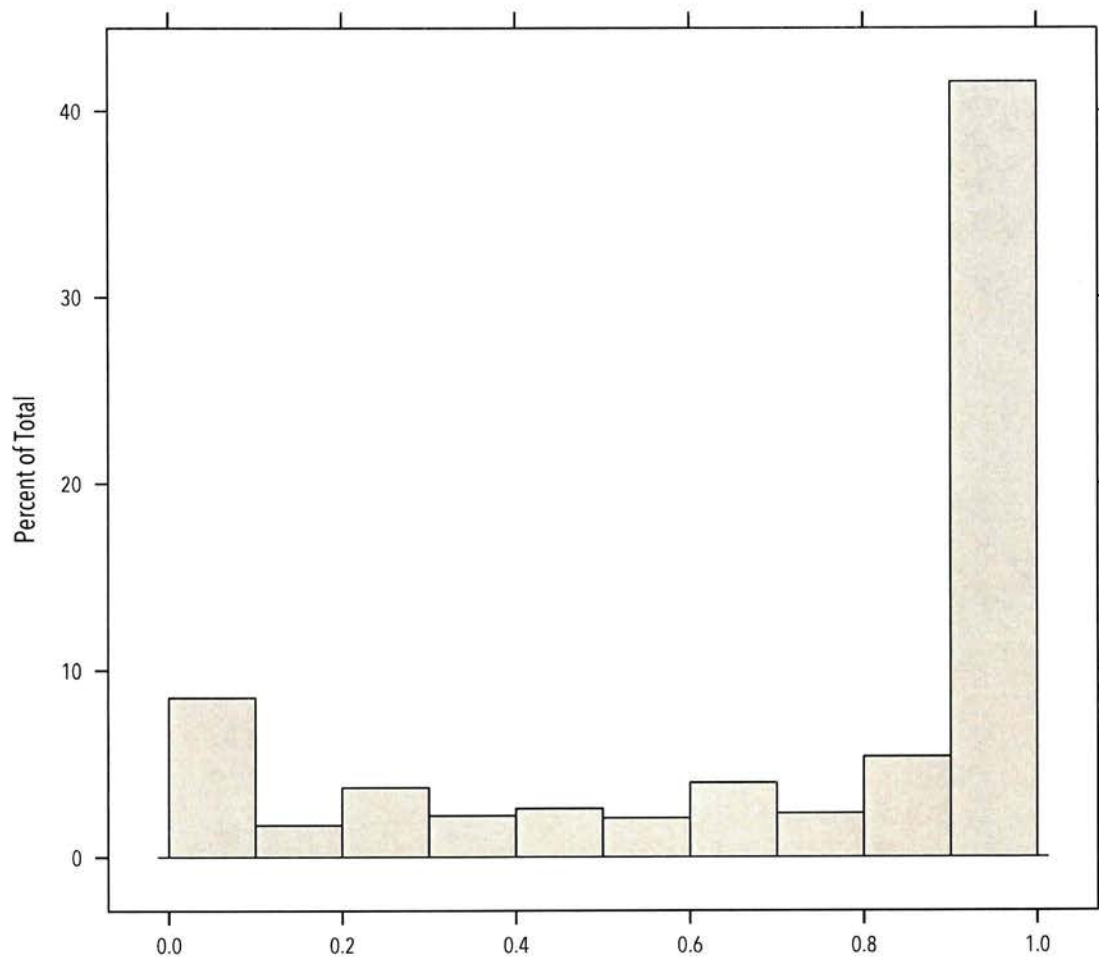**Probabilities that efficiency gap has the same sign as in previous election**

Figure 26: Stability in 580 successive pairs of efficiency gap measures

State	Plan	Start	End	EG avg	EG min	EG max
Florida	4	2002	2010	-0.112	-0.136	-0.084
New York	4	2002	2010	-0.111	-0.150	-0.078
Illinois	3	1992	2000	-0.103	-0.136	-0.058
Michigan	4	2002	2010	-0.103	-0.130	-0.077
New York	3	1992	2000	-0.098	-0.139	-0.048
New York	1	1972	1980	-0.097	-0.108	-0.079
Missouri	4	2002	2010	-0.091	-0.142	-0.061
Ohio	4	2002	2010	-0.090	-0.143	-0.049
New York	2	1982	1990	-0.084	-0.120	-0.028
Ohio	3	1994	2000	-0.083	-0.109	-0.025
Michigan	3	1992	2000	-0.080	-0.128	-0.019
Wisconsin	4	2002	2010	-0.076	-0.118	-0.039
Colorado	2	1982	1990	-0.075	-0.117	-0.055
Colorado	1	1972	1980	-0.041	-0.067	-0.018
California	3	1992	2000	-0.041	-0.057	-0.018
Pennsylvania	2	1982	1990	-0.033	-0.056	-0.020
Florida	1	1972	1980	0.070	0.052	0.099

Table 1: Plans with no doubt as to the sign of the efficiency gap over the life of the plan (3+ elections).

Interestingly, these plans with an utterly unambiguous history of one-sided *EG* measures are almost all plans with efficiency gaps that are disadvantagous to Democrats. Michigan's 2002-2010 plan is on this list, as is the plan in place in Wisconsin 2002-2010 (average *EG* of -.076).

We examine this probability of "3+ consecutive *EG* measures with the same sign" for all of the plans with 3 or more elections in this analysis. 35% of 141 plans with 3 or more elections have at least a 95% probability of recording plans with *EG* measures with the same sign. If we relax this threshold to 75%, then 46% of plans with 3 or more elections exhibit *EG* measures with the same sign. Again, there is a reasonable amount of within-plan movement in *EG*, but in a large proportion of plans the efficiency gap appears to be a stable attribute of the plan.

10   A threshold for the efficiency gap

We now turn to the question of what might determine a threshold for determining if the *EG* is a *large and enduring* characteristic of a plan. We pose the problem as follows:

> for a given threshold $EG^* > 0$, what is the probability that having observed a value of $EG \geq EG^*$ we then see $EG < 0$ in the remainder of the plan?

To answer this we compute

- if (and optionally, when) a plan has $EG \geq EG^*$;

- conditional on seeing $EG \geq EG^*$, do we also observe $EG < 0$ (a sign flip) in the same districting plan?

For $EG < 0$, the computations are reversed: conditional on seeing $EG < EG^*$, do we also see $EG > 0$ under the same plan?

Figure 27 displays two proportions, plotted against a series of potential thresholds on the horizontal axis. The two plotted proportions are:

- the proportion of plans in which we observe an *EG* more extreme than the specified threshold EG^* (on the horizontal axis);

- among the plans that trip the specified threshold, the proportion in which we see a *EG* in the same plan with a different sign to EG^*.

Plans with at least one election with $|EG| > .07$ are reasonably common: over the entire set of plans analyzed here — and again, with the uncertainty in *EG* estimates taken into account — there is about a 20% chance that a plan will have at least one election with $|EG| < .07$.

Observing $EG > .07$ is not a particularly informative signal with respect to the other elections in the plan. Conditional on observing an election with $EG > .07$ (an efficiency gap favoring Democrats), there is an a 45% chance that *under the same plan* we will observe $EG < 0$. That is, making an inference about a plan on the basis of one election with $EG > .07$ would be quite risky. Estimates
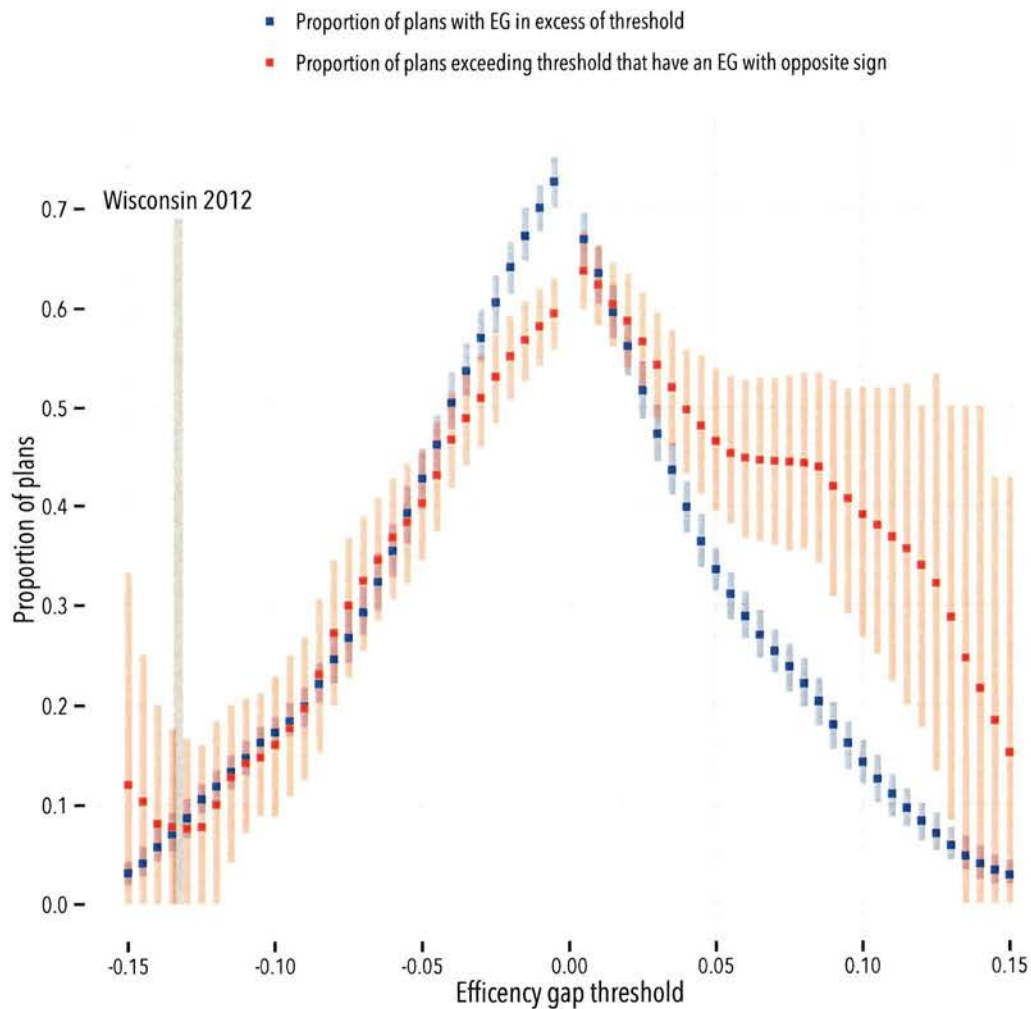
Figure 27: Proportion of plans that (a) record an efficiency gap measure at least as extreme as the value on the horizontal axis; and (b) conditional on at least one election with *EG* in excess of this threshold (not necessarily the first election), the proportion of plans where there is another election in the plan with an *EG* of the opposite sign.

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of the "sign flip" rate conditional on a plan generating a relatively large, pro-Democratic *EG* estimates are quite unreliable because there are so few plans generating large, pro-Democratic *EG* estimates to begin with; note the confidence intervals on the "sign flip" rate get very wide as the data become more scarce on the right hand side of the graph.

This finding is not symmetric. The "signal" $EG < -.07$ (an efficiency gap disadvantageous to Democrats) is much more informative about other elections in the plan than the opposite signal $EG > .10$ (a pro-Democratic efficiency gap). If any single election in the plan has $EG < -.07$ then the probability that *all* elections in the plan have $EG < 0$ is about .80. That is, there is a smaller degree of within-plan volatility in plans that disadvantage Democrats. Observing a relatively low value of the *EG* such as $EG < -.07$ is much more presumptive of a systematic and enduring feature of a redistricting plan than the opposite signal $EG > .07$. Efficiency gap measures that appear to indicate a disadvantage for Democrats are thus more reliable signals about the respective districting plan than efficiency gap measures indicating an advantage for Democrats.

We repeat this previous exercise, but restricting attention to more recent elections and plans, with the results displayed in Figure 28. Again we see that plans with pro-Democratic *EG* measures are quite likely to also generate an election with $EG < 0$; and again, note that estimates of the "sign flip" rate are quite unreliable because there are so few plans generating large, pro-Democratic *EG* estimates to begin with.
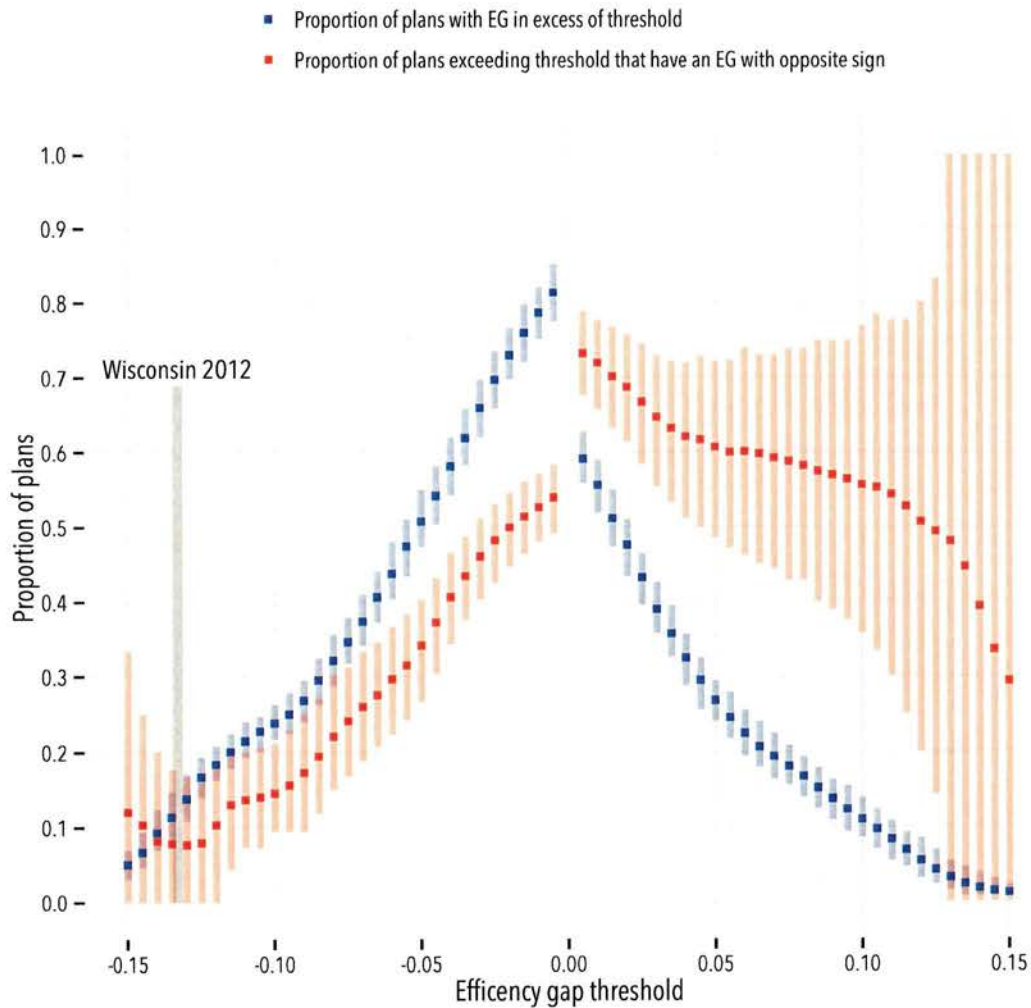
Figure 28: Proportion of plans in which (a) the efficiency gap measure is at least as extreme as the value on the horizontal axis; and (b) of these plans with at least one election with *EG* in excess of this threshold (not necessarily the first election), the proportion of plans in which there is another election in the plan with an *EG* of the *opposite* sign. Analysis of state legislative elections in 129 plans, 1991-present.

10.1   Conditioning on the first election in a districting plan

We also compute this probability of a sign flip in *EG* conditional on the magnitude of the *EG* observed with the *first* election under a districting plan. We perform this analysis twice: (1) for all elections in the data set and (2) for elections held under plans adopted in 1991 or later.

Figures 29 and 30 display the results of these analyses. First, over the full set of data (Figure 29) we observe a roughly symmetric set of *EG* scores in the first election under a plan. But we seldom see plans in the 1990s or later that commence with a large, pro-Democratic efficiency gap; the probability of a first election having *EG* > .10 is zero and the probability of a first election having *EG* > .05 (historically, not a large *EG*) is only about 11%. Negative efficiency gaps (not favoring Democrats) are much more likely under the first election in the post-1990 plans: almost 40% of plans open with *EG* < −.05 and about 20% of plans open with *EG* < −.10.

As noted earlier, pro-Democratic efficiency gaps seem much more fleeting than pro-Republican efficiency gaps. Conditional on a pro-Republican estimate of *EG* > 0 in the first election under a plan, the probability of seeing *EG* change sign over the life of the plan is almost always around 40% (1972-2014, Figure 29) or 50% (1991-present, Figure 30).

A very different conclusion holds if the first election observed under a plan indicates a sizeable efficiency gap working to disadvantage Democrats. In fact, the more negative the initial *EG* observed under a plan, the more confident we can be that we will continue to observe *EG* < 0 over the sequence of elections to follow under the plan. Conditional on a first election with *EG* < −.10, the probability of *all subsequent* efficiency gaps being negative is about 85%. Indeed, it is more likely than not that if the first election has *EG* < 0 (no matter how small), then so too will all subsequent elections (a 60% chance of this event).

Note that the Current Wisconsin Plan opens with *EG* = −.13 in the 2012 election. Analysis of efficiency gap measures in the post-1990 era (Figure 30) indicates that conditional on an *EG* measure of this size and sign, there is a 100% probability that *all subsequent elections* held under that plan will also have efficiency gaps disadvantageous to Democrats. That is, in the post-1990 era, if a plan's first election yields *EG* ≤ −.13, we *never* see a subsequent election under that plan yielding a pro-Democratic efficiency gap. In short, a signal such as
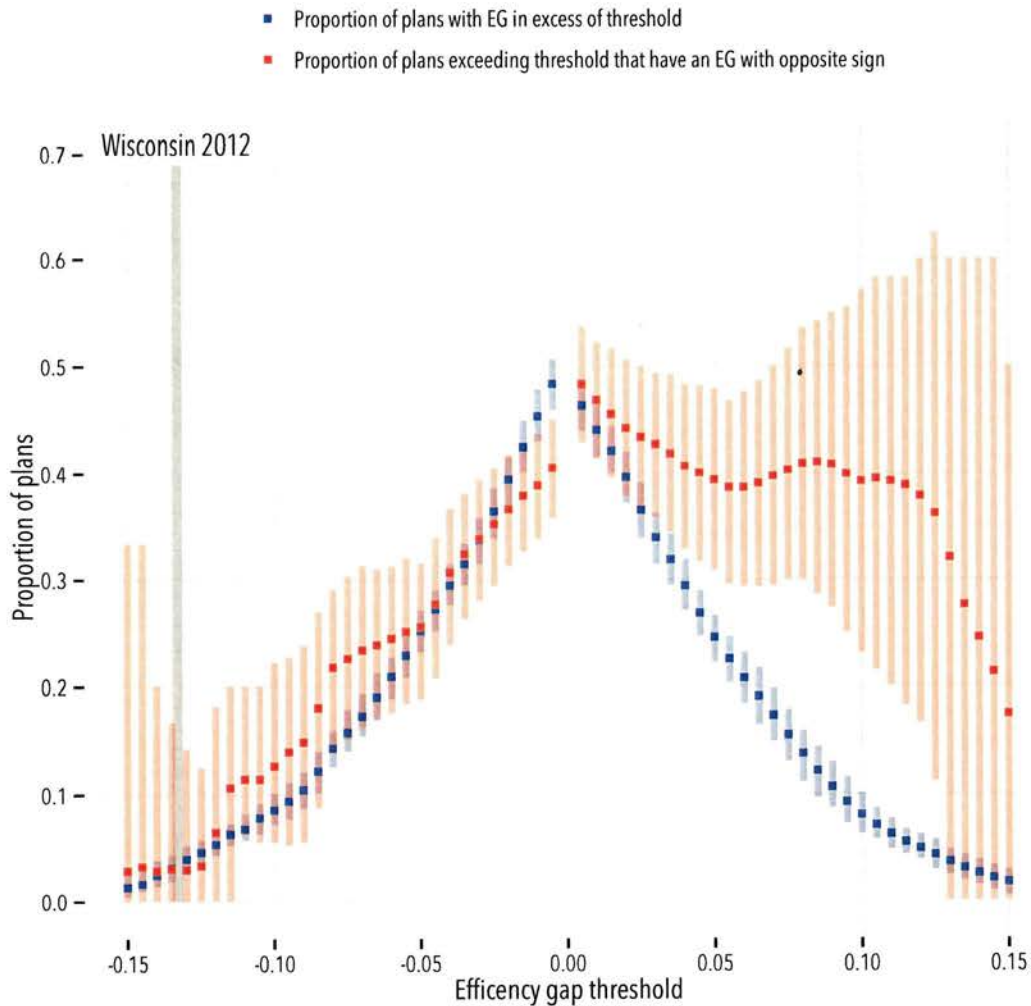
Figure 29: Proportion of plans in which the *first election* (a) has an efficiency gap measure at least as extreme as the value on the horizontal axis; and (b) conditional on the first election having an *EG* in excess of this threshold, the proportion of those plans in which a *subsequent election* has an *EG* of the *opposite* sign. Analysis of all state legislative elections in all plans with more than one election, 1972-present.
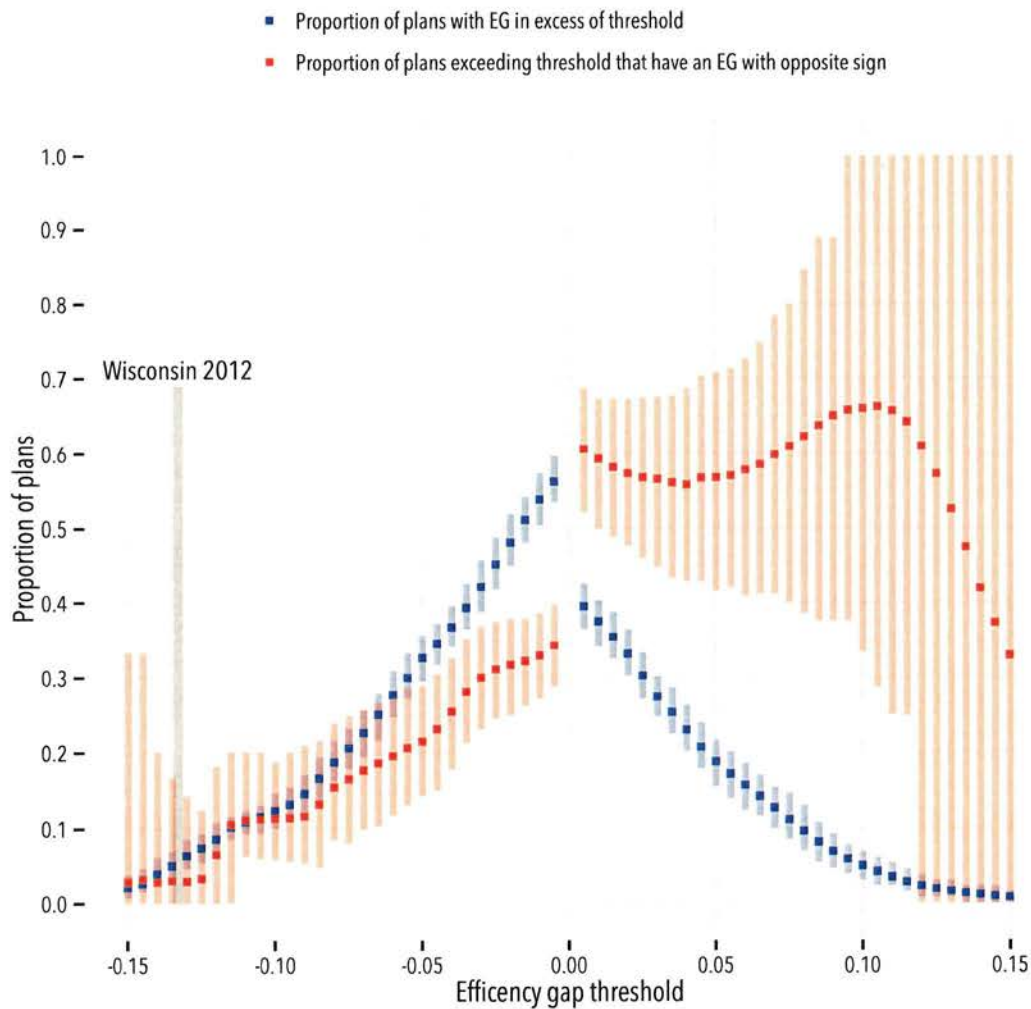
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Figure 30: Proportion of plans in which the *first election* (a) has an efficiency gap measure at least as extreme as the value on the horizontal axis; (b) conditional on the first election having an *EG* in excess of this threshold, the proportion of those plans in which a *subsequent election* has an *EG* of the *opposite* sign. Analysis of state legislative elections in 129 plans, 1991-present.

$EG \leq -.13$ is extremely reliable with respect to the districting plan that generated it, at least given the post-1990 record.

10.2 Conditioning on the first two elections in a districting plan

The difficulty with conditioning on the first two elections of a districting plan is that the data start to thin out. In the entire data set there simply aren't many districting plans that equal or surpass the two, relatively large values of EG observed in Wisconsin in the first two elections of the current plan. Indeed, the only cases with a similar history of EG measures like Wisconsin's in 2012 and 2014 are contemporaneous cases: Florida, Michigan, and North Carolina in 2012 and 2014.

We relax the threshold of what counts as a similar case to encompass plans whose first two efficiency gap measures are within 75% of the magnitude of Wisconsin's 2012 and 2014 EG measures; we now pick up 11 roughly comparable cases, 4 of which date from earlier decades. Again, this is testament to how recent decades have seen an increase in the prevalence of larger, negative values of the efficiency gap.

For the four prior cases we plot the sequence of EG estimates in Figure 31. With the exception of the last election in the highly unusual Delaware sequence (among the most volatile observed in the data set; see section 9.3), the other proximate cases all go on to record efficiency gap measures that are below zero over the balance of the plan. We stress that four cases doesn't provide much basis for comparison, but this only speaks to the fact that the sequence of two large, negative values of the efficiency gap in Wisconsin in 2012 and 2014 are virtually without historical precedent. We have little guidance from the historical record as to what to expect given an opening sequence of EG measures like the ones observed in Wisconsin. But the little evidence we do have suggests that a stream of similarly sized, negative values of the efficiency gap are quite likely over the balance of the districting plan.

10.3 An actionable EG threshold?

We now consider a more general question: what is an actionable threshold for the efficiency gap?
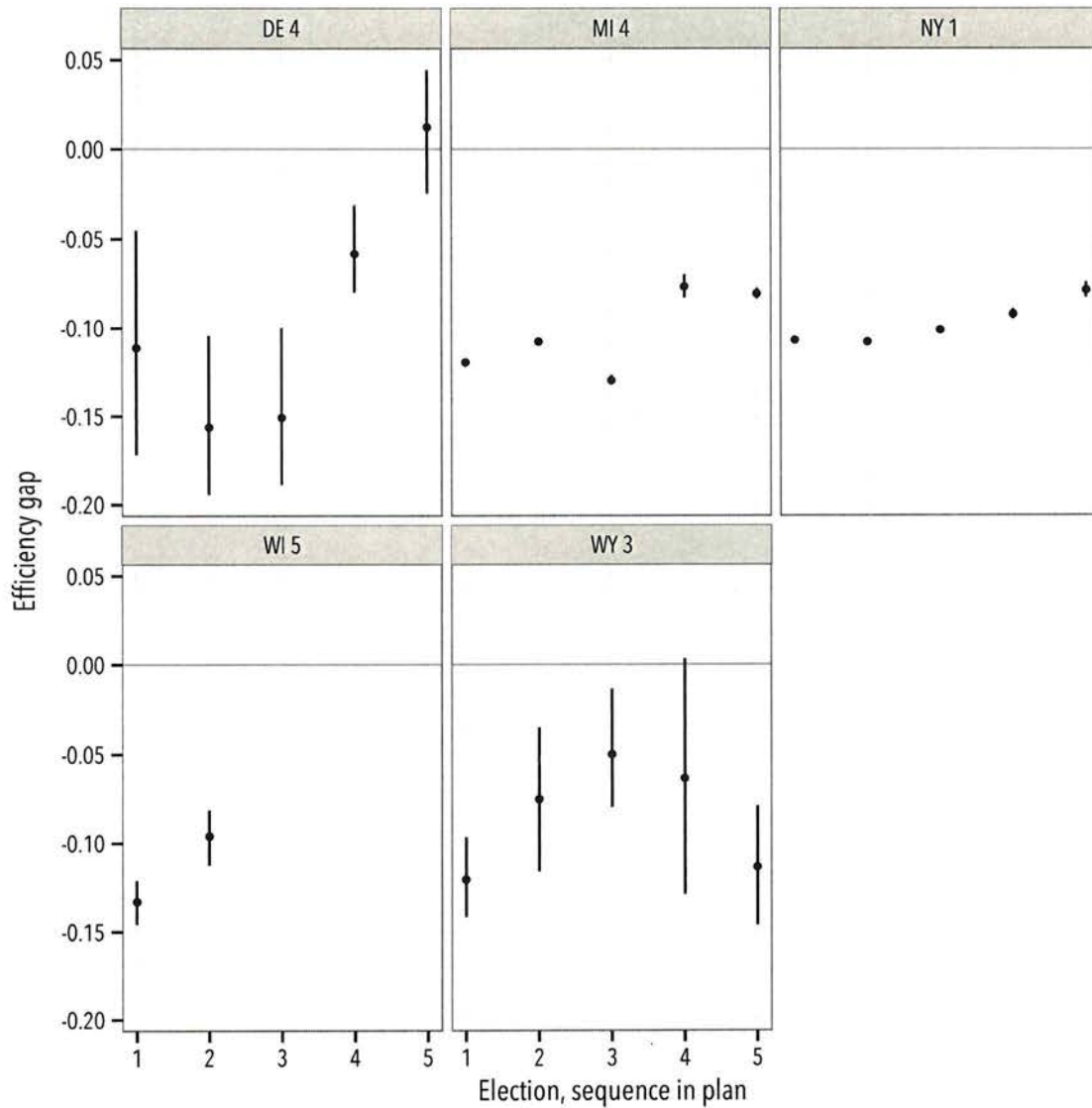
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Figure 31: Sequence of *EG* estimates observed over the life of districting plans, for pre-2010 plans with first two *EG* scores within 75% of the magnitude of the *EG* scores observed in Wisconsin in 2012 and 2014.

First, recall that relatively small *EG* estimates are likely to be swamped by their estimation uncertainty, depending on the proportion of uncontested districts in the given election and the statistical procedures. In every instance though, this is an empirical question; at least in the approach I present here, each *EG* estimate I generate is accompanied with uncertainty bounds, letting us assess the *probability* that a given estimate is positive or negative. Figure 19 provides a summary of the relationship between the size of the *EG* estimate and the "statistical significance" of the estimate (in the sense that the 95% credible interval for each estimate does not overlap zero).

Second, the distribution of *EG* statistics in the 1972-2014 period is roughly symmetric around zero. Reference to this empirical distribution might also be helpful in setting actionable thresholds, and answering the question "is the *EG* measure at issues large relative to those observed in the previous 40 years of state legislative elections?" Double digit *EG* measures (-.10 or below; .10 or above) are pushing out into the extremes of the observed distribution of *EG* estimates: *EG* estimates of this magnitude are comfortably past the question of "statistical significance." Just 15% of the 786 *EG* measures generated in this analysis are below -.07; fewer than 12% are greater than .07.

We do need to be careful when making these kinds of *relative* assessments about the magnitude of the efficiency gap. If pro-Republican gerrymandering is widespread, then it will be less unusual to see a large, negative *EG* estimate, at least contemporaneously; in fact this appears to the case in the post-2010 set of elections, where the longer-term distinctiveness of the Wisconsin numbers is matched and in some cases exceeded by other states also recording unusually large, negative *EG* estimates (e.g., Florida, Michigan, Virginia and North Carolina). This speaks to the utility of the longer-term, historical analysis in both Stephanopolous and McGhee (2015) and in this report. It it is important to remember that *EG* = 0 corresponds to a partisan symmetry in wasted vote rates; we should be wary of arguments that would lead us to tolerate small to moderate levels of the efficiency gap because they appear to be the norm in some period of time, or in some set of jurisdictions.

In any litigation, much will turn on the question of *durability* in the efficiency gap, and this concern motivates much of the preceeding analysis. We cannot wait until three, four, or more elections have transpired under a plan in order to

assess its properties. Courts will be asked to assess a plan based on only one *EG* estimate, or two. Analysis of the sort I provide here will be informative in these cases, assessing whether the estimate is so large that the historical record suggests that the first election's *EG* estimate is a reliable indicator as an enduring feature of the plan, and not an election-specific aberration.

10.4   Confidence in a given threshold

Figures 32 and 33 present my estimate of a "confidence rate" associated with a range of possible "actionabale thresholds" for the efficiency gap. These figures essentially re-package the information shown in Figures 29 and 30. Suppose a court rejects or amends every plan with a first election *EG* more extreme (further away from zero) than the proposed threshold shown on the horizontal axis of these graphs. A certain number of plans fail to trip this threshold, and so are upheld by the courts if they are challenged. Of those that do trip the threshold and are rejected by a court, what is our confidence that the plan, if left undisturbed, would go on to produce a sequence of *EG* measures that lie on the same side of zero as the threshold? Combining these two proportions gives us an overall confidence measure associated with a particular threshold.

This analysis points to a benchmark of about -.06 or -.07 as the actionable threshold given a first election with $EG < 0$ (Democratic disadvantage) or .08 or .09 when we observe $EG > 0$ in the first election under a redistricting plan (Democratic advantage); the asymmetry here reflects the fact that districting plans evincing apparent Democratic advantages are not as durable or as common (in recent decades) as plans presenting evidence of pro-Republican gerrymanders. At these proposed benchmarks the overall confidence rates are estimated to be 95%, with this confidence rate corresponding to a benchmark used widely in statistical decision-making in many fields of science.

Figures 32 and 33 also highlight that $EG < -.07$ or $EG > .07$ would be an extremely conservative threshold. On the pro-Democratic side, $EG > .07$ is a rare event. Districting plans unfavorable to Democrats, with $EG < -.07$ are not unusual; about 10% of post-1990 plans generate *EG* measures below -.07; the proportion of these plans that then record a sign flip is only about 10%; see Figure 30. If the presumption was that any plan with a first election showing
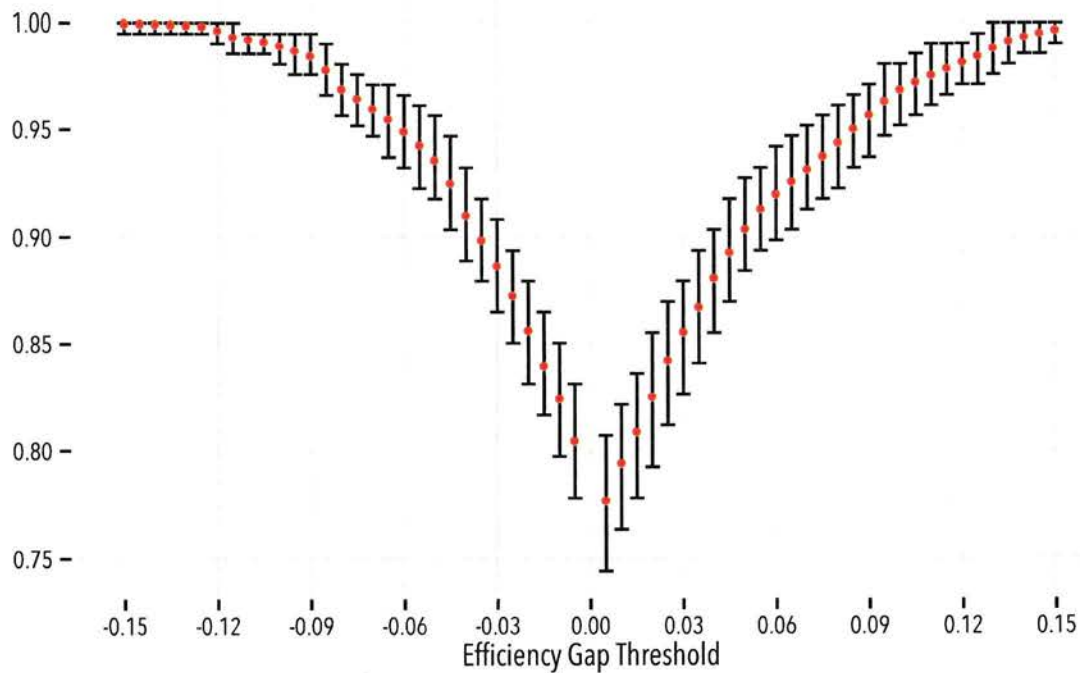
Figure 32: Proportion of plans being either (a) undisturbed or (b) if left undisturbed, would continue to produce one-sided partisan advantage (no sign change in subsequent *EG* measures), as a function of the proposed "first election," efficiency gap threshold (horizontal axis), based on analysis of all multi-election districting plans, 1972-2014. The proportion on the vertical axis is thus interpretable as the "confidence level" associated with intervention at a given first election, *EG* threshold. Vertical lines indicate 95% credible intervals.
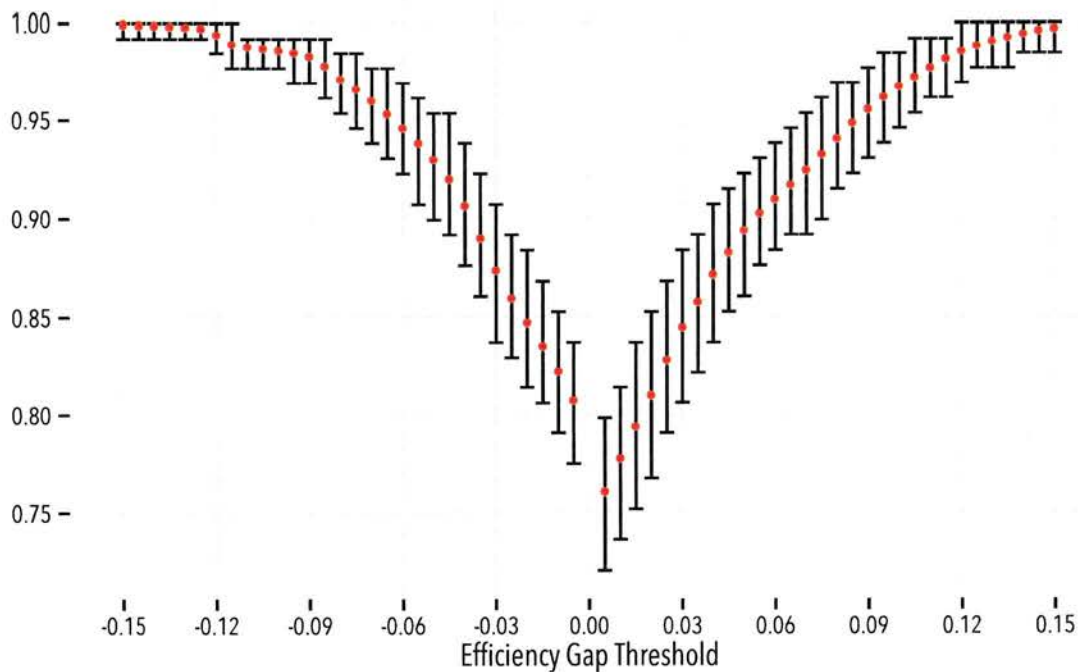
Figure 33: Proportion of plans being either (a) undisturbed or (b) if left undisturbed, would continue to produce one-sided partisan advantage (no sign change in subsequent *EG* measures), as a function of the efficiency gap threshold (horizontal axis), based on analysis of post-1990 plans and elections. The proportion on the vertical axis is thus interpretable as the "confidence level" associated with intervention at a given first election, *EG* threshold. Vertical lines indicate 95% credible intervals.

$EG < -.07$ would be rejected, then we'd be "wrong" to do so in about 10% of those cases (in the sense that if left in place, the plan would go on to produce at least one election with $EG > 0$). The total error rate in this case would be *1% of all plans*. Equivalently, 99% of all plans would be either left undisturbed or appropriately struck down or amended by a court, given the historical relationship between "first election" EG measures and the sequence of EG measures that follow.

11   Conclusion: the Wisconsin plan

Wisconsin has had two elections for its legislature under the plan currently in place, in 2012 and 2014. Both elections were subject to considerable rates of uncontestedness (27 of 99 seats in 2012 and 52 of 99 seats in 2014), but these rates are hardly unusual; Wisconsin's rates of uncontested districts in these two elections are low to moderate compared to other states. We use the relationship between state legislative election results and presidential election results in state legislative districts (and incumbency) to impute two-party vote shares in uncontested seats (see section 7.2). With a complete set of vote shares, we then compute average district-level Democratic two-party vote share (V) and note the share of seats (contested and uncontested) won by Democratic candidates (S).

In Wisconsin in 2012, and after imputations for uncontested seats, V is estimated to be 51.4% (± 0.6); recall that Obama won 53.5% of the two-party presidential vote in Wisconsin in 2012. Yet Democrats won only 39 seats in the 99 seat legislature ($S = 39.4\%$), making Wisconsin one of 7 states in 2012 where we estimate $V > 50\%$ but $S < 50\%$ and where Democrats failed to win a majority of legislative seats despite $V > 50$ (the other states are Florida, Iowa, Michigan, North Carolina and Pennsylvania). In 2014, V is estimated to be 48.0% (± 0.8) and Democrats won 36 of 99 seats ($S = 36.4\%$).

This provides the raw ingredients for computing the efficiency gap (EG) for these two elections (recalling equation 1). Repeating these calculations across a large set of state elections provides a basis for assessing whether the efficiency gap estimates for Wisconsin in 2012 and 2014 are noteworthy.

Wisconsin's efficiency gap measures in 2012 and 2014 are -.13 and -.10 (to two digits of precision). These negative estimates indicate the disparity between
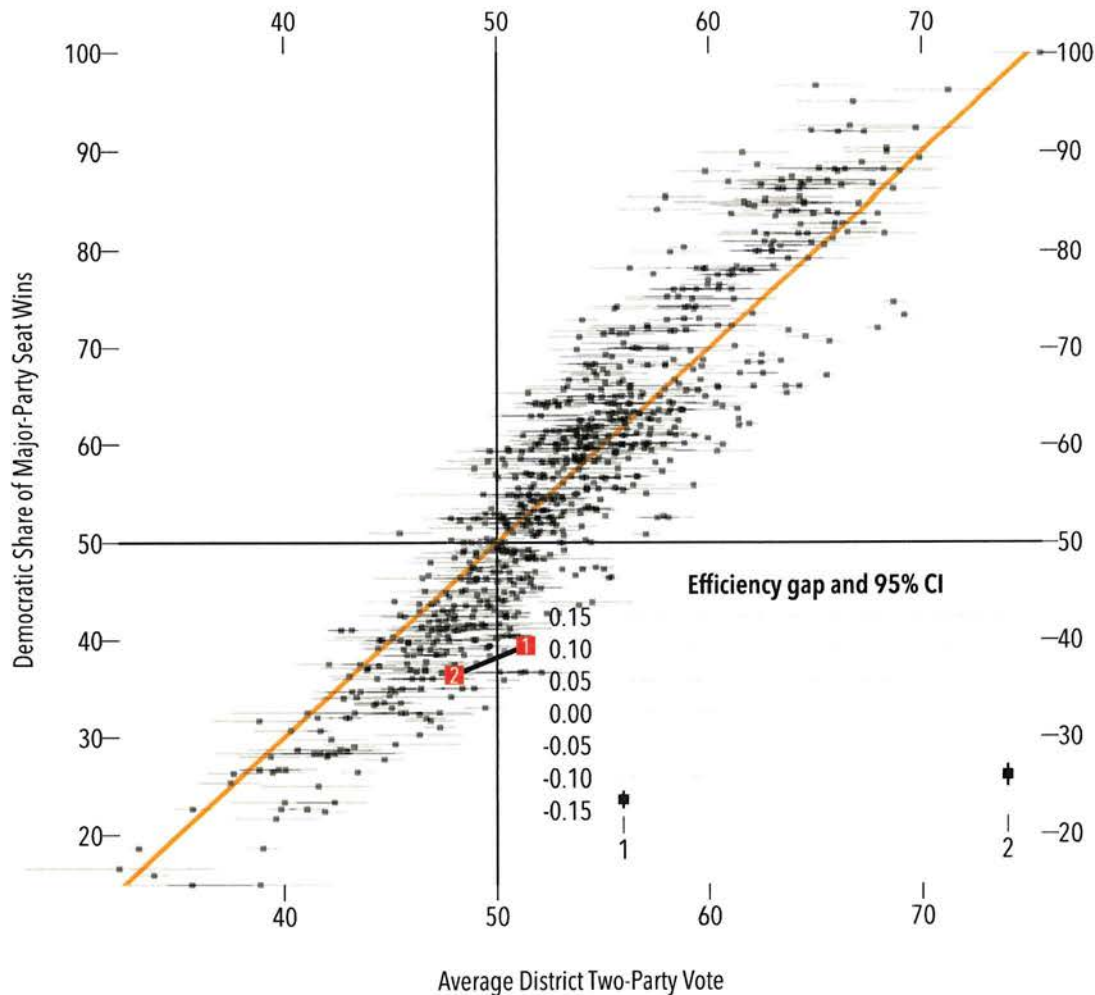
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Figure 34: Seats, votes and the efficiency gap recorded under the Wisconsin plan, 2012 and 2014. Orange line shows the seats-votes curve if the efficiency gap were zero; the efficiency gap in any election is the vertical distance from the corresponding data point to the orange line. Gray points indicate elections from other states and elections (1972-2014). Horizontal lines cover a 95% credible interval for Democratic average district two-party vote share, given imputations in uncontested districts. The inset in the lower right shows the sequence of efficiency gap measures recorded under the plan; vertical lines are 95% credible intervals.

vote shares and seat shares in these elections, which in turn, is consistent with partisan gerrymandering. The negative *EG* estimates generated in 2012 and 2014 are unusual relative to Wisconsin's political history (see Figure 35). The 2012 estimate is the largest *EG* estimate in Wisconsin over the 42 year period spanned by this analysis (1972-2014); the 2014 estimate is the fourth largest (behind 2012, 2006 and 2004, although it is essentially indistinguishable from the 2004 estimate). The jump from the *EG* values being recorded towards the end of the previous districting plan in Wisconsin (2002-2010) to the 2012 and 2014 values strongly suggests that the districting plan adopted in 2011 is a driver of the change, systematically degrading the efficiency with which Democratic votes translate into Democratic seats in the Wisconsin state legislature.

Wisconsin's 2012 and 2014 *EG* estimates are also large relative to the *EG* scores being generated contemporaneously in other state legislative elections. Figure 36 shows *EG* estimates recorded under plans in place since the post-2010 census round of redistricting; the *EG* estimates are grouped by state and ordered, with Wisconsin highlighted. We have 78 *EG* scores from elections held since the last round of redistricting. Among these 79 scores, Wisconsin's *EG* scores rank eigth (2012, 95% CI 3 to 12) and seventeenth (2014, 95% CI 13 to 20).

The historical analysis reported above supports the proposition that Wisconsin's *EG* scores are likely to endure over the course of the plan. Few states ever record *EG* scores as large as those observed in Wisconsin; indeed, there is virtually no precedent for the lop-sided, two election sequence of *EG* scores generated in Wisconsin in 2012 and 2014 in the data I analyze here (1972-2014). The closest historical analogs suggest that a districting plan that generates an opening, two-election sequence of *EG* scores like those from Wisconsin will continue to do so, generating seat shares for Democrats that are well below those we would expect from a neutral plan.

The Current Wisconsin Plan is generating estimates of the efficiency gap far in excess of the proposed, actionable threshold (see section 10). In 2012 elections to the Wisconsin state legislature, the efficiency gap is estimated to be -.13; in 2014, the efficiency gap is estimated to be -.10. Both measures are separately well beyond the conservative .07 threshold suggested by the analysis of efficiency gap measures observed from 1972 to the present.
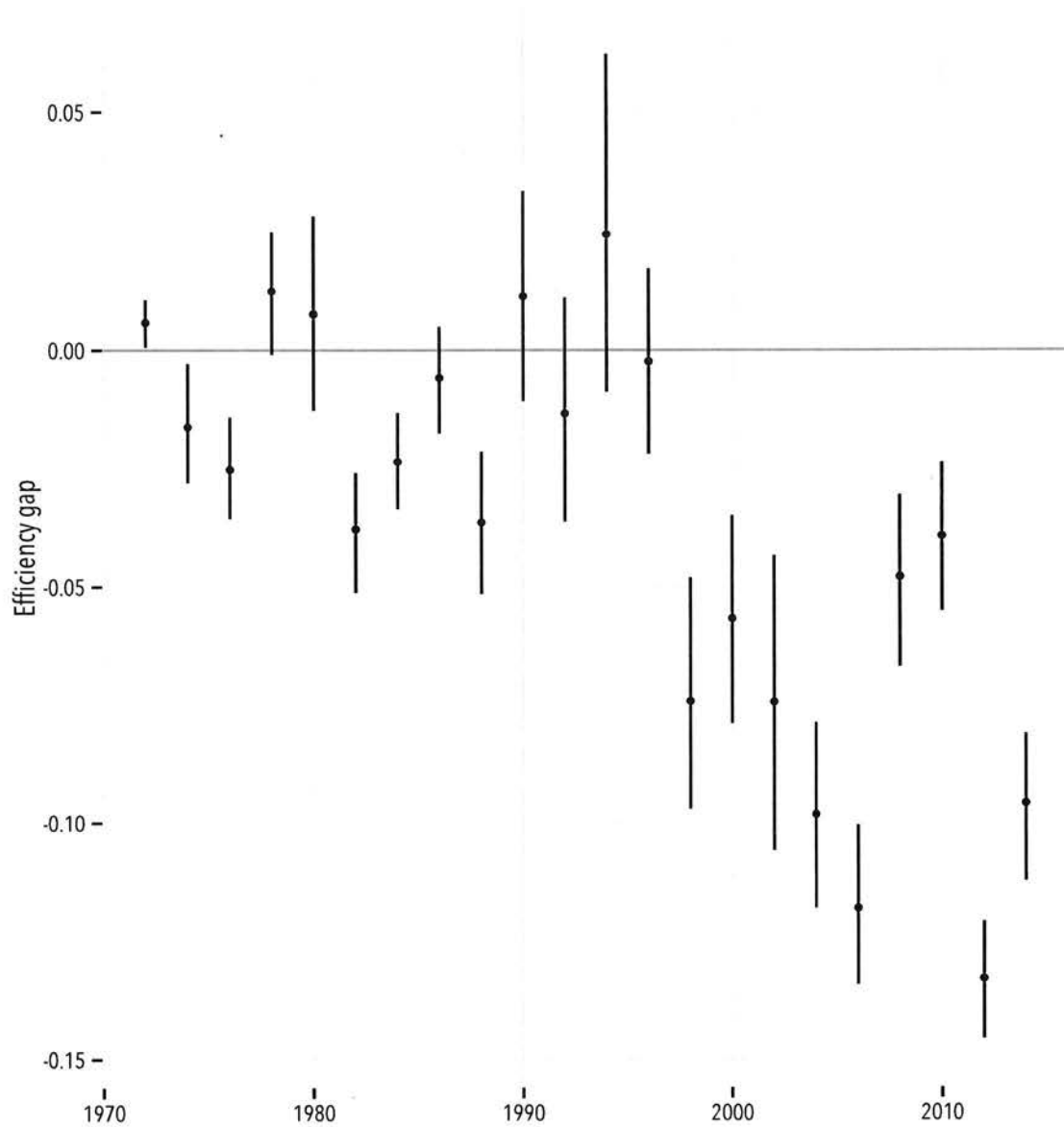
Figure 35: History of efficiency gap estimates in Wisconsin, 1972-2014. Vertical lines indicate 95% credible intervals.
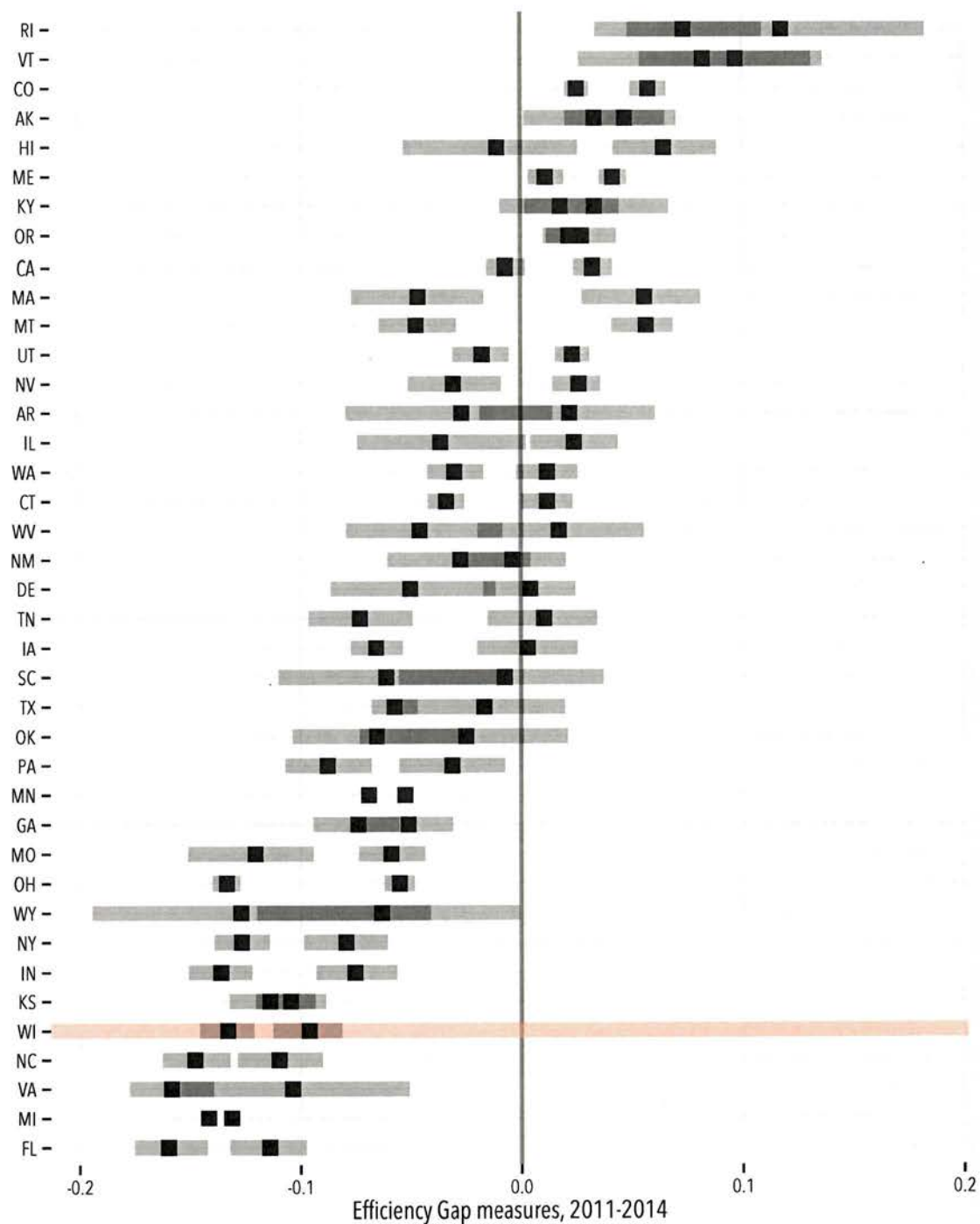
Figure 36: *EG* estimates in 2012 and 2014, grouped by state and ordered. Horizontal bars indicate 95% credible intervals.

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References

Butler, David and Donald Stokes. 1974. *Political change in Britain: the evolution of electoral choice*. London: Macmillian.

Edgeworth, FY. 1898. "Applications of the Theory of Probability." *JR Statist. Soc* 51:534.

Gelman, Andrew and Gary King. 1990. "Estimating the Consequences of Electoral Redistricting." *Journal of the American Statistical Association* 85:274–82.

Kendall, M. G. and A. Stuart. 1950. "The Law of Cubic Proportion in Election Results." *The British Journal of Sociology* 1(3):183–196.

McGhee, Eric. 2014. "Measuring Partisan Bias in Single-Member District Electoral Systems." *Legislative Studies Quarterly* 39(1):55–85.

Niemi, Richard G. and Patrick Fett. 1986. "The Swing Ratio: An Explanation and an Assessment." *Legislative Studies Quarterly* 11:75–90.

Niemi, Richard G. and Simon Jackman. 1991. "Bias and Responsiveness in State Legislative Districting." *Legislative Studies Quarterly* 16:183–202.

Stephanopolous, Nicholas O. and Eric M. McGhee. 2015. "Partisan Gerrymandering and the Efficiency Gap." *University of Chicago Law Review* 82. Forthcoming.

Tufte, Edward R. 1973. "The Relationship Between Seats and Votes in Two-Party Systems." *American Political Science Review* 67:540–554.