THE CONSEQUENCES OF CONSEQUENTIALIST CRITERIA

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The two most significant approaches to redistricting to emerge in the last generation are both *consequentialist. That is, they both urge authorities to design—and courts to evaluate—district plans on the basis of the plans' likely electoral consequences. According to the partisan fairness approach, plans should treat the major parties symmetrically in terms of the conversion of votes to seats. According to the competitiveness approach, districts should be as electorally competitive as is feasible.*

Unnoticed by the literature, a substantial number of jurisdictions, in both America and Australia, have heeded these calls from the academy. In sum, consequentialist criteria have been used to shape the district plans for close to three hundred elections over the last four decades. In this paper, I provide an initial assessment of the record of these criteria. The record, for the most part, is mediocre. Controlling for other relevant factors, partisan fairness requirements have not made district plans more symmetric in their treatment of the major parties. Nor have competitiveness requirements made elections more competitive. The likely explanations are the poor drafting, low prioritization, and need for unrealistically accurate electoral forecasts of most consequentialist criteria.

However, other common proposals for redistricting reform—in particular, the use of neutral institutions such as commissions—have performed much better. Elections in Australia, all of which rely on commissions, are much fairer and more competitive than their American counterparts. In the United States, commission usage increases both partisan fairness in state legislative elections and competitiveness in congressional elections, even controlling for an array of other variables. Ironically, it seems that consequentialist criteria cannot achieve their own desired consequences—but that non-consequentialist approaches can.

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INTRODUCTION

The two most significant approaches to redistricting to emerge in the last generation are both *consequentialist*. That is, they both urge authorities to design—and courts to evaluate—district plans on the basis of the plans' likely electoral consequences. The partisan fairness approach, associated primarily with political scientists such as Bernard Grofman and Gary King, argues that plans should treat the major political parties symmetrically. Each party should be equally able to convert its support from voters into legislative seats. Deviations from symmetry should be avoided by line-drawers and relied on by courts to invalidate biased plans.

The competitiveness approach, linked to law professors such as Samuel Issacharoff and Richard Pildes, contends that districts should be as electorally competitive as is feasible. Competition is the lifeblood of democracy because it makes representatives accountable to voters and results in a legislature that is responsive to changes in the electorate's sentiments. It should therefore be prioritized over all other considerations when the time comes to reshape districts. It should also be invoked by courts to strike down especially uncompetitive plans.

Almost unnoticed by the literature, a number of jurisdictions, both in America and abroad, have heeded these calls from the academy and adopted consequentialist redistricting criteria. With respect to partisan fairness, South Australia enacted a law in 1991 requiring districts to be drawn so that if a party wins a majority of the popular vote, it will also win a majority of seats in the legislature. Delaware and Hawaii have longstanding provisions barring district plans that "unduly favor" a party. And legislatures, commissions, and courts in thirteen other U.S. states have taken partisan fairness into account on at least one occasion since 1966.

With respect to competitiveness, laws in Arizona, Washington, and Wisconsin include (or formerly included) it as a mandatory line-drawing criterion. Legislatures, commissions, and courts in six other U.S. states also have sought voluntarily to craft competitive districts at least once in the modern redistricting era. In total, partisan fairness and competitiveness have been used to design the district plans for close to *three hundred* South Australian, congressional, and state legislative elections over the last four decades. This is a far larger universe of cases than previously has been realized.

In this paper, I investigate the consequences of these consequentialist criteria. I investigate, in other words, whether plans enacted pursuant to a partisan fairness requirement actually treat the major parties more symmetrically, and whether plans enacted pursuant to a competitiveness criterion in fact result in more competitive elections. To carry out this investigation, I compiled the results of all federal and state elections held in Australia since 1990, as well as South Australian state election results since 1950. I also compiled all American congressional and state legislative election results since 1966, when the one-person, one-vote rule was first implemented nationwide.

Once I assembled this data, I calculated several measures of partisan fairness and competitiveness for each jurisdiction in each election year. My measures of partisan fairness were (1) *partisan bias*, i.e., the divergence in the share of seats that each party would win given the same share of the statewide vote; and (2) the *efficiency differential*, i.e., the gap between the parties' respective "wasted" votes. My measures of competitiveness were (1) *average margin of victory*, i.e., the average difference in vote shares between the winning and losing candidates; (2) *share of competitive seats*, i.e., the proportion of races decided by less than a twenty-point margin; and (3) *electoral responsiveness*, i.e., the rate at which a party gains or loses seats given changes in its overall vote share. All of these metrics are widely used by political scientists.

At first glance, my results seem promising for advocates of consequentialist criteria. South Australia has enjoyed lower levels of partisan bias and smaller efficiency differentials than other Australian states since adopting its partisan fairness rule in 1991. So too have U.S. states that have employed similar requirements, in both congressional and state legislative elections. In terms of competitiveness as well, average margins of victory are smaller, shares of competitive seats are larger, and rates of electoral responsiveness are higher in U.S. states that explicitly have tried to draw competitive districts. These effects are particularly pronounced at the state legislative level.

Unfortunately, many of these results become less impressive when the data is subjected to more sophisticated analysis. For example, South Australia's partisan bias levels and efficiency differentials are *not* lower than those that it featured prior to adopting its partisan fairness requirement. Nor does South Australia's current advantage over its fellow states remain statistically significant when controls are added for factors such as the year, the level of election, and the number of districts. Similarly, statistical significance disappears in most (though not all) U.S. models when controls are added for the redistricting institution, other line-drawing criteria, whether the state government was unified or divided, and other relevant variables. One exception is that partisan fairness requirements continue to reduce the efficiency differential in

congressional elections. A more important exception is that competitiveness criteria continue to decrease the average margin of victory and increase the share of competitive seats and the level of electoral responsiveness in state legislative elections.

What are we to make of this picture? The most obvious lesson is that consequentialist criteria have not, to date, delivered their promised consequences, at least not in their promised magnitude. Levels of partisan fairness and competitiveness simply have not risen very much even when jurisdictions have enacted requirements specifically aimed at raising them. This may be because the provisions were drafted poorly—for instance, what does it mean to "unduly favor" a party? Or it may be because the provisions were not prioritized very highly, but rather were considered only after several other criteria were applied first. Or, most discouragingly, it may be because redistricting authorities are largely incapable of predicting future election results. Consequentialist criteria may not work because electoral consequences cannot be forecast accurately enough.

A second implication is that, to the extent that consequentialist criteria *do* work, they do so most clearly in the case of competitiveness requirements applied to state legislative elections. This is the one domain in which the use of consequentialist criteria remained significant even after adding the full panoply of controls. It is possible that competitiveness is easier for line-drawers to predict than partisan fairness. The various measures of competitiveness are simpler to compute than their partisan fairness counterparts, and they are linked as well to foreseeable factors such as the presence of incumbents. It is also possible that state legislative elections are a more favorable setting for consequentialist criteria than congressional elections. Their lower stakes may make district-drafters more willing to pursue goals other than partisan or bipartisan advantage. And their larger numbers of districts may provide drafters with more cartographic flexibility while also improving the accuracy of the various metrics (which are more volatile when the number of districts is small).

A final point is that common proposals for redistricting reform *other* than the adoption of consequentialist criteria seem to work quite well. South Australia's partisan bias levels and efficiency differentials did not drop when it adopted its partisan fairness requirement, but they plummeted after it instituted an independent commission in 1975. Australian elections as a whole, all of which rely on commissions, are much more symmetric in their treatment of the major parties, and much more competitive, than their American analogues. In the United States, commission usage increases partisan fairness in state legislative elections and boosts competitiveness in congressional elections, even controlling for an array of other factors. The use of familiar line-drawing criteria such as respect for political subdivisions also has a strong pro-competitive effect at both the state legislative and congressional levels. Accordingly, the relative ineffectiveness of consequentialist criteria is no cause for despair. Less exotic reform options can achieve many of the same consequentialist goals, while also realizing a number of other desirable values.

The paper proceeds as follows. Part I introduces the partisan fairness and competitiveness approaches and discusses their normative foundations. Part II, the paper's analytical core, examines empirically the consequences of consequentialist criteria. Finally, Part III explores some of the legal and policy implications of the previous section's findings.

I. CONSEQUENTIALIST CRITERIA IN THEORY

Two approaches to redistricting have dominated the academic debate over the last generation: the partisan fairness approach, advocating that district plans treat the major parties symmetrically, and the competitiveness approach, advising that districts be made as competitive as is feasible.[1] Both of these approaches are consequentialist because they urge that districts be drawn on the basis of their likely electoral consequences. In this Part, I summarize the two approaches, present the normative theories that underlie them, and set forth some of their respective strengths and weaknesses.

A. Partisan Fairness

The partisan fairness approach, which is "virtually a consensus position of the [political science] community,"[2] asserts that district plans should not vary in their treatment of the major parties. Each party should be equally able to convert its support among the electorate into seats in the legislature. If one party receives a certain share of seats for a certain share of votes, then the other party should receive the same seat share for this vote share. Importantly, partisan fairness is not the same thing as proportional representation. It is perfectly permissible for one party to receive, say, 65% of seats for 55% of votes, as long as the other party also would receive 65% of seats were it to muster 55% of votes.[3]

A particular kind of equality principle motivates the partisan fairness approach. It is a principle that applies to political parties, not to other organized groups or individuals. It is also a principle whose touchstone is the conversion of statewide votes to statewide seats, not ballot access or financial resources or efficacy in campaigning. Parties are the key entities that are understood to be affected by redistricting, and vote-seat conversion is the key concept that is understood to be at issue. As Grofman and King put it, the "idea is that candidates of each political party should have equal opportunity in translating voter support into the division of legislative seats between the parties."[4]

Although its reasoning is notoriously difficult to grasp, the Supreme Court decision that first recognized a cause of action for gerrymandering, *Davis v. Bandemer*,[5] relied in part on this partisan equality principle. The claim whose validity the Court acknowledged was that "each political group in a State should have the same chance to elect representatives of its choice as

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[1] *See* Adam B. Cox, *Partisan Gerrymandering and Disaggregated Redistricting*, 2004 SUP. CT. REV. 409, 419-27 (2004) (presenting as two "conventional accounts" of redistricting the "partisan bias account" and the "anticompetition account").

[2] Bernard Grofman & Gary King, *The Future of Partisan Symmetry as a Judicial Test for Partisan Gerrymandering After* LULAC v. Perry, 6 ELECTION L.J. 2, 6 (2007); *see also* Andrew Gelman & Gary King, *Enhancing Democracy Through Legislative Redistricting*, 88 AM. POL. SCI. REV. 541, 554 (1994) ("The vast majority of American political scientists have adopted the normative position that healthy representative democracies have low levels of partisan bias . . . .").

[3] *See* Grofman & King, *supra* note 2, at 8.

[4] *Id.*

[5] 478 U.S. 109 (1986).

any other political group."[6] Partisan fairness played almost no role in the Court's 2004 gerrymandering decision, *Vieth v. Jubelirer*,[7] but it resurfaced in the 2006 case of *League of United Latin American Citizens (LULAC) v. Perry*.[8] In his opinion for the Court, Justice Kennedy declined to endorse the partisan fairness approach, but he did note "its utility in redistricting planning and litigation."[9] Other Justices were not so circumspect. Justice Stevens observed that the approach is "widely accepted by scholars,"[10] praised it as a "helpful (though certainly not talismanic) tool,"[11] and analyzed Texas's district plan in terms of the symmetry of its treatment of the major parties.[12] Similarly, Justice Souter cited the "utility of a criterion of symmetry as a test" and remarked that "[i]nterest in exploring this notion is evident."[13]

The appeal of the partisan fairness approach is that it captures the primary harm that is caused by gerrymandering. A district plan is typically considered a gerrymander in favor of a party precisely because the plan enables the party to convert votes to seats more efficiently than its opponent. A party is typically deemed the victim of gerrymandering precisely because its popular support does not translate into legislative strength with the same ease as its adversary's. The partisan fairness approach also is attractive because it focuses on a jurisdiction as a whole, not on the shape or composition of individual districts. There are many innocent explanations for districts' appearance and makeup, so it is preferable to concentrate on the overall rather than the local picture. The approach's final advantage is that it lends itself easily to quantification. As I discuss in Part II, metrics such as partisan bias and the efficiency differential reveal how fair or unfair a plan is to the major parties.

On the other hand, a problem with the partisan fairness approach is that unequal treatment of the parties is often the result of a jurisdiction's underlying political geography, not a deliberate attempt to gerrymander. For example, if Democrats tend to live in urban areas that are overwhelmingly Democratic, while Republicans live mostly in suburbs and exurbs that are more evenly divided, then any plan that respects subdivision boundaries will be biased in a Republican direction.[14] Unequal partisan *effect* is not a sure sign of illicit partisan *intent*. Another issue with the approach is that it overlooks all values implicated by redistricting other than the treatment of the parties in terms of vote-seat conversion. To name a few, voter participation, minority influence, and the quality of representation all are influenced by how districts are drawn, but all are paid no heed by the approach. A final, more technical concern is that the usual metrics of partisan fairness are somewhat unreliable. Partisan bias and efficiency differential scores

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[6] *Id.* at 124.

[7] 541 U.S. 267 (2004).

[8] 548 U.S. 399 (2006).

[9] *Id.* at 420.

[10] *Id.* at 467 (Stevens, J., concurring in part and dissenting in part).

[11] *Id.* at 468 n.9.

[12] *See id.* at 467.

[13] *Id.* at 483 (Souter, J., concurring in part and dissenting in part).

[14] *See* Jowei Chen & Jonathan Rodden, Using Legislative Districting Simulations to Measure Electoral Bias in Legislatures 30 (July 15, 2010) (finding that district plans of most U.S. states containing major cities are biased in Republican direction); Jonathan Rodden, *The Geographic Distribution of Political Preferences*, 13 ANNUAL REV. POL. SCI. 321, 332 (2010) (noting that redistricting biases against leftist parties have existed in many countries "going back to the turn of the century").

fluctuate from election to election, especially when a jurisdiction has few districts, and the former measure relies upon the problematic assumption of uniform partisan swing.[15]

Despite these difficulties, at least sixteen jurisdictions—South Australia and fifteen U.S. states—have used partisan fairness as a criterion to design the district plans for at least 193 elections. Whether the criterion has actually achieved its aim of making plans more symmetric in their treatment of the major parties has never previously been investigated.[16] It is to this important question that I turn in Part II.

B. Competitiveness

The other consequentialist approach to redistricting to emerge in recent years prizes competitiveness rather than partisan fairness. It contends that districts in a jurisdiction should be drawn so that they are as competitive as is reasonably possible. Not *all* districts should be made competitive, because some geographic regions are highly uncompetitive and their integrity usually should be respected.[17] But what is clearly unacceptable is the deliberate suppression of the competition that would arise in a jurisdiction if district lines were drawn pursuant to conventional redistricting criteria. As Issacharoff writes, "The question is . . . whether districts may be rigged so as to diminish or eliminate competition that would otherwise emerge from redistricting not controlled by incumbent partisan power."[18]

The normative reason to prioritize competitiveness so highly is that it promotes the realization of several important democratic values. First, individual politicians are more accountable to voters when districts are competitive. Closer races make it easier for voters to oust from office politicians of whose records they disapprove.[19] Second, competitiveness

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[15] The uniform swing assumption stipulates that parties' *district-specific* vote shares change (or "swing") by the same margin as their *statewide* vote shares. For example, if the Democrats received 45% of the vote in a state, and a researcher wanted to know how many seats they would have won if they had received 50%, the researcher would simply add 5% to the actual Democratic vote share in each district. *See* Nicholas O. Stephanopoulos, *Spatial Diversity*, 125 HARV. L. REV. 1903, 1963-64 (2012). The assumption usually generates accurate seat share estimates, but is still considered "neither theoretically nor empirically satisfying" by certain political scientists. Simon Jackman, *Measuring Electoral Bias: Australia, 1949–93*, 24 BRIT. J. POL. SCI. 319, 335 (1994).

[16] To be more precise, this issue has never been investigated with respect to *American* jurisdictions. Jenni Newton-Farrelly has written an illuminating series of articles on the South Australian case, finding that the state's partisan fairness requirement has generally performed well. *See* Jenni Newton-Farrelly, From Blindfolds to Naked Emperors [hereinafter Newton-Farrelly, Blindfolds]; Jenni Newton-Farrelly, *From Gerry-Built to Purpose-Built*, 45 REPRESENTATION 471 (2009) [hereinafter Newton-Farrelly, *Gerry-Built*]; Jenni Newton-Farrelly, *Wrong Winner Election Outcomes in South Australia* (South Australian Parliament Research Library, Research Paper No. 21, 2010) [hereinafter Newton-Farrelly, *Wrong Winner*].

[17] *See* Samuel Issacharoff & Pamela S. Karlan, *Where to Draw the Line?*, 153 U. PA. L. REV. 541, 574 (2004) ("Nor is our claim that an electoral system requires every district to be competitive. There will always be Berkeley and Orange County . . . ."); Richard H. Pildes, *The Constitution and Political Competition*, 30 NOVA L. REV. 253, 261 (2006) ("To ensure that all elections are competitive is, of course, impossible.").

[18] Samuel Issacharoff, *Why Election?*, 116 HARV. L. REV. 684, 692 (2002).

[19] *See* Samuel Issacharoff, *Gerrymandering and Political Cartels*, 116 HARV. L. REV. 593, 616 (2002) ("[A]ccountability is a central feature of democratic legitimacy . . . ."); Michael P. McDonald & John Samples, *The Marketplace of Democracy*, *in* THE MARKETPLACE OF DEMOCRACY 1,5 (Michael P. McDonald & John Samples

increases the responsiveness of the electoral system as a whole. Shifts in the electorate's views have a greater impact on the composition of the legislature when more districts are competitive (and thus can swing from one party to another).[20] Lastly, competitiveness is linked to voter participation. Voters learn more about candidates and are more likely to turn out at the polls when there is some uncertainty about races' outcomes.[21]

Unlike the partisan fairness approach, the competitiveness approach has never been endorsed by the Supreme Court. In *Vieth*, Justice Souter did refer to the "analogy to antitrust," a domain in which anti-competitive practices are prohibited, as "an intriguing one that may prove fruitful."[22] However, he then added that he did "not embrace [the analogy] at this point out of caution about a wholesale conceptual transfer from economics to politics."[23] Similarly, Justice Stevens observed in *LULAC* that uncompetitive races can lead to lower voter turnout and higher legislative polarization.[24] But his opinion focused on partisan intent rather than lack of competition, and he did not suggest that a plan could be invalidated for the latter reason.[25] And in the 1973 decision of *Gaffney v. Cummings*, the Court actually approved a Connecticut plan that created 130 safe state house districts and only 20 competitive districts.[26] The Court was untroubled by the plan's reduction of competition in order to produce a "proportionate number of Democratic and Republican legislative seats."[27]

The appeal of the competitiveness approach stems from the democratic values that it aims to realize. Accountability, responsiveness, and participation all are widely seen as key elements of a vibrant democracy—and all are improved by increases in district-level competitiveness.[28] The approach is also attractive because it captures another harm that is sometimes thought to be caused by gerrymandering: the creation of safe districts that insulate politicians (particularly incumbents) from any real risk of losing their seats. This is not the *primary* harm that is associated with gerrymandering (that would be partisan unfairness), but it is an important consideration nonetheless.[29] The approach's final advantage is that it too lends itself to

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eds., 2006) ("[D]emocratic theorists value electoral competition as a way to ensure that representatives are accountable to voters.").

[20] *See* Gelman & King, *supra* note 2, at 544 ("Scholars of American politics almost uniformly take the normative position that higher values of responsiveness indicate a healthier democracy."); Samuel Issacharoff & Richard H. Pildes, *Politics as Markets*, 50 STAN. L. REV. 643, 646 (1998) ("Only through an appropriately competitive partisan environment can . . . policy outcomes of the political process be responsive to the interests and views of citizens.").

[21] *See* Pildes, *supra* note 17, at 260 ("[I]t is well documented that competitive elections . . . increase voter turnout . . . .").

[22] Vieth v. Jubelirer, 541 U.S. 267, 350 n.5 (2004) (Souter, J., dissenting).

[23] *Id.*

[24] *See* LULAC v. Perry, 548 U.S. 399, 471 n.10 (2006) (Stevens, J., concurring in part and dissenting in part).

[25] *See id.*

[26] 412 U.S. 735, 738 n.4 (1973).

[27] *Id.* at 738; *see also* Issacharoff, *supra* note 19, at 612-17 (criticizing *Gaffney* on this basis).

[28] *See* Nathaniel Persily, *The Place of Competition in American Election Law*, *in* THE MARKETPLACE OF DEMOCRACY, *supra* note 19, at 171, 173 ("[P]olitical competition is primarily a means to other ends: namely, greater accountability, responsiveness . . . and participation in government.").

[29] *See LULAC*, 548 U.S. at 471 n.10 (Stevens, J., concurring in part and dissenting in part) (discussing the ways in which "[s]afe seats may harm the democratic process").

quantification. Metrics such as average margin of victory, share of competitive seats, and electoral responsiveness indicate both how competitive individual districts are and how responsive a jurisdiction's electoral system is as a whole.

Conversely, a problem with the competitiveness approach is that it ignores the concept—the unequal treatment of the parties in terms of vote-seat conversion—that lies at the heart of the usual definition of gerrymandering.[30] That certain districts are uncompetitive, or that a plan in its entirety is non-responsive, is certainly very interesting, but it is not typically thought to be evidence that a gerrymander has been enacted. Another issue with the approach is that competitiveness is not in fact an unalloyed good. Closer races result in more dissatisfied voters who would have preferred a different outcome,[31] and very high responsiveness means that small changes in voter sentiment produce very large changes in legislative composition.[32] Finally, like the partisan fairness approach, the competitiveness approach neglects values such as minority influence and the quality of representation, and its quantitative metrics are relatively volatile.[33]

These difficulties have not stopped a substantial number of jurisdictions—nine U.S. states in 103 elections—from using competitiveness as a criterion to design their district plans. Whether the criterion has actually accomplished its goal of making elections more competitive is a question that only recently has begun to be considered. One study found that Arizona's adoption of a competitiveness criterion in 2000 did not make its elections any more competitive.[34] Another study determined that "political" requirements, including both competitiveness criteria and rules on incumbent protection, reduced the vote shares received by incumbents nationwide.[35] No work to date has examined the consequences of *only* competitiveness criteria in *all* of the jurisdictions that have employed them. The paper's next Part offers precisely such an examination.

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[30] *See Vieth*, 541 U.S. at 271 n.1 (plurality opinion) ("The term 'political gerrymander' has been defined as '[t]he practice of dividing a geographical area into electoral districts . . . to give one political party an unfair advantage by diluting the opposition's voting strength.'").

[31] *See* Thomas L. Brunell, *Rethinking Redistricting*, 39 PS: POL. SCI. & POL. 77, 77-81 (2006) (arguing against competitive districts for this reason).

[32] *See* Nathaniel Persily, *In Defense of Foxes Guarding Henhouses*, 116 HARV. L. REV. 649, 668 (2002) (noting that if there are too many competitive districts in a jurisdiction, then "the slightest shift in voter preferences would lead to a landslide victory for one of the parties").

[33] *See supra* text accompanying note 15.

[34] *See* Barbara Norrander & Jay Wendland, *Redistricting in Arizona*, *in* REAPPORTIONMENT AND REDISTRICTING IN THE WEST 177, 191 (Gary Moncrief ed., 2011).

[35] *See* Richard Forgette & Glenn Platt, *Redistricting Principles and Incumbency Protection in the U.S. Congress*, 24 POL. GEOGRAPHY 934, 939, 946 (2005); *see also* Richard Forgette et al., *Do Redistricting Principles and Practices Affect U.S. State Legislative Electoral Competition?*, 9 STATE POL. & POL'Y Q. 151, 155 (2009) [hereinafter, Forgette et al., *Do Principles?*] (referring to states that use competitiveness criteria but only actually considering states with incumbency protection rules in analysis); Richard Forgette et al., The Un-Principled Politics of State Legislative and Congressional Redistricting 7 (Sept. 2-5, 2005) [hereinafter Forgette et al., Un-Principled Politics] (same); *cf.* Nicholas O. Stephanopoulos, *Our Electoral Exceptionalism*, 79 U. CHI. L. REV. (forthcoming 2013) (manuscript at 24-25) (summarizing inconclusive literature on implications of redistricting *institutions* for competitiveness).

II. CONSEQUENTIALIST CRITERIA IN PRACTICE

Now that the two consequentialist approaches to redistricting have been introduced, it is possible to turn to the question that motivates this paper: What are the actual consequences of consequentialist criteria? Do they in fact achieve their aims of greater partisan fairness and increased competitiveness? I begin this Part by explaining my methodology, and I then present the results of my analysis with respect to both partisan fairness (for South Australia, the U.S. House of Representatives, and American state legislatures) and competitiveness (for the U.S. House and state legislatures). In a nutshell, my principal finding is that consequentialist criteria have *not* been very successful at bringing about their intended consequences, though there is plenty more to the story.

A. Methodology

To begin with, I compiled the results of all federal and state elections held in Australia since 1990, as well as South Australian state election results since 1950.[36] South Australia adopted its partisan fairness requirement in 1991,[37] so there was little reason to gather comprehensive data from prior to this date. I also compiled all American congressional and state legislative election results since 1966,[38] the year the one-person, one-vote rule was first enforced in almost all elections.[39] The first consequentialist criteria were not implemented until 1972, but the climax of the reapportionment revolution seemed like a better starting point for my study than the unheralded innovations of a handful of states.

Next, I tried to identify all states that have ever employed consequentialist criteria in the modern era, as well as the years of the elections in which the criteria were used. In some cases, this task was relatively straightforward. For example, the state laws of Arizona, Delaware, Hawaii, and Washington currently include partisan fairness or competitiveness requirements, and

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[36] Federal election results are available at AUSTRALIAN ELECTORAL COMMISSION, DOWNLOAD OFFICIAL ELECTION STATISTICS, http://www.aec.gov.au/Elections/Federal_Elections/Stats_CDRom.htm (Jan. 24, 2011). Recent state election results are available at ABC NEWS, ELECTION ARCHIVE, http://www.abc.net.au/elections/ archive/ (last visited Dec. 1, 2012). Jenni Newton-Farrelly shared with me historical South Australian election results compiled by Colin Hughes, and I am very grateful for her help. I only analyzed Australia's five largest states (New South Wales, Queensland, South Australia, Victoria, and Western Australia), and I only used Western Australia's 2008 state election because prior to this date it did not abide by the one-person, one-vote rule.

[37] *See* SOUTH AUSTRALIA STATE ELECTORAL OFFICE, SOUTH AUSTRALIAN ELECTORAL BOUNDARY REDISTRIBUTIONS, 1851-2003, at 4, 7 (2006).

[38] Congressional election results are available at U.S. HOUSE OF REPRESENTATIVES, OFFICE OF THE CLERK, ELECTION INFORMATION, http://clerk.house.gov/member_info/electionInfo/index.aspx (last visited Dec. 1, 2012), and also, in a more usable format, in a database that Gary Jacobson shared with me. Jacobson's database contains *presidential* election results aggregated by congressional district as well. I conducted all of my congressional analysis using this data too, but my findings were not as easily interpretable. Not surprisingly, variables pertaining to congressional races predict congressional results more accurately than aggregated presidential results. For state legislative election results, I relied entirely on a comprehensive database that Carl Klarner has recently assembled. The congressional data includes the results of the 2012 elections, while the state legislative data is only available through 2010. Presidential election results aggregated by state legislative district are not available.

[39] *See* Leroy Hardy et al., *Introduction*, *in* REAPPORTIONMENT POLITICS 17, 19 (Leroy Hardy et al. eds., 1981) ("By 1966, legislatures in 46 of the 50 states had brought their apportionments into compliance with the new judicial standards of population equality").

it was not hard to determine when these requirements were enacted. In many cases, however, consequentialist criteria were not memorialized in state laws, but rather were invoked on an ad hoc basis by legislatures, commissions, or courts. I found these cases by searching the relevant case law, examining state redistricting websites, and consulting historical resources on redistricting. I cannot be certain that I have located *all* cases in which consequentialist criteria were used, but I am reasonably confident that I have discovered the vast majority of them. Notably, the National Conference of State Legislatures, the best-informed organization about redistricting around the country, could not identify any cases that I have missed.[40]

Figures 1 and 2 list the states (and institutions within them) that have employed consequentialist criteria, the levels and years of the elections in which they did so, and the key language that they issued. Consequentialist criteria have been used for about twice as many state legislative elections as congressional elections. They have been used about twice as often in the last two full redistricting cycles (the 1990s and 2000s) as in the two before them (the 1970s and 1980s). And they have been used about twice as often by courts as by legislatures and commissions put together. The most common partisan fairness formulations include assertions that the concept was considered, bans on plans that unduly favor a party, requirements of approximate seat-vote proportionality, and requirements that whichever party wins a majority of votes also should win a majority of seats. The most common competitiveness formulations either state that the concept was taken into account or declare that larger numbers of competitive districts were created.

FIGURE 1: JURISDICTIONS USING PARTISAN FAIRNESS CRITERIA

Jurisdiction	Level	Elections Used	Institution	Key Language
South Australia[41]	State	1993-2010	Legislature	"[I]f candidates of a particular group attract more than 50 per cent of the popular vote . . . they will be elected in sufficient numbers to enable a government to be formed"
California[42]	Federal & state	1974-1980	Court	Plans are not "politically unfair" and will not "produce a manifestly unfair political result"
Colorado[43]	Federal	2002-2010	Court	"Finally, we check our plan against the test of general partisan outcome"
Connecticut[44]	State	1972-1980	Legislature	"[W]hichever party carried the state should

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[40] Importantly, I do *not* include in my study provisions that bar district plans from being drawn with the *intent* to help or harm a party or candidate. California, Florida, Idaho, Iowa, Minnesota, Nebraska, Oregon, and Washington use such provisions, but they are not consequentialist since they do not aim to produce election *results* that are fair to the major parties. It is also possible that redistricting authorities have employed consequentialist criteria without ever stating in writing that they did so. I doubt there are many such cases but I cannot be sure. Lastly, the fact that many consequentialist criteria have been used without being formally memorialized actually improves the accuracy of my empirical analysis. It means that the criteria were not adopted as components of broader electoral reforms, thus allaying concerns about endogeneity and omitted variables.

[41] *South Australia Constitution Act 1934* (Cth) s 83 (Austl. S.A.).

[42] Legislature v. Reinecke, 516 P.2d 6, 38 (Cal. 1973).

[43] Avalos v. Davidson, 2002 WL 1895406, at *8 (Colo. Dist. Ct. Jan. 25, 2002).

[44] Cummings v. Meskill, 341 F. Supp. 139, 147 (D. Conn. 1972).

				carry a majority of . . . seats proportional to the statewide party majority"
Delaware[45]	State	1972-2012	Legislature	Plans shall "[n]ot be created so as to unduly favor any . . . political party"
Hawaii[46]	Federal & state	1972-2012	Legislature	"No district shall be so drawn as to unduly favor a . . . political faction"
Illinois[47]	Federal	1992-2000	Court	Plan is "likely to yield a distribution of seats across party lines that mirrors the statewide partisan makeup of the voting citizenry"
Maine[48]	Federal & state	1994-2000	Court	Plan "attempted to remove some of the partisanship that had inadvertently been incorporated in our preliminary plan"
Michigan[49]	Federal	1992-2000	Court	Plan is "likely to result in a congressional delegation . . . that is roughly proportionate to the relative strength of the political parties."
Mississippi[50]	Federal	1992-2000	Legislature	"The redistricting plan should avoid a political gerrymander"
New Jersey[51]	Federal & state	1982-2012	Commission	Plan "sought to achieve statewide partisan fairness so that the party that receives a majority of the total statewide vote in a legislative election will obtain a majority in the legislature"
New Mexico[52]	Federal & state	2002-2012	Court	Plan "avoid[ed], to the extent possible, partisan bias"
New York[53]	Federal	1992-2000	Court	Plan included "political fairness" as criterion
Texas[54]	Federal	2002	Court	Plan is "likely to produce a congressional delegation roughly proportional to the party voting breakdown across the state"
Virginia[55]	State	1992-2000	Legislature	Plan included "political fairness" as criterion
Wisconsin[56]	State	1992-2000	Court	Plan "creates the least perturbation in the political balance of the state" and is "least partisan" proposal

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[45] DEL. CODE ANN. tit. 29, § 804(4).

[46] HAW. CONST. art. 4, § 6(2); *see also* HAW. REV. STAT. § 25-2(b)(1).

[47] Hastert v. State Bd. of Elections, 777. F. Supp. 634, 659 (N.D. Ill. 1991).

[48] In re 1993 Reapportionment, No. SJC-229, at *1 (Me. June 29, 1993).

[49] Good v. Austin, 800 F. Supp. 557, 566 (E.D. Mich. 1992).

[50] MISS. STANDING JOINT CONG. REDISTRICTING COMM., CRITERIA FOR CONG. REDISTRICTING 3 (1991).

[51] Robertson v. Bartels, 148 F. Supp. 2d 443, 459 (D.N.J. 2001); *see also* Gonzalez v. State Apportionment Comm'n, ___ A.3d ___, 2012 WL 3889021, at *4-5 (N.J. Super. 2012); Brady v. N.J. Redistricting Comm'n, 622 A.2d 843, 619 (N.J. 1992); DONALD E. STOKES, LEGISLATIVE REDISTRICTING BY THE NEW JERSEY PLAN 7-17 (1993).

[52] Maestas v. Hall, 274 P.3d 66, 79 (N.M. 2012); *see also* Jepsen v. Vigil-Giron, No. D0101 CV 2001 02177, at 9 (1st Jud. Dist. Santa Fe Co. Jan. 24, 2002); Jepsen v. Vigil-Giron, No. D0101 CV 2001 02177, at 5 (1st Jud. Dist. Santa Fe Co. Jan. 2, 2002).

[53] Diaz v. Silver, 978 F. Supp. 96, 102, 104 (E.D.N.Y. 1997).

[54] Balderas v. Texas, 2001 WL 36403750, at *3 (E.D. Tex. Nov. 14, 2001).

[55] Jamerson v. Womack, 1991 WL 835368, at *1 (Va. Cir. Ct. Dec. 11, 1991).

[56] Prosser v. Elections Bd., 793 F. Supp. 859, 871 (W.D. Wis. 1992) (three-judge court).

FIGURE 2: JURISDICTIONS USING COMPETITIVENESS CRITERIA

Jurisdiction	Level	Elections Used	Institution	Key Language
Arizona[57]	Federal & state	2002-2012	Commission	"To the extent practicable, competitive districts should be favored . . . ."
California[58]	Federal & state	1974-1980	Court	Plan will "result in fewer 'safe seats' and more 'competitive seats'"
Colorado[59]	Federal & state	1992-2012	Commission & court	Plan "considered competitiveness as an important factor"
Florida[60]	Federal	1992-2000	Court	Plan "considered . . . party competitiveness"
New Jersey[61]	State	1982-2012	Commission	Plan "ensur[ed] that some seats were competitive so that the composition of the Legislature would be responsive to shifts in votes from one party to the other"
New Mexico[62]	Federal & state	2002-2010	Court	Plan "promote[s] . . . political competition"
North Carolina[63]	Federal	2012	Legislature	Plan had as goal "to create more competitive Congressional districts"
Washington[64]	Federal & state	1992-2012	Commission	"The commission shall exercise its powers to . . . encourage electoral competition"
Wisconsin[65]	State	1984-1990	Legislature	Plan gave "due consideration to the need for . . . competitive legislative districts"

After compiling all the relevant election results and identifying all the relevant cases, the next stage of my analysis was to calculate measures of partisan fairness and competitiveness for each jurisdiction in each election year. My first partisan fairness metric was *partisan bias*, that is, the divergence in the share of seats that each party would win given the same share of the statewide vote.[66] For example, if Democrats would win 48% of a state's seats with 50% of the state's vote (in which case Republicans would win 52% of the seats), then a district plan would

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[57] ARIZ. CONST. art. IV, pt. 2, § 1(14)(F).

[58] Legislature v. Reinecke, 516 P.2d 6, 38 (Cal. 1973).

[59] Hall v. Moreno, 270 P.3d 961, 973 (Colo. 2012); *see also* Sanchez v. State of Colo., 97 F.3d 1303, 1307 (10th Cir. 1996); Avalos v. Davidson, 2002 WL 1895406, at *7 (Colo. Dist. Ct. Jan. 25, 2002).

[60] DeGrandy v. Wetherell, 794 F. Supp. 1076, 1084-85 (N.D. Fla. 1992).

[61] Robertson v. Bartels, 148 F. Supp. 2d 443, 455 (D.N.J. 2001); *see also* Gonzalez v. State Apportionment Comm'n, ___ A.3d ___, 2012 WL 3889021, at *4 (N.J. Super. 2012); STOKES, *supra* note 51, at 7-17.

[62] Jepsen v. Vigil-Giron, No. D0101 CV 2001 02177, at *9 (1st Jud. Dist. Santa Fe Co. Jan. 24, 2002); *see also* Jepsen v. Vigil-Giron, No. D0101 CV 2001 02177, at *9 (1st Jud. Dist. Santa Fe Co. Jan. 2, 2002).

[63] Joint Statement of Sen. Bob Rucho and Rep. David Lewis Regarding the Release of Rucho-Lewis Congress 2 (July 19, 2011), *available at* http://www.ncga.state.nc.us/GIS/Download/ReferenceDocs/ 2011/Joint%20Statement%20of%20Senator%20Bob%20Rucho%20and%20Representative%20David%20Lewis_7_ 19_11.pdf.

[64] WASH. REV. CODE § 44.05.090(5).

[65] WIS. STAT. § 4.001(3) (repealed 2011).

[66] *See* Gelman & King, *supra* note 2, at 545; Andrew Gelman & Gary King, *A Unified Method of Evaluating Electoral Systems and Redistricting Plans*, 38 AM. J. POL. SCI. 514, 536 (1994); Grofman & King, *supra* note 2, at 8.

have a pro-Republican bias of 2%. As is customary, I calculated bias at the point at which each party receives 50% of the vote,[67] and I relied on the uniform swing assumption.[68] I also considered only the absolute value of bias because I was interested in the metric's magnitude rather than its orientation.

My second measure of partisan fairness was the *efficiency differential*, that is, the gap between the parties' respective "wasted" votes.[69] All of the votes for a party's candidate are wasted if the candidate loses the election, while all of the votes above the threshold for victory are wasted if the candidate wins. The party with fewer wasted votes in a state is said to have an efficiency advantage over its opponent. Unlike partisan bias, the efficiency differential is calculated using unadjusted election results rather than the results of a hypothetical 50-50 election. For this reason, the metric does not require use of the uniform swing assumption— there are no vote tallies that need to be swung.[70] As with partisan bias, I considered only the absolute value of the efficiency differential. In combination, partisan bias and the efficiency differential accurately capture the partisan fairness of an election. The metrics are well-suited to assessing the implications of partisan fairness criteria.

My first measure of competitiveness was the *average margin of victory* in a jurisdiction, that is, the average difference in vote shares between the winning and losing candidates.[71] Uncontested races, which are common at both the congressional and state legislative levels, have a margin of victory of 100%. My second metric was the *share of competitive seats* in a state, that is, the proportion of races decided by less than a twenty-point margin.[72] Narrower competitive bands (such as ten points) are sometimes used instead,[73] but given the general lack of competitiveness in American elections, they are a bit too stringent for my purposes.

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[67] *See* Janet Campagna & Bernard Grofman, *Party Control and Partisan Bias in 1980s Congressional Redistricting*, 52 J. POL. 1242, 1245 (1990); Gary W. Cox & Jonathan N. Katz, *The Reapportionment Revolution and Bias in U.S. Congressional Elections*, 43 AM. J. POL. SCI. 812, 820 (1999); Bruce E. Cain et al., Redistricting and Electoral Competitiveness in State Legislative Elections 2 (Apr. 13, 2007).

[68] *See supra* note 15. In addition, because certain states do not report vote tallies when candidates run unopposed, I calculated statewide vote shares for the parties by averaging all of their district-specific vote shares, *not* by using aggregate statewide vote tallies. However, the two methods of calculating statewide vote shares produce very similar results.

[69] *See* Eric McGhee, Measuring Partisan Bias in Single-Member District Electoral Systems 15-18 (Jan. 2, 2013) (introducing this measure but calling it "relative wasted votes"). Because of the occasional inaccuracy (or unavailability) of district-specific vote tallies, *see supra* note 68, I calculated the efficiency differential using district-specific vote *shares*, which are more reliable. Both methods again produce very similar results.

[70] *See id.* at 6, 22.

[71] *See* Forgette et al., *Do Principles?*, *supra* note 35, at 159; Peter Miller & Bernard Grofman, Redistricting Commissions in the Western United States 28 (Sept. 14, 2012); Norrander & Wendland, *supra* note 34, at 184.

[72] *See* Thomas L. Brunell & Bernard Grofman, *Evaluating the Impact of Redistricting on District Homogeneity, Political Competition, and Political Extremism in the U.S. House of Representatives, 1962 to 2006*, *in* DESIGNING DEMOCRATIC GOVERNMENT 117, 121 (Margaret Levi et al. eds., 2008); Jamie L. Carson & Michael H. Crespin, *The Effect of State Redistricting Methods on Electoral Competition in United States House of Representatives Races*, 4 STATE POL. & POL'Y Q. 455, 460 (2004); Richard G. Niemi et al., *Competition in State Legislative Elections, 1992-2002*, *in* THE MARKETPLACE OF DEMOCRACY, *supra* note 19, at 53, 65.

[73] *See* James B. Cottrill, *The Effects of Non-Legislative Approaches to Redistricting on Competition in Congressional Elections*, 44 POLITY 32, 36 (2012); Vladimir Kogan & Eric McGhee, Redistricting California: An Evaluation of the Citizens Commission Final Plans 22 (Sept. 13, 2011); Seth Masket et al., *The Gerrymanderers Are Coming!*, 45 POL. SCI. & POL. 39, 40 (2012).

My final metric was *electoral responsiveness*, that is, the rate at which a party gains or loses seats given changes in its statewide vote share.[74] For instance, if Democrats would win 10% more seats if they received 5% more of the statewide vote, then a plan would have a responsiveness of 2.0. Like partisan bias, responsiveness relies on the uniform swing assumption and can be calculated either at the hypothetical 50-50 point or using an election's actual results. I chose to compute it using actual results in order to make the resulting scores more easily interpretable. In combination, average margin of victory and share of competitive seats capture two important aspects of competitiveness, while electoral responsiveness is a direct measure of a crucial value that competition is meant to realize.[75] In tandem, the three metrics are nicely tailored to evaluating the effects of competitiveness requirements.

B. Partisan Fairness

1. South Australia

I begin my examination of consequentialist criteria with South Australia, which since 1991 has employed the most explicit and entrenched partisan fairness requirement in the world: that "if candidates of a particular group attract more than 50 per cent of the popular vote . . . they will be elected in sufficient numbers to enable a government to be formed."[76] This requirement is ensconced in South Australia's constitution, it is listed before all other criteria, it has been used to design five separate district plans, and it has been the subject of extensive research and analysis by the state's redistricting commission.[77] If any partisan fairness criterion could be expected to succeed, it is this one.

As Figure 3 indicates, South Australia *has* enjoyed lower levels of partisan bias and smaller efficiency differentials than other Australian jurisdictions over the 1990-2010 period. Its partisan bias averaged 3.6% in this era, compared to 4.5% for other state elections and 5.1% for federal elections. Its efficiency differential averaged 4.3%, compared to 5.5% for other state elections and 8.2% for federal elections. The Australian states included in my study all have substantial numbers of state and federal districts and rely on redistricting commissions that use almost exactly the same criteria.[78] The existence of a partisan fairness requirement in South Australia is the most distinctive feature of this legal landscape—and, at first glance, it appears to have precisely its desired consequences.

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[74] *See* Gelman & King, *supra* note 2, at 542, 544; Grofman & King, *supra* note 2, at 9; McGhee, *supra* note 69, at 5.

[75] *See supra* note 20.

[76] *South Australia Constitution Act 1934* (Cth) s 83 (Austl. S.A.).

[77] *See supra* note 16; *see also* SOUTH AUSTRALIA ELECTORAL DISTRICTS BOUNDARIES COMMISSION, REPORT 6-16 (2007); SOUTH AUSTRALIA ELECTORAL DISTRICTS BOUNDARIES COMMISSION, REPORT 12-18 (2003).

[78] *See supra* note 36 (specifying states used in analysis).

FIGURE 3: AUSTRALIAN PARTISAN BIAS SCORES AND EFFICIENCY DIFFERENTIALS, 1990-2010
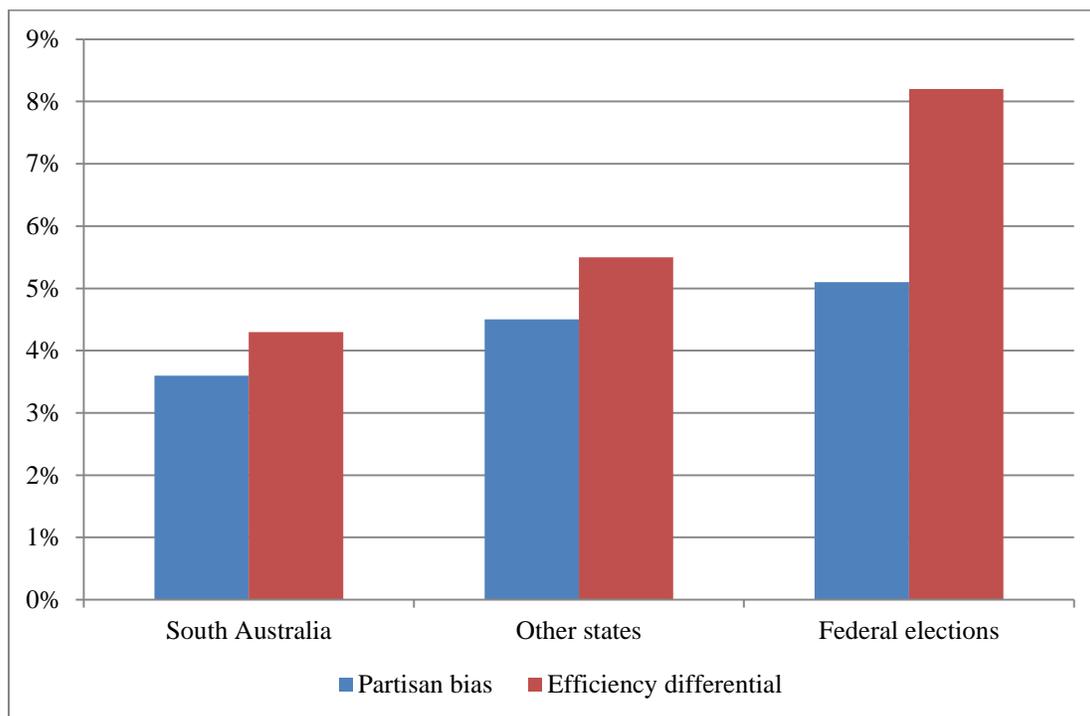
However, the differences in partisan bias and the efficiency differential between South Australia and other Australian jurisdictions do not rise to the level of statistical significance.[79] Nor, when I carry out regressions with controls added for the year, the level of the election (state or federal), the number of districts in a state, and the Australian Labor Party's (ALP) share of the statewide vote, does the presence of a partisan fairness requirement remain a significant predictor of partisan bias or the efficiency differential.[80] Interestingly, *no* variable seems to predict partisan bias with any particular accuracy, perhaps because its levels are uniformly low thanks to the use of independent redistricting commissions throughout Australia. However, the ALP's statewide vote share is linked negatively to the efficiency differential, perhaps because ALP supporters are concentrated in urban areas, and so if the ALP's vote share is low it is likely to receive particularly few seats (and to waste particularly many votes).[81] Also of note, the presence of a partisan fairness requirement *is* statistically significant at the more generous 10% level, indicating that it is likely having some downward influence on the efficiency differential.[82]

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[79] A two-sample t-test for partisan bias yields t = 0.76 and p = 0.23. A two-sample t-test for the efficiency differential yields t = 1.12 and p = 0.13.

[80] *See infra* app. tbl. 1. All of the regressions that I ran for this paper used ordinary least squares. All of the regressions also used the election-year (i.e., an election by a given state in a given year) as the basic unit of analysis. Since the presence of a partisan fairness requirement was not statistically significant even with these few controls included, I did attempt to compile the full set of controls that I used for the U.S. models. In any case, redistricting criteria and the institutions responsible for redistricting do not vary appreciably from state to state in Australia.

[81] *See supra* note 14 (noting the tendency of single-member district plans to disadvantage leftist parties).

[82] Its coefficient is substantial as well; the presence of a partisan fairness requirement reduces the efficiency differential by 5.6%. However, this result ceases to hold when fixed effects for the state and year are included in the model.

Longitudinal analysis further confirms that South Australia's partisan fairness requirement has not been very impactful. For much of the postwar era, malapportionment and gerrymandering were rampant in the state; as Figure 4 displays, bias averaged *9.0%* over the ten elections between 1950 and 1975.[83] In 1975, the state embraced the one-person, one-vote rule and instituted an independent redistricting commission.[84] Dramatic drops followed in both partisan bias (9.0% to 3.6%) and the efficiency differential (5.7% to 2.7%) over the next five elections. However, the 1991 adoption of the partisan fairness requirement did not produce any further benefits. Partisan bias remained static over the next five elections (3.6% to 3.6%), while the efficiency differential actually increased somewhat (2.7% to 4.3%). The upshot is that equally sized districts and an independent commission improved partisan fairness in South Australia, but an actual partisan fairness requirement did not. All of South Australia's gains came after its first round of redistricting reform—but before its second.

FIGURE 4: SOUTH AUSTRALIAN PARTISAN BIAS SCORES AND EFFICIENCY DIFFERENTIALS, 1950-2010

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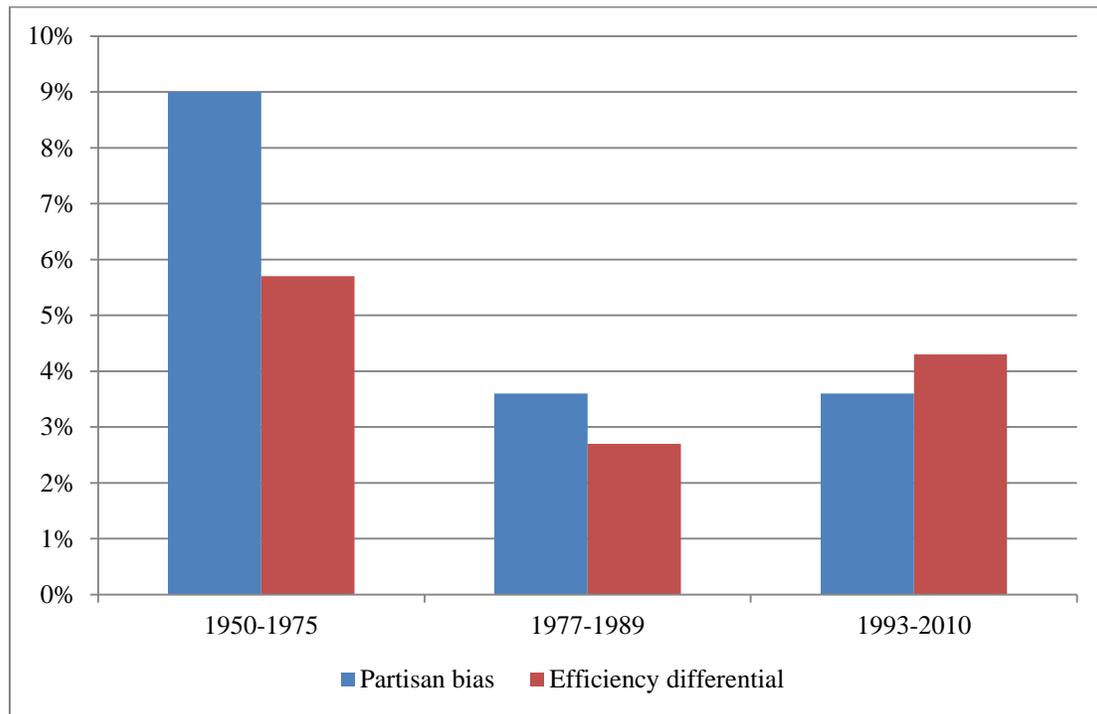
[83] Because I wanted the bias scores to reflect the impact of South Australia's pre-1975 malapportionment, I calculated statewide vote shares here using aggregate vote tallies, not by averaging the parties' district-specific vote shares. For the same reason, I calculated the efficiency differentials using district-specific vote tallies, not vote shares. *See supra* notes 68-69.

[84] *See* SOUTH AUSTRALIA STATE ELECTORAL OFFICE, *supra* note 37, at 7. The first election conducted under the new regime was in 1977.

2. U.S. House of Representatives

I turn next to the United States House of Representatives, where partisan fairness requirements have been employed by eleven states in sixty elections since 1966. The decisions to use these requirements typically have been made by courts that have found themselves responsible for drawing district lines. Legislatures and commissions rarely have opted to take partisan fairness into account.[85]

As Figure 5's density curves indicate, both partisan bias and the efficiency differential are lower in elections in which partisan fairness requirements are used. Partisan bias averages 6.2% in elections with these criteria but 8.3% in elections without them. Similarly, the efficiency differential averages 7.2% in elections with these criteria but 10.2% in elections without them. Both of these differences are statistically significant.[86] The density curves also illustrate *why* partisan bias and the efficiency differential are lower in elections with partisan fairness requirements. In both cases, the right tail of the no-requirement distribution, containing elections with particularly high partisan bias and efficiency differential scores, is absent from the distribution of elections with the criteria. In other words, the presence of a partisan fairness requirement seems to prevent the adoption of district plans that are marked by extreme biases or efficiency differentials.

FIGURE 5: DENSITY CURVES FOR U.S. HOUSE ELECTIONS, PARTISAN BIAS SCORES AND
EFFICIENCY DIFFERENTIALS, 1966-2012
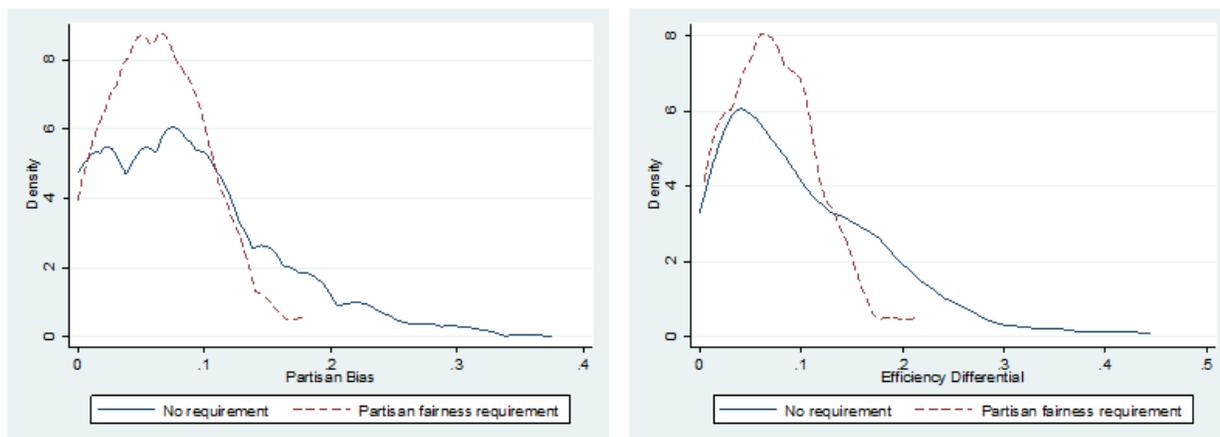
As with the initial South Australian results, these findings appear positive at first glance. Congressional elections with partisan fairness requirements indeed treat the major parties more symmetrically than congressional elections without them. Unfortunately, as with South Australia, the findings' impressiveness decreases when the data is subjected to more rigorous analysis. I regressed partisan bias and the efficiency differential against the presence of a

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[85] *See supra* fig. 1.
[86] A two-sample t-test for partisan bias yields t = 2.83 and p = 0.004. A two-sample t-test for the efficiency differential yields t = 3.55 and p = 0.0005. I omit states with fewer than five congressional districts from my analysis because partisan fairness metrics are too unreliable when the number of districts is so small.

partisan fairness requirement as well as an array of controls that, according to the political science literature, may have an effect on partisan fairness: other redistricting criteria, the institution responsible for redistricting, Voting Rights Act (VRA) coverage, whether the state government was unified or divided, the Democratic share of the statewide vote, the number of districts in a state, the year of the election, and the redistricting cycle of the election.[87] The presence of a partisan fairness requirement was statistically insignificant in the partisan bias model, and significant only at the more generous 10% level in the efficiency differential model. The requirement's presence therefore does not seem to be a major determinant of partisan fairness once other relevant factors have been taken into account.[88]

Which factors *are* major determinants of partisan fairness? Interestingly, in the partisan bias model, no variable attained the customary 5% level of significance, suggesting that bias in congressional elections (like bias in Australian elections) is quite difficult to predict. However, the use of a court to design a district plan was significant at the 10% level. Unsurprisingly, partisan gerrymanders are unlikely to emerge when judicial actors are responsible for redistricting.[89] In the efficiency differential model, the number of districts in a state and the Democratic share of the statewide vote were both significant at the usual level, and the presence of divided government almost reached this threshold. A larger number of districts reduces the efficiency differential because it increases the denominator for the calculation and lowers the metric's volatility. The Democratic vote share may be linked positively to the efficiency differential because when Democrats perform well in a state they are likely to waste many of their votes in dense urban areas.[90] And the presence of divided government inhibits partisan gerrymandering because both parties will almost never agree to a district plan that disadvantages one of them.[91]

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[87] *See infra* app. tbl. 2. I only considered elections in the 1990, 2000, and 2010 cycles, because controls for earlier cycles were unavailable. Most of the controls vary by redistricting cycle, though the Democratic share of the statewide vote and the year of the election vary by year, and VRA coverage does not vary temporally at all. The reasons *why* the controls might be expected to have an effect on partisan fairness are discussed below in my analyses of the regression results. My results are similar when I use robust standard errors or cluster standard errors by state, for both these regressions and the ones discussed below. These models thus are not reported in the appendix.

[88] When fixed effects are added for the state and year, the presence of a partisan fairness requirement loses its statistical significance (at any level) in the efficiency differential model as well.

[89] When I further limited the universe of cases to states with at least *ten* congressional districts, several variables attained statistical significance in the partisan bias model. Respect for communities of interest and respect for prior district cores increased partisan bias, while incumbency protection, divided government, commission usage, and court usage reduced it. Similarly, in the efficiency differential model, respect for prior district cores and the Democratic share of the statewide vote increased the differential, while divided government and commission usage reduced it. These results are consistent with the findings of the state legislative models, which also use plans containing relatively large numbers of districts. *See infra* app. tbl. 3.

[90] It is unclear why the Democratic vote share is linked positively to the efficiency differential, while the ALP vote share in Australia is linked negatively. *See supra* note 81 and accompanying text. Differences in the distributions of the leftist parties' supporters presumably account for this result.

[91] In addition, the presence of a *competitiveness* requirement is significant at the 10% level in both models, though it is hard to know what to make of this result since the requirement's presence seems to increase partisan bias but reduce the efficiency differential.

3. U.S. State Legislatures

American state legislative elections are the final set of races that I examine for evidence of the effectiveness of partisan fairness requirements. Nine states have employed such requirements in 128 state house and state senate elections over the 1967-2010 period. Legislatures and courts each account for about half of these cases; the only state-level commission to take partisan fairness into account is New Jersey's.[92] For present purposes, the most notable difference between state legislative and congressional elections is the larger number of districts in the former. The average state legislative plan has 66 districts, compared to 13 in the congressional plans that I used in my analysis (and 9 in all congressional plans).[93] The greater volume of state legislative districts makes measures of both partisan fairness and competitiveness substantially more trustworthy.

As Figure 6's density curves display, both partisan bias and the efficiency differential are lower in elections in which partisan fairness requirements are used. Partisan bias averages 5.9% in elections with these criteria but 6.7% in elections without them. Similarly, the efficiency differential averages 7.9% in elections with these criteria but 9.9% in elections without them. Both of these differences are statistically significant.[94] These state legislative findings are very similar to the congressional results presented above, and so too are the shapes of the density curves. Once again, the right tails of the no-requirement distributions, containing elections with particularly high partisan bias and efficiency differential scores, are absent from the distributions of elections with the criteria. The effect is even more pronounced here because the *left* sides of the distributions are nearly identical. Partisan fairness requirements appear to alter the distributions of state legislative plans only by slicing off their right tails.

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[92] *See supra* fig. 1.

[93] *See* notes 86, 101 (noting that congressional regression analysis only considered plans with at least five districts).

[94] A two-sample t-test for partisan bias yields $t = 1.88$ and $p = 0.031$. A two-sample t-test for the efficiency differential yields $t = 3.35$ and $p = 0.0005$. I omit states with multimember districts from my analysis because partisan fairness metrics cannot easily be calculated for plans that use such districts.
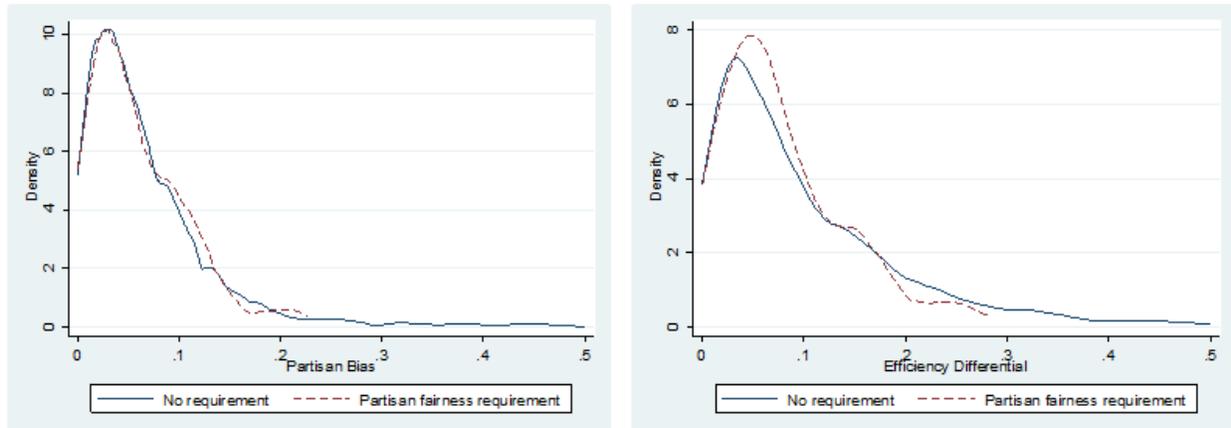
Unfortunately, as with the congressional results, this promising picture fades once controls are added for other relevant factors. Controlling for the same variables as before, the presence of a partisan fairness requirement is not a statistically significant predictor of either partisan bias or the efficiency differential.[95] The encouraging descriptive statistics and density curves are therefore misleading. Partisan fairness requirements in fact do little to improve the partisan symmetry of state legislative elections.

Some of the factors that *do* influence partisan symmetry in state legislative elections are familiar from the congressional analysis. Once again, the number of districts in a state and the use of a court to design a district plan have a significant downward impact on both measures of partisan fairness, while the Democratic share of the statewide vote has a significant upward impact. But, unlike in the congressional analysis, the use of a commission to draw district lines is now a significant predictor of the efficiency differential. As one might expect, there is less of an efficiency gap between the parties when an outside body is responsible for redistricting.[96] Also notable are the effects of various common line-drawing criteria. Respect for political subdivisions is linked to higher partisan bias, likely because Democrats end up over-concentrated when the boundaries of urban areas are carefully followed.[97] Compactness is linked to higher efficiency differentials, probably because aesthetically appealing districts also tend to pack Democrats.[98] And the protection of incumbents is linked to lower partisan bias, since when both parties' elected officials are insulated from competition it is difficult simultaneously to enact a partisan gerrymander.[99]

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[95] *See infra* app. tbl. 3.
[96] *See* Stephanopoulos, *supra* note 35 (manuscript at 23-24) (summarizing literature finding that use of commission increases partisan fairness).
[97] *See supra* note 14.
[98] *See* Chen & Rodden, *supra* note 14, at 2, 20.
[99] In addition, respect for prior district cores is linked to higher partisan bias, perhaps because the requirement tends to freeze in place existing partisan gerrymanders. And coverage by section 5 of the VRA is linked to lower efficiency differentials, either because the provision prevents optimal Republican gerrymanders from being enacted, *see* Adam B. Cox & Richard T. Holden, *Reconsidering Racial and Partisan Gerrymandering*, 78 U.

C. Competitiveness

1. U.S. House of Representatives

Competitiveness requirements are the other kind of consequentialist criteria, and they have been employed at the congressional level by seven states in thirty-eight elections. Courts are the institutions that most often have decided to impose these requirements, though they also have been applied by commissions and, on one occasion, a legislature. Most of the states that have used the requirements are located in the western part of the country.[100]

Like partisan fairness criteria, competitiveness requirements appear at first to have produced their desired consequences. The average margin of victory is lower in elections with them than in elections without them (32.0% versus 40.1%); the proportion of races decided by less than twenty points is higher (37.6% versus 28.2%); and the level of electoral responsiveness is higher as well (1.85 versus 1.44). All of these differences are statistically significant, though only at the 10% level in the case of responsiveness.[101] The density curves displayed in Figure 7 are less illuminating than the ones shown earlier, due to the relatively small number of congressional elections with competitiveness requirements, but they also tend to confirm this rosy picture. The average-margin-of-victory curve for elections with the criteria is clearly to the left of the curve for elections without them, while the share-of-competitive-districts curve for elections with the criteria is clearly to the right of the curve for elections without them.[102]


CHI. L. REV. 553, 573-74 (2011), or because Democrats are more efficiently distributed in the southern states covered by section 5, *see* Chen & Rodden, *supra* note 14, at 30.

[100] *See supra* fig. 1.

[101] A two-sample t-test for average margin of victory yields $t = 3.37$ and $p = 0.0009$. A two-sample t-test for the share of districts decided by less than twenty points yields $t = -2.57$ and $p = 0.0074$. And a two-sample t-test for electoral responsiveness yields $t = -1.50$ and $p = 0.071$. As before, I omit states with fewer than five congressional districts from my analysis because competitiveness metrics are too unreliable when the number of districts is so small. *See supra* note 86.

[102] On the other hand, the contrasts between the two electoral responsiveness distributions are not readily apparent. This is unsurprising since the difference between the two distributions' means is significant only at the more generous 10% level. *See supra* note 101.

FIGURE 7: DENSITY CURVES FOR U.S. HOUSE ELECTIONS, AVERAGE MARGIN OF VICTORY, SHARE OF COMPETITIVE DISTRICTS, AND ELECTORAL RESPONSIVENESS, 1966-2012
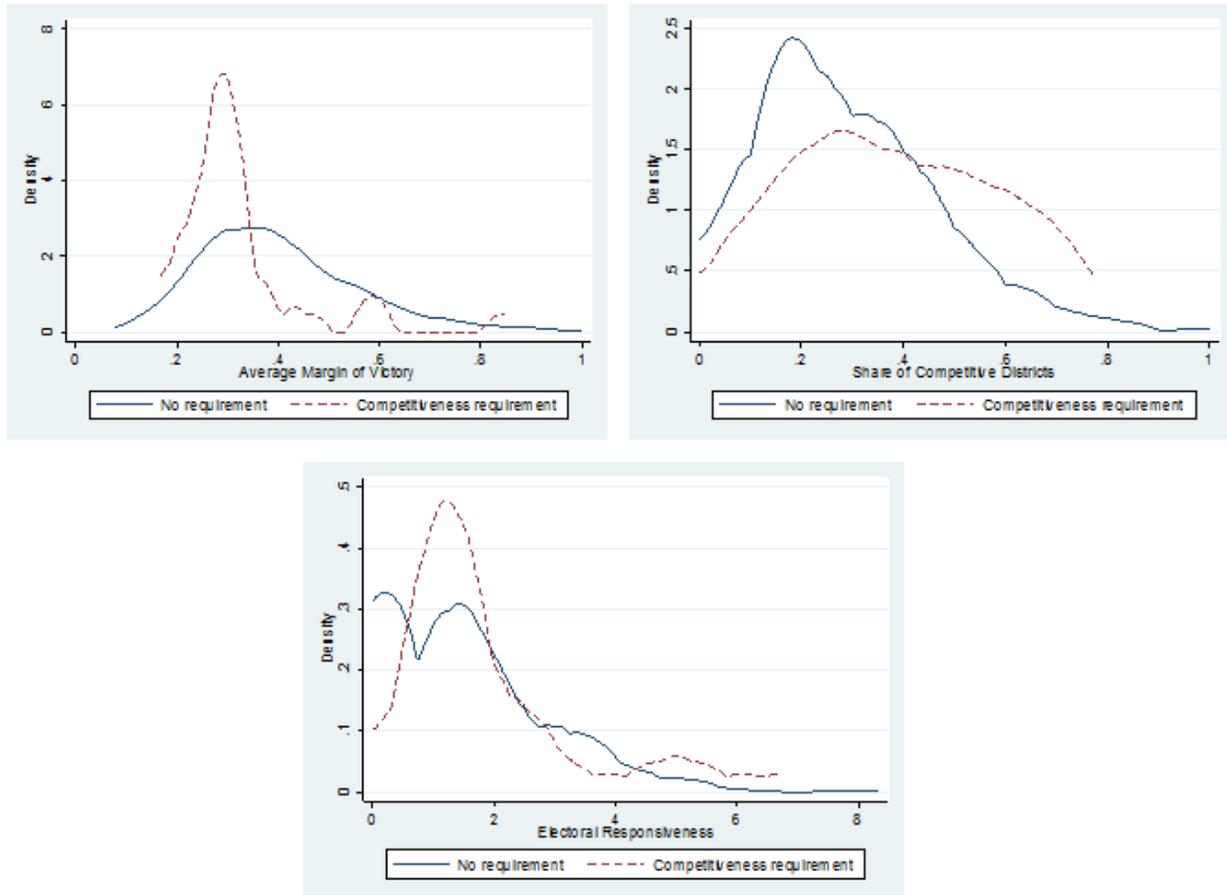
Unfortunately, like the partisan fairness findings discussed above, these results evaporate when controls are added for other factors that the political science literature suggests are relevant. I regressed all three competitiveness metrics against the presence of a competitiveness requirement as well as controls for other redistricting criteria, the institution responsible for redistricting, VRA coverage, whether the state government was unified or divided, the Democratic share of the statewide vote, the number of districts in a state, the year of the election, and the redistricting cycle of the election.[103] In none of these models does the presence of a competitiveness requirement attain statistical significance at any level. In other words, efforts by line-drawers to make congressional elections more competitive do not in fact result in meaningful improvements in competition.

One factor that *does* have a meaningful impact on all three measures of competitiveness is the use of a commission to draw district lines. Commission-drawn plans boast lower margins

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[103] *See infra* app. tbl. 4. As before, I only considered elections in the 1990, 2000, and 2010 cycles, because controls for earlier cycles were unavailable. *See supra* note 87. Unsurprisingly, the presence of a competitiveness requirement also fails to attain statistical significance when fixed effects are added for the state and year.

of victory, higher shares of competitive districts, and higher levels of responsiveness, presumably because their authors have no reason to prioritize the protection of incumbents.[104] Respect for political subdivisions also has a pro-competitive effect in all three models, probably because challengers are better able to convey their messages to voters in districts that are congruent with towns or counties.[105] On the other hand, VRA coverage increases the average margin of victory and decreases both the share of competitive districts and responsiveness. Both the majority-minority districts required by the VRA and the "bleached" districts adjacent to them are particularly safe for incumbents. The presence of a compactness requirement also reduces the share of competitive districts and responsiveness, perhaps because compact districts pack Democrats without producing the countervailing benefits of district-subdivision congruence.[106]

2. U.S. State Legislatures

Finally, competitiveness requirements have been employed by seven states in sixty-five state legislative elections. Commissions are the institutions that most often have decided to impose these requirements, though they also have been applied by courts and, on one occasion, a legislature. Most of the states that have used the requirements are again located in the West.[107] As noted earlier, state legislative plans usually have many more districts than congressional plans, a fact that makes calculations of both partisan fairness and competitiveness substantially more reliable for the former.[108]

As with congressional elections, descriptive statistics tell quite a positive story about the impact of competitiveness requirements at the state legislative level. The average margin of victory is lower in elections with them than in elections without them (42.0% versus 50.7%); the proportion of races decided by less than twenty points is higher (34.8% versus 29.8%); and the level of electoral responsiveness is higher as well (1.93 versus 1.54). All of these differences are statistically significant.[109] The density curves displayed in Figure 8 also are more striking than their congressional equivalents. It is now evident that the average-margin-of-victory curve for elections with competitiveness criteria is to the left of the curve for elections without them; that the share-of-competitive-districts curve for elections with the criteria is to the right of the curve

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[104] *See* Stephanopoulos, *supra* note 35 (manuscript at 24-25) (summarizing literature finding that commission usage increases responsiveness and has indeterminate effects on competitiveness).

[105] *See id.* (manuscript at 42, 46-47) (summarizing literature consistent with this result).

[106] In addition, the Democratic share of the statewide vote is linked positively to the average margin of victory, though only at the 10% level. This may be because when Democrats do particularly well in a state many of their votes are cast in very safe urban districts. *See supra* note 14. The 2000 cycle also seems to have been especially uncompetitive, as the dummy variable for this cycle was linked negatively to the share of competitive districts. Lastly, unlike with the partisan fairness models, the regression results lose their intelligibility when the universe of cases is further limited to states with at least ten congressional districts. *See supra* note 89. This is because most states that have used competitiveness requirements have had fewer than ten districts.

[107] *See supra* fig. 1.

[108] *See supra* text accompanying note 93.

[109] A two-sample t-test for average margin of victory yields t = 5.86 and p = 0.0000. A two-sample t-test for the share of districts decided by less than twenty points yields t = -3.49 and p = 0.0004. And a two-sample t-test for electoral responsiveness yields t = -3.67 and p = 0.0002. As before, I omit states with multimember districts from my analysis because competitiveness metrics cannot easily be calculated for plans that use such districts. *See supra* note 94.

for elections without them; and that the responsiveness curve for elections with the criteria is also to the right of the curve for elections without them. In the last two plots, the use of competitiveness criteria seems cleanly to shift the entire distribution to the right, in the direction of greater competition.

FIGURE 8: DENSITY CURVES FOR U.S. STATE LEGISLATIVE ELECTIONS, AVERAGE MARGIN OF VICTORY, SHARE OF COMPETITIVE DISTRICTS, AND ELECTORAL RESPONSIVENESS, 1967-2010
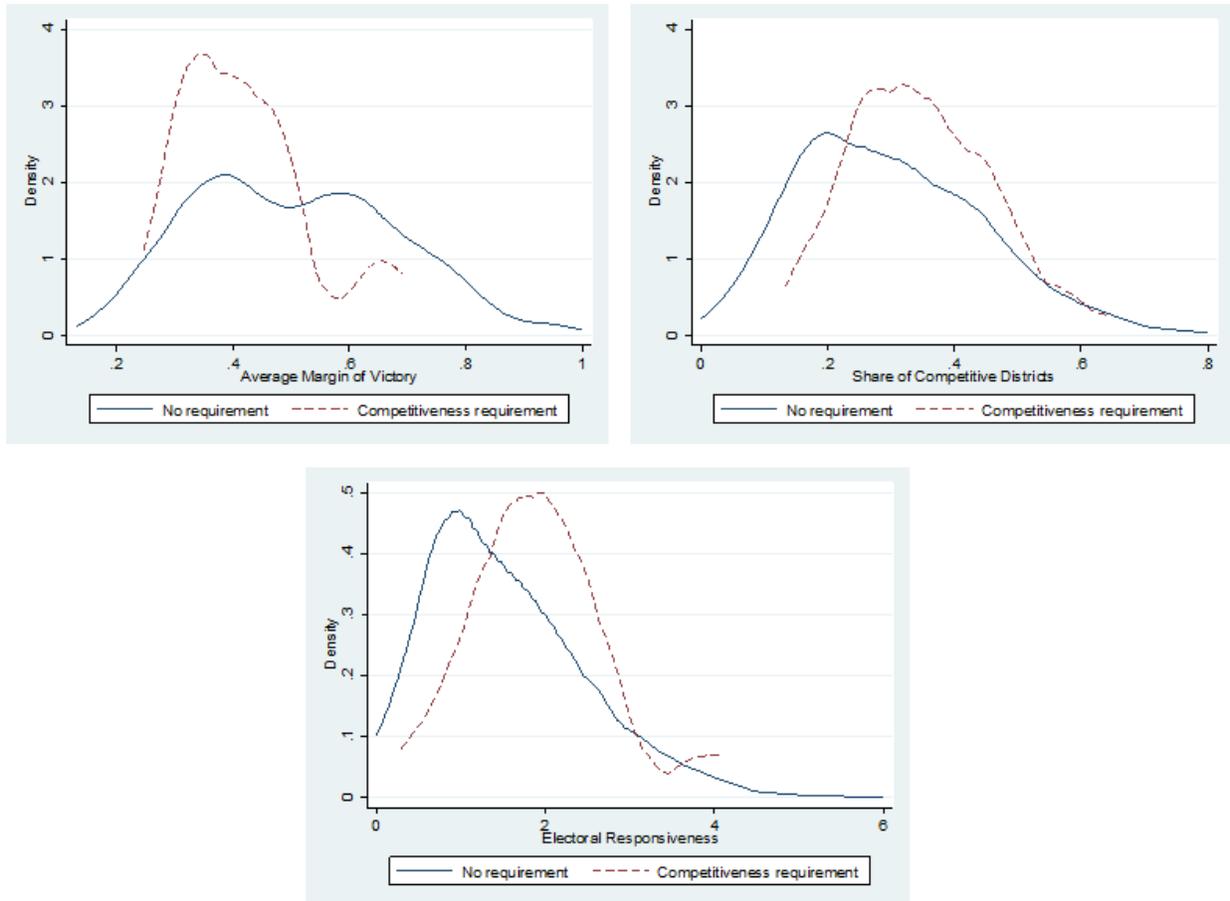
In all of the analysis to this point, the presence of a consequentialist criterion was statistically insignificant, or significant only at the 10% level, when controls were added for other relevant factors. Here, however, the presence of a competitiveness requirement remains a significant predictor of the average margin of victory (at the 10% level), the share of competitive districts, and the level of electoral responsiveness after I control for the usual array of variables. This is the only potential success for consequentialist criteria identified by this paper. In state legislative elections (but not in congressional elections), competitiveness criteria (but not partisan fairness criteria) may indeed result in their desired consequences. Controlling for other

pertinent factors, they decrease the average margin of victory (by 4.0%) and increase the proportion of competitive districts (by 5.1%) as well as the level of responsiveness (by 0.40).[110]

Several other factors also have significant effects on competitiveness. As in the congressional analysis, respect for political subdivisions has a pro-competitive impact in all three models, while VRA coverage has an anti-competitive influence in each case. The use of a court to draw district lines also increases competitiveness in every model. Like commissions, courts have no particular incentive to shield incumbents from electoral challenges. On the other hand, respect for prior district cores, incumbent protection requirements, and the presence of divided government all are linked to reduced competition. Incumbents tend to benefit when their districts are kept largely intact after a round of redistricting. They are even more heavily advantaged when their protection is made an explicit line-drawing criterion. And when government is divided, both parties are motivated to shelter their elected officials, thus suppressing competition, since they lack the ability to enact a partisan gerrymander.[111]

III. IMPLICATIONS

The empirical results reported above have important implications both for the partisan fairness and competitiveness approaches and for redistricting reform in general. It is to these implications that I turn in this Part. With respect to the two consequentialist approaches, the dominant theme of the analysis is their inability to produce their desired consequences. However, there are some grounds for optimism in the efficiency differential models and in the competitiveness models for state legislative elections. Consequentialist criteria may usually be ineffective because of their poor drafting, low prioritization, and need for unrealistically accurate electoral forecasting. But they do enjoy some success in reducing the efficiency differential (probably a better metric than partisan bias), and in increasing the competitiveness of state legislative elections (probably the domain best suited to consequentialist line-drawing).

With respect to redistricting reform generally, the clearest point to emerge is the strong performance of neutral institutions. In both South Australia and the United States, the use of independent commissions is linked to greater partisan fairness and greater competitiveness. The use of courts to draw district lines in the United States has similarly positive consequences. Accordingly, institutional change should be a higher-priority goal for reformers than the adoption of consequentialist approaches. The second point conveyed by the data is the unclear efficacy (or worse) of many redistricting criteria. For example, compactness requirements

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[110] *See infra* tbl. 5. These results persist when fixed effects are added for the year of the election, but they cease to hold when fixed effects are added for *both* the state and year. The results also hold when I use robust standard errors (at the 5% level for each metric), but they hold only for responsiveness when I cluster standard errors by state. *See supra* note 87 (discussing use of robust and clustered standard errors).

[111] In addition, as in the congressional analysis, the Democratic share of the statewide vote is linked to lower competitiveness. *See supra* note 106. The number of districts in a state is also linked to lower competitiveness, perhaps because when districts are especially small in population it is difficult for them to be competitive. Consistent with findings that competition is decreasing in state legislative elections, the election year has an anti-competitive effect as well. *See* Niemi et al., *supra* note 72, at 64-67. Lastly, respect for communities of interest is linked to higher electoral responsiveness, while compactness and partisan fairness requirements are linked to lower responsiveness.

reduce both partisan fairness and competitiveness; respect for communities of interest has almost no effect on any of the relevant metrics; and the pro-competitive impact of respect for political subdivisions must be balanced against the criterion's link to lower partisan fairness. Institutional change thus should also be a higher-priority goal than the enactment of conventional line-drawing requirements.

A. Consequentialist Approaches

The overarching conclusion of the above empirical analysis was that, once other relevant factors have been taken into account, consequentialist criteria have not achieved their desired results. The differences in partisan bias and the efficiency differential between South Australia and other Australian jurisdictions were not statistically significant. Nor did South Australia experience any increases in partisan symmetry after adopting its partisan fairness requirement in 1991. In the United States, the presence of a partisan fairness criterion also did not have a significant impact on partisan bias or the efficiency differential after controls for pertinent variables were added. In the regression models for congressional elections, competitiveness was unaffected as well by the presence of a competitiveness requirement.[112]

What accounts for this unimpressive record? Why don't consequentialist criteria seem to *work*? One answer is that they are often drafted so poorly that it is difficult to discern what their authors sought to accomplish or how they are meant to be enforced. For example, statutes in Delaware and Hawaii forbid district plans that "unduly favor" a political party.[113] It is entirely unclear how partisan favoritism is supposed to be determined, let alone what level of favoritism is undue. Similarly, authorities in California, New York, and Virginia have taken "political fairness" into account in designing district plans, but without providing any definition of this exceedingly vague term.[114] And statements that competitiveness was "considered," as in Colorado, Florida, and Wisconsin, neither explain what kind of competition was examined, nor specify how serious the consideration was.[115] It is not too surprising that consequentialist criteria of such imprecision have been relatively ineffective.

Another explanation for the weak record of consequentialist criteria is the low priority they often have been accorded relative to other requirements. For instance, courts in California, Colorado, Michigan, Texas, and Wisconsin designed district plans largely on the basis of *non*-consequentialist criteria, and then took partisan fairness into account only after provisional districts already had been drawn.[116] As the Texas court commented in its discussion of its line-drawing methodology, "*Finally*, we checked our plan against the test of general partisan

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[112] And even the limited successes of the efficiency differential models and the competitiveness models in state legislative elections disappeared after fixed effects were added for the state and year. *See supra* notes 82, 88, 95, 110.

[113] *See supra* fig. 1.

[114] *See id.*

[115] *See supra* fig. 2.

[116] *See* Balderas v. Texas, 2001 WL 36403750, at *3 (E.D. Tex. Nov. 14, 2001); Good v. Austin, 800 F. Supp. 557, 566-67 (E.D. Mich. 1992); Prosser v. Elections Bd., 793 F. Supp. 859, 871 (W.D. Wis. 1992); Legislature v. Reinecke, 516 P.2d 6, 38 (Cal. 1973); Avalos v. Davidson, 2002 WL 1895406, at *8 (Colo. Dist. Ct. Jan. 25, 2002).

outcome."[117] Analogously, the relevant Arizona and Wisconsin laws both make clear that competitiveness is subordinate to other redistricting criteria. The Arizona constitution declares that "*[t]o the extent practicable*, competitive districts should be favored *where to do so would create no significant detriment to the other goals*,"[118] while the Wisconsin statute states that "*[t]o the very limited extent that precise population equality is unattainable*, [the district plans] . . . giv[e] due consideration to . . . competitive legislative districts."[119] Again, it is unsurprising that consequentialist criteria that have been granted such low priority have had such limited effects.

A further reason why consequentialist criteria have not been very effective is that election results—and in particular how they translate into measures of partisan fairness and competitiveness—are quite difficult to forecast. In U.S. congressional elections, for example, the correlation between the Democratic share of the statewide vote in one election and the Democratic share in the previous election averaged 0.80 between 1968 and 2010. But the correlations for average margin of victory, share of competitive districts, responsiveness, and the efficiency differential averaged only 0.63, 0.42, 0.24, and 0.45, respectively, over the same period. These figures reveal a sufficiently high level of volatility that it is hard to see how even the best-written and most highly-prioritized consequentialist criteria could consistently achieve their desired results. Over the decade-long lifespan of a district plan, competitiveness and partisan fairness tend to vary widely and unpredictably, thus undoing even quite meticulous districting arrangements.[120]

The difficulty of predicting election results is also why South Australia's partisan fairness requirement has not functioned as well as might have been expected. As Jenni Newton-Farrelly has explained, the South Australian commission relies on past election results as well as the uniform swing assumption to design its district plans.[121] This approach worked well for the four elections between 1993 and 2006, in which candidates associated with the party that won a majority of the statewide vote always won a majority of the statewide seats.[122] However, the commission's efforts misfired dramatically in 2010, when the ALP received 48.4% of the

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[117] *Balderas*, 2001 WL 36403750, at *3 (emphasis added).

[118] Ariz. Const. art. IV, pt. 2, § 1(14)(F) (emphasis added).

[119] Wis. Stat. § 4.001(3) (repealed 2011) (emphasis added).

[120] I did not include elections held under different district plans than the previous elections (i.e., 1972, 1982, 1992, 2002, and 2012). I also did not include district plans with fewer than five districts. Partisan bias is the one metric that does seem to be quite predictable, with an average correlation of 0.86 from election to election. The equivalent correlations for state legislative elections are 0.81 for average margin of victory, 0.64 for share of competitive districts, 0.54 for responsiveness, 0.48 for partisan bias, and 0.51 for the efficiency differential. When I ran the various regression models using only elections held immediately after a round of redistricting, more of the variance was explained in each case, but the presence of consequentialist criteria was no more significant. Line-drawers thus seem unable to increase partisan fairness or competitiveness even in elections that are held just months after their district plans have been completed. *Cf.* Gelman & King, *supra* note 2, at 548, 550 (finding that bias tends to be stickier over time than responsiveness in state legislative elections).

[121] *See* Newton-Farrelly, *Gerry-Built*, *supra* note 16, at 475-80 (discussing South Australian commission's methodology).

[122] Though in 2002 a third-party member who was expected to support the Liberals actually voted for a Labor government, thus giving Labor control of the state parliament even though the party had received a minority of the statewide vote. *See* Newton-Farrelly, *Wrong Winner*, *supra* note 16, at 3-4.

statewide vote but 57.4% of the statewide seats, resulting in a partisan bias of 7.4% and an efficiency differential of 10.6%. What went wrong was that the ALP's vote share did *not* swing uniformly across all districts. Instead, "[t]he ALP ran the most successful defensive marginal seats campaign seen in South Australia," so that "the biggest swings occurred in safe Labor seats and in fairly safe Liberal seats," while marginal Labor seats barely swung at all.[123] Not even the world's best partisan fairness requirement could succeed in the face of such clever campaign tactics and unequal resulting swings.

A final possibility is that consequentialist criteria *do* work but the metrics I calculated were too unreliable or the analytical techniques I used were too crude to pick up their effects. I estimated partisan fairness and competitiveness using standard measures of the two concepts as well as data from actual legislative elections. It is plausible that more advanced metrics (e.g., partisan bias computed *without* reliance on the uniform swing assumption[124]) or other data (e.g., presidential election results aggregated by district[125]) would have led to different conclusions. Similarly, I sought to determine the effects of consequentialist criteria using conventional OLS regressions that included controls for relevant variables. It is again plausible that the results would have been different had I used other analytical techniques (e.g., difference-in-differences analysis[126]) or additional controls (e.g., the geographic distribution of partisan support across a state[127]). However, my sense from experimenting with these and other approaches is that this paper's null findings are quite robust. Though I cannot be sure, I would be surprised if better data or more sophisticated techniques would determine that consequential criteria actually are successful.

A relative bright spot in this gloomy picture is the performance of partisan fairness requirements in the efficiency differential models. In two of the three sets of elections that I examined—Australian and U.S. congressional—the presence of a partisan fairness criterion was statistically significant at the 10% level, even after controlling for other relevant factors.[128] The requirement's presence reduced the efficiency differential by 5.6% in Australian elections and by 2.6% in U.S. congressional elections.[129] Too much should not be made of these results, since the requirement's presence did not attain the standard 5% significance level. But it does seem that partisan fairness criteria are not entirely useless, and it is also unsurprising that these criteria would have a greater impact on the efficiency differential than on partisan bias. As discussed above, the efficiency differential is calculated using actual election results rather than the outcome of a hypothetical 50-50 election, and it takes into account wasted *votes* rather than gaps

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[123] *Id.* at 5; *see also* Newton-Farrelly, Blindfolds, *supra* note 16, at 3.

[124] *See* Gelman & King, *supra* note 66, at 521-23. However, "the uniform partisan swing assumption *does* hold approximately in a vast array of democratic elections in the U.S." Grofman & King, *supra* note 2, at 11 (emphasis added).

[125] *See supra* note 38. However, the regressions I ran using this data at the congressional level were *less* illuminating, and presidential election results aggregated by district are unavailable at the state legislative level.

[126] However, it is difficult to select appropriate jurisdictions and time periods for difference-in-differences analysis, and my experiments with the technique did not yield any especially interesting results.

[127] However, there is no well-accepted method for measuring this distribution. *Cf.* Stephanopoulos, *supra* note 15, at 1936-41 (introducing technique for measuring spatial diversity of individual *districts*).

[128] *See infra* tbls. 1-2. However, the requirement's presence lost its statistical significance in both cases once fixed effects were added for the state and year. *See supra* notes 82, 88.

[129] *See id.*

between the parties' *seats.*[130] According to its creator, Eric McGhee, these attributes make it a more sensitive measure of partisan fairness than bias[131]—and may explain why it responds to the presence of a partisan fairness requirement while bias does not.

The more important exception to the poor record of consequentialist criteria is the performance of competitiveness requirements in state legislative elections. Controlling for other pertinent variables, the presence of a competitiveness requirement was linked to a statistically significant decrease in the average margin of victory (by 4.0%) as well as statistically significant increases in the share of competitive districts (by 5.1%) and the level of electoral responsiveness (by 0.40).[132] One explanation for this finding is that competitiveness may be easier to forecast than partisan fairness. Measures of competitiveness are derived more directly from election results than are measures of partisan fairness, which require the consideration of vote-seat conversion as well.[133] Predictable factors like incumbency also have a large influence on the competitiveness of individual districts. Perhaps for these reasons, the correlations from election to election in state legislative races were higher for all three competitiveness metrics I used than for either metric of partisan fairness.[134]

The election *level* is the second potential explanation for the effectiveness of competitiveness requirements in state legislative races. As noted earlier, state legislative plans have many more districts than congressional plans, a fact that improves the reliability of electoral metrics that are calculated for the former.[135] This improved reliability explains why the state legislative models all were able to explain more of the variance in the dependent variables than the congressional models.[136] It also explains why the metrics' correlations from election to election were generally higher in state legislative races than in congressional races.[137] Beyond their larger numbers of districts, the stakes are lower in state legislative elections as well. Most state chambers are not closely divided between the parties, meaning that control of a chamber rarely hinges on the effectiveness of a partisan gerrymander.[138] Even where control of a chamber does so hinge, it is only a single state house or state senate that is at stake—not the United States House of Representatives. It may therefore be easier for state legislative line-drawers to

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[130] *See supra* notes 69-70 and accompanying text.

[131] *See* McGhee, *supra* note 69, at 23-25.

[132] *See infra* tbl. 5. However, the requirement's presence also lost its statistical significance once fixed effects were added for the state and year. *See supra* note 110.

[133] This is particularly the case for average margin of victory and the share of competitive districts. Like the partisan fairness metrics, responsiveness does require the consideration of vote-seat conversion, though using actual election results rather than the outcome of a hypothetical 50-50 election. *See supra* note 74 and accompanying text.

[134] *See supra* note 120; *see also* Michael P. McDonald, *Redistricting and Competitive Districts*, *in* THE MARKETPLACE OF DEMOCRACY, *supra* note 19, at 222, 238 (arguing, based on author's own redistricting experience, that "it is possible to devise a working definition of a competitive district that will foster competitive elections").

[135] *See supra* note 93 and accompanying text.

[136] *See infra* tbls. 2-5.

[137] *See supra* note 120.

[138] Over the 1968-2010 period, the parties' respective seat shares came within twenty points of each other in state legislative chambers only about 40% of the time. In contrast, the parties' respective seat shares in Congress were this close about *80%* of the time over the same period.

prioritize consequentialist criteria than for their congressional counterparts. Lower stakes may be conducive to the achievement of goals other than partisan or bipartisan advantage.[139]

In sum, the overall record of consequentialist criteria is poor, likely because of their shoddy drafting, low prioritization, and need for unrealistically accurate electoral forecasts. But there is a glimmer of hope in the ability of partisan fairness requirements to reduce the efficiency differential in two of the three sets of elections that I studied. This ability likely stems from the measure's greater sensitivity relative to the more common partisan bias metric. And there is even more reason for optimism in the performance of competitiveness requirements in state legislative elections. Whether because competitiveness is easier to forecast than partisan fairness, or because state legislative elections are a more favorable setting than congressional elections, competition indeed is meaningfully more vigorous when district plans are designed using competitiveness criteria.

B. Other Approaches

The analysis presented in Part II sheds light on not only the performance of consequentialist approaches, but also the records of *other* popular proposals for redistricting reform. The most common such proposal (and one that I have defended in earlier work[140]) is the use of independent institutions, such as commissions, to enact district plans. The reasoning is that actors who are personally unaffected by redistricting should be able to draw better districts than self-interested politicians. Neutral plans should command greater popular legitimacy, they should better comply with whatever criteria apply to the line-drawing process—and they should be fairer to the major parties and more competitive as well.[141]

Consistent with these expectations, South Australia experienced dramatic improvements in both partisan fairness and competitiveness after adopting its independent commission in 1975. As noted earlier, partisan bias fell from 9.0% in 1950-1975 to 3.6% in 1977-2010, while the efficiency differential fell from 5.7% to 3.5%.[142] Similarly, the average margin of victory fell from 29.3% to 24.6%, the share of competitive districts rose from 33.1% to 42.7%, and the level of electoral responsiveness rose from 1.4 to 2.2. Some of this progress is likely due to South Australia's simultaneous embrace of the one-person, one-vote rule, but some of it also must be attributed to the state's institutional reforms.

Another illuminating comparison is between *all* elections in Australia (where all states use commissions) and elections in the United States. With respect to partisan fairness, as Figure 9 indicates, partisan bias has averaged 4.6% in Australia and the efficiency differential has averaged 7.0%. The equivalent figures are 6.6% and 9.8% in U.S. state legislative elections, and 8.2% and 10.1% in U.S. congressional elections. With respect to competitiveness, as Figure 9 also displays, the average margin of victory has averaged 20.0% in Australia, the share of

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[139] *See* Cain et al., *supra* note 67, at 1 (noting that "redistricting [criteria] can be much more potent in the larger number of state legislative districts").

[140] *See* Stephanopoulos, *supra* note 35 (manuscript at 20-28).

[141] *See id.* (making these arguments).

[142] *See supra* section II.B.1.

competitive districts has averaged 55.3%, and the level of electoral responsiveness has averaged 2.84. The equivalent figures are 50.4%, 30.0%, and 1.55 in U.S. state legislative elections, and 39.7%, 28.7%, and 1.46 in U.S. congressional elections. These are stark differences, especially for competitiveness, with Australia holding the advantage in every case. Australian and American elections both use single-member districts, first-past-the-post voting, and the one-person, one-vote rule, and they both are dominated by two parties. The most glaring difference between the systems—the Australian embrace of redistricting commissions—thus likely accounts for a good deal of the Australian edge in partisan fairness and competitiveness.

FIGURE 9: PARTISAN FAIRNESS AND COMPETITIVENESS METRICS FOR AUSTRALIAN AND AMERICAN ELECTIONS
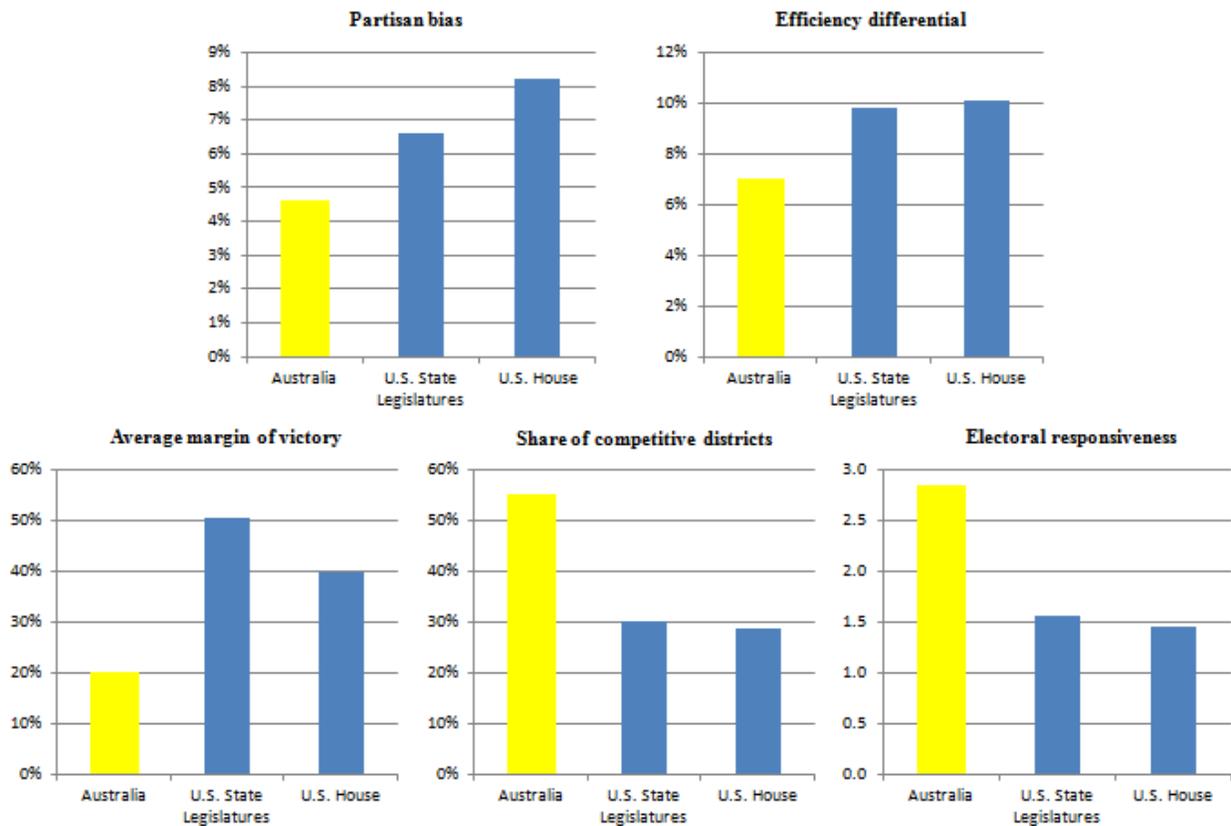
Further support for the efficacy of independent institutions comes from the various U.S.-specific regression models. With respect to partisan fairness, commission usage had a statistically significant downward impact on the efficiency differential in state legislative elections (by 2.1%). Similarly, reliance on a court to draw district lines lowered partisan bias (by 1.3%) and the efficiency differential (by 2.7%) in state legislative elections, and partisan bias in congressional elections too (by 2.0%).[143] With respect to competitiveness, commission usage reduced the average margin of victory (by 8.9%) and increased the share of competitive districts (by 9.9%) and the level of electoral responsiveness (by 0.99) in congressional elections.

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[143] *See infra* tbls. 2-3.

Analogously, reliance on a court reduced the average margin of victory (by 9.1%) and increased the share of competitive districts (by 6.7%) and the level of electoral responsiveness (by 0.45) in state legislative elections.[144] The upshot is that in just about every model I considered, one of the key causes of appealing electoral outcomes was the use of a commission or court to draw district lines.

To be sure, this paper's results do not present an airtight case for independent institutions. It is unclear whether South Australia's post-1975 gains should be attributed to its adoption of a commission or its espousal of the one-person, one-vote rule. The Australian and American electoral systems differ not only in their reliance on commissions, but also in their use of mandatory voting (yes in Australia, no in America), their use of preferential voting (same), and their basic structure (parliamentary versus presidential). And the coefficients for commission and court usage in the U.S. regression models were often small, and there is no good explanation why these factors varied in their significance from model to model. But despite these caveats, the record of independent institutions is undeniably positive. To a much greater extent than consequentialist criteria, they actually produce improvements in both partisan fairness and competitiveness.[145] Reformers concerned about electoral outcomes, both in America and abroad, thus would be well-advised to focus their energies on institutional change, not the adoption of outcome-oriented line-drawing requirements.

The other common proposal for redistricting reform is the enactment of conventional criteria such as compactness, respect for political subdivisions, respect for communities of interest, and respect for prior district cores.[146] The logic is that if redistricting authorities must abide by such requirements, they will be unable simultaneously to pursue partisan advantage or suppress competition. Reduced discretion will produce better election results. In addition, compliance with some of these criteria often is thought to have independent normative value. For instance, several scholars (myself included[147]) have argued that when districts are congruent with communities of interest, voters are more motivated to participate in politics, and elected officials are better able to represent their constituents.

This paper does not contribute to the debate about the participatory or representational implications of conventional redistricting criteria. It does, however, offer several grounds for skepticism as to the ability of these criteria to improve partisan fairness and competitiveness by limiting line-drawers' discretion. In the various U.S.-specific regression models, the record of the criteria was mixed at best, and sometimes even counterproductive. Beginning with compactness, all of its statistically significant effects were in an undesirable direction. The presence of a compactness requirement increased the efficiency differential in state legislative elections, reduced the share of competitive districts and the level of electoral responsiveness in

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[144] *See infra* tbls. 4-5.

[145] This paper's findings are confirmed by the existing political science literature. *See* Stephanopoulos, *supra* note 35 (manuscript at 23-25) (summarizing work on implications of commission usage for partisan bias, responsiveness, and competitiveness).

[146] I also include data on incumbency protection in my regression models, but it is a less common criterion and also one that clearly is *not* rooted in a desire to promote partisan fairness or competitiveness.

[147] *See* Nicholas O. Stephanopoulos, *Redistricting and the Territorial Community*, 160 U. PA. L. REV. 1379, 1390-97 (2012); Stephanopoulos, *supra* note 15, at 1941-48.

congressional elections, and reduced responsiveness in state legislative elections as well.[148]
Whatever the aesthetic benefits may be of compact districts, they apparently do not translate into
electoral improvements. To the contrary, compact districts tend to pack Democrats and to result
in unfair and uncompetitive district plans.

　　　The situation is more ambiguous with respect for political subdivisions. The requirement
had a clear pro-competitive effect, reducing the average margin of victory and increasing the
share of competitive districts and the level of electoral responsiveness in both congressional and
state legislative elections.[149] But the requirement also increased partisan bias in state legislative
elections.[150] These results arguably are reconcilable because adherence to subdivision
boundaries may pack Democrats in certain districts (thus increasing partisan bias) while
generally making it easier for challengers to convey their messages to voters (thus increasing
competitiveness). But even if the results can be squared, they still present reformers with an
unwelcome choice between partisan fairness and competitiveness. Gains cannot be made along
both dimensions by mandating that districts coincide with political subdivisions.

　　　Next, respect for communities of interest seems to be a largely toothless requirement, at
least in terms of its electoral consequences. The requirement had no meaningful impact on
partisan fairness, and its only statistically significant effect in the competitiveness models was to
increase responsiveness in state legislative elections.[151] Earlier work of mine, using more
sophisticated conceptions of district-community congruence, has produced more favorable
results,[152] but it does appear that the mere presence of a community-of-interest criterion is mostly
ineffectual. Finally, respect for prior district cores, like compactness, has only adverse effects.
The requirement increased partisan bias and the average margin of victory and decreased the
share of competitive districts and the level of electoral responsiveness in state legislative
elections.[153] By freezing in place existing district plans, the requirement evidently advantages
incumbents who have thrived under the status quo and prevents partisan imbalances from being
corrected.

　　　Once again, these findings should be taken with a grain of salt. Like consequentialist
criteria, conventional requirements are often poorly drafted and subordinate to other redistricting
considerations. It is quite possible that they would perform better if they were written more
clearly or prioritized more highly. Similarly, the presence of a requirement that districts be
designed in a certain manner does not guarantee that they actually will be drawn in this way.[154]

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[148] *See infra* tbls. 2-5.

[149] *See infra* tbls. 4-5.

[150] *See infra* tbl. 3.

[151] *See infra* tbls. 2-5.

[152] *See* Stephanopoulos, *supra* note 147, at 1459-62 (finding that community-of-interest requirement with
three gradations had positive implications for partisan bias and electoral responsiveness in 2002 state legislative
elections); Stephanopoulos, *supra* note 15, at 1963-66 (finding that spatial diversity, a proxy for district-community
congruence, is linked in expected directions to bias and responsiveness).

[153] *See infra* tbls. 2-5.

[154] *See* Jason Barabas & Jennifer Jerit, *Redistricting Principles and Racial Representation*, 4 STATE POL. &
POL'Y Q. 415, 428 (2004) (noting difficulty of assessing "the manner in which or even whether [redistricting criteria]
were implemented"); Forgette et al., Un-Principled Politics, *supra* note 35, at 13.

District-community congruence *itself*, for example, may have very different consequences than an ostensible rule that districts must respect communities of interest.[155] Still, it is indisputable that the record of conventional redistricting criteria is mediocre at best. Reformers who hope to increase the partisan fairness and competitiveness of elections clearly should turn their attention elsewhere—above all to improving the institutions responsible for redistricting.

<div align="center">CONCLUSION</div>

The emergence of the partisan fairness and competitiveness approaches is arguably the most important development of the last generation in the redistricting domain. But while much scholarly attention has been devoted to the approaches' theoretical merits, almost none has yet been paid to a simpler (but perhaps more vital) question: How well do consequentialist criteria actually work? This paper has sought to answer this query by compiling a comprehensive list of jurisdictions that have used the criteria and then calculating measures of partisan fairness and competitiveness for a large set of Australian and American elections. Unfortunately for their proponents, the main finding of this analysis is that consequentialist criteria do *not* work very well. Controlling for other relevant variables, they typically do not make elections meaningfully fairer or more competitive.

Two bright spots in this picture are that consequentialist criteria *do* increase fairness along one of the two metrics I used, and that they *do* increase competitiveness in U.S. state legislative elections. An optimist may therefore be forgiven for speculation that the criteria would perform even better if only they were drafted more precisely, prioritized more highly, or based on better election forecasts. A more robust finding, however, is that electoral outcomes actually can be improved by *not* taking electoral predictions directly into account. Consequentialist criteria themselves are largely ineffective, but the use of independent redistricting institutions, such as commissions and courts, is quite effective indeed. According to data from both Australia and America, commission- and court-drawn plans are substantially fairer and more competitive than plans devised by self-interested politicians. Ironically, it seems that consequentialist criteria cannot achieve their own desired consequences—but that non-consequentialist approaches can.

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[155] *See supra* note 152.

Table 1: Australia Partisan Fairness Models

Variables	Model 1: Partisan Bias (Absolute Value)	Model 2: Efficiency Differential (Absolute Value)
Partisan fairness requirement	-0.016 (0.021)	-0.056 (0.033)*
Year	-0.00056 (0.00062)	-0.00035 (0.00096)
Level of election	0.0079 (0.022)	0.034 (0.034)
Number of districts	-0.00021 (0.00035)	-0.00089 (0.00054)
ALP share of two-party vote	-0.036 (0.091)	-0.47 (0.14)***
Constant	1.19 (1.24)	1.03 (1.93)
Observations	66	66
Adjusted R-Squared	-0.039	0.23

Entries for variables take form: coefficient (standard error).
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 2: U.S. House of Representatives Partisan Fairness Models

Variables	Model 1: Partisan Bias (Absolute Value)	Model 2: Efficiency Differential (Absolute Value)
Partisan fairness requirement	-0.014 (0.015)	-0.026 (0.015)*
Compactness requirement	0.0028 (0.012)	-0.0023 (0.011)
Political subdivision preservation requirement	0.0048 (0.014)	0.0034 (0.014)
Community of interest preservation requirement	-0.0041 (0.016)	-0.0045 (0.016)
Respect for prior district core requirement	-0.0089 (0.015)	-0.020 (0.015)
Incumbent protection requirement	-0.0070 (0.018)	-0.00089 (0.018)
Competitiveness requirement	0.029 (0.016)*	-0.030 (0.016)*
Voting Rights Act coverage	0.011 (0.011)	0.0053 (0.011)
Legislature responsible – divided government	-0.014 (0.011)	-0.021 (0.011)*
Commission responsible	-0.014 (0.014)	0.0057 (0.014)
Court responsible	-0.020 (0.011)*	0.0082 (0.011)
Democratic share of two-party vote	0.0087 (0.040)	0.11 (0.040)***
Number of districts	-0.00048 (0.00041)	-0.0018 (0.00041)***
Year	-0.00075 (0.0014)	-0.00028 (0.0014)
2000 cycle	0.017 (0.016)	0.012 (0.016)
2010 cycle	0.040 (0.026)	0.024 (0.026)
Constant	1.59 (2.75)	0.64 (2.73)
Observations	334	334
Adjusted R-Squared	0.022	0.063

Entries for variables take form: coefficient (standard error).
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
Legislature responsible – unified government is the omitted institutional variable. 1990 cycle is the omitted date variable.
Only states with at least five congressional districts included.

Table 3: U.S. State Legislative Partisan Fairness Models

Variables	Model 1: Partisan Bias (Absolute Value)	Model 2: Efficiency Differential (Absolute Value)
Partisan fairness requirement	-0.00025 (0.0057)	-0.013 (0.0084)
Compactness requirement	-0.0022 (0.0040)	0.012 (0.0058)**
Political subdivision preservation requirement	0.015 (0.0044)***	-0.0025 (0.0065)
Community of interest preservation requirement	-0.0060 (0.0041)	0.0013 (0.0060)
Respect for prior district core requirement	0.022 (0.0081)***	0.0054 (0.012)
Incumbent protection requirement	-0.021 (0.0090)**	0.019 (0.013)
Competitiveness requirement	-0.0081 (0.0075)	-0.015 (0.011)
Voting Rights Act coverage	-0.0025 (0.0049)	-0.017 (0.0071)**
Legislature responsible – divided government	0.0048 (0.0044)	0.0030 (0.0063)
Commission responsible	-0.0013 (0.0047)	-0.021 (0.0068)***
Court responsible	-0.013 (0.0053)**	-0.027 (0.0077)***
Democratic share of two-party vote	0.098 (0.015)***	0.18 (0.022)***
Number of districts	-0.00026 (0.000034)***	-0.00025 (0.000050)***
Year	0.00037 (0.00055)	0.00072 (0.00080)
2000 cycle	-0.00098 (0.0063)	-0.0088 (0.0092)
Constant	-0.73 (1.10)	-1.44 (1.60)
Observations	802	802
Adjusted R-Squared	0.13	0.15

Entries for variables take form: coefficient (standard error).
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
Legislature responsible – unified government is the omitted institutional variable. 1990 cycle is the omitted date variable.

Table 4: U.S. House of Representatives Competitiveness Models

Variables	Model 1: Average Margin of Victory	Model 2: Share of Competitive Districts	Model 3: Electoral Responsiveness
Competitiveness requirement	0.0021 (0.029)	0.040 (0.039)	-0.067 (0.30)
Compactness requirement	-0.0093 (0.021)	-0.079 (0.028)***	-0.45 (0.22)**
Political subdivision preservation requirement	-0.11 (0.026)***	0.17 (0.035)***	0.76 (0.27)***
Community of interest preservation requirement	0.034 (0.029)	-0.033 (0.039)	0.15 (0.30)
Respect for prior district core requirement	0.032 (0.028)	-0.059 (0.037)	-0.37 (0.28)
Incumbent protection requirement	-0.047 (0.033)	-0.0023 (0.044)	-0.083 (0.33)
Partisan fairness requirement	-0.024 (0.028)	-0.028 (0.037)	-0.40 (0.28)
Voting Rights Act coverage	0.12 (0.020)***	-0.079 (0.026)***	-0.33 (0.20)*
Legislature responsible – divided government	-0.0090 (0.021)	-0.0085 (0.028)	0.033 (0.21)
Commission responsible	-0.089 (0.025)***	0.099 (0.034)***	0.99 (0.26)***
Court responsible	-0.0039 (0.020)	-0.0012 (0.027)	0.082 (0.21)
Democratic share of two-party vote	0.14 (0.07)**	-0.15 (0.098)	-0.35 (0.76)
Number of districts	0.00059 (0.00076)	-0.00047 (0.0010)	-0.0066 (0.0078)
Year	0.00095 (0.0025)	0.0022 (0.0034)	-0.026 (0.026)
2000 cycle	0.014 (0.029)	-0.099 (0.039)**	-0.096 (0.30)
2010 cycle	-0.026 (0.048)	-0.093 (0.065)	-0.035 (0.50)
Constant	-1.59 (5.05)	-3.96 (6.76)	54.4 (51.9)
Observations	334	334	334
Adjusted R-Squared	0.22	0.17	0.12

Entries for variables take form: coefficient (standard error).
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
Legislature responsible – unified government is the omitted institutional variable. 1990 cycle is the omitted date variable.
Only states with at least five congressional districts included.

Table 5: U.S. State Legislative Competitiveness Models

Variables	Model 1: Average Margin of Victory	Model 2: Share of Competitive Districts	Model 3: Electoral Responsiveness
Competitiveness requirement	-0.040 (0.021)*	0.051 (0.020)**	0.40 (0.14)***
Compactness requirement	-0.012 (0.012)	-0.011 (0.011)	-0.12 (0.072)*
Political subdivision preservation requirement	-0.080 (0.013)***	0.063 (0.012)***	0.30 (0.081)***
Community of interest preservation requirement	0.0097 (0.012)	0.016 (0.011)	0.15 (0.074)**
Respect for prior district core requirement	0.061 (0.023)***	-0.053 (0.022)**	-0.31 (0.15)**
Incumbent protection requirement	0.11 (0.026)***	-0.044 (0.024)*	-0.19 (0.16)
Partisan fairness requirement	0.0020 (0.017)	-0.026 (0.016)*	-0.20 (0.10)*
Voting Rights Act coverage	0.10 (0.014)***	-0.069 (0.013)***	-0.40 (0.088)***
Legislature responsible – divided government	0.031 (0.013)**	-0.025 (0.012)**	-0.20 (0.079)**
Commission responsible	-0.012 (0.014)	-0.0018 (0.013)	-0.022 (0.085)
Court responsible	-0.091 (0.015)***	0.067 (0.014)***	0.45 (0.096)***
Democratic share of two-party vote	0.14 (0.042)***	-0.093 (0.040)**	-0.55 (0.27)**
Number of districts	0.00058 (0.000098)***	-0.00054 (0.000092)***	-0.0029 (0.00062)***
Year	0.0039 (0.0016)**	-0.0035 (0.0015)**	-0.026 (0.0099)***
2000 cycle	-0.037 (0.018)**	0.031 (0.017)*	0.26 (0.11)**
Constant	-7.42 (3.15)**	7.27 (2.96)**	53.53 (19.86)***
Observations	802	802	802
Adjusted R-Squared	0.34	0.22	0.17

Entries for variables take form: coefficient (standard error).

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Legislature responsible – unified government is the omitted institutional variable. 1990 cycle is the omitted date variable.