

The Senate: An Institution Whose Time Has Gone?

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INTRODUCTION

The apportionment of representation in the United States Senate has always held an exalted place in our constitutional democracy. It alone, among our Constitution's current dictates, cannot be amended pursuant to the general procedures set out in Article V.¹ Even if all forty-nine of

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¹ The pertinent part of Article V states:

The Congress, whenever two thirds of both Houses shall deem it necessary, shall propose Amendments to this Constitution, or, on the Application of the Legislatures of two thirds of the several States, shall call a Convention for proposing Amendments, which, in either Case, shall be valid to all Intents and Purposes, as Part of this Constitution, when ratified by the Legislatures of three fourths of the several States, or by Conventions in three fourths thereof, as the one or the other Mode of Ratification may be proposed by the Congress; Provided that ... no State, without its Consent, shall be deprived of its equal Suffrage in the Senate.

U.S. CONST. art. V. The apportionment of representation in the Senate is prescribed in Article I: "The Senate of the United States shall be composed of two Senators from each State, ... and each Senator shall have one Vote." U.S. CONST. art. I, § 3, *amended* by U.S. CONST. amend. XVII (substituting popular election of Senators for selection by the state legislature).

The only other provisions of the original Constitution that could not be amended pursuant to the general procedures of Article V were Article I, Section 9, Clauses 1 and 4, concerning, respectively, slavery and direct taxation. U.S. CONST. art. I, § 9, cl. 1 ("The Migration or Importation of such

the other states were to agree, "no State, without its Consent, shall be deprived of its equal Suffrage in the Senate."²

In recent times, however, the allocation of representation in the Senate also has required some awkward explaining. Following the Supreme Court's 1962 decision in *Baker v. Carr*,³ states that have sought to mimic Congress in their scheme of representation have repeatedly been told that "such a plan is impermissible for the States under the Equal Protection Clause"⁴ because it violates "[t]he right of a citizen to equal representation and to have his vote weighted equally with those of all other citizens" in both houses of a bicameral legislature.⁵ The Court simultaneously has excused the federal legislature's denial of this same right by invoking the "compromise and concession indispensable to the establishment of our federal republic"⁶ and the independent sovereignty of the states.⁷

But historical explanation is not contemporary justification.⁸ Two hundred years, twenty-seven amendments, and thousands of Supreme Court decisions after the ratification of our Constitution, the role of the Senate in our structure of government deserves another look. The question is not whether the Framers' allocation of representation "is irrational or involves something other than a 'republican form of government,'"⁹ but whether the legal changes, political lessons, and intellectual progress of the last 200 years might now enable us—indeed, require us—to do better.

Persons as any of the States now existing shall think proper to admit, shall not be prohibited by the Congress prior to the Year one thousand eight hundred and eight, . . ."); U.S. CONST. art. I, § 9, cl. 4 ("No Capitation, or other direct, Tax shall be laid, unless in Proportion to the Census or Enumeration herein before directed to be taken."). With regard to these provisions, Article V stipulated that "no Amendment which may be made prior to the Year One thousand eight hundred and eight shall in any Manner affect" them. U.S. CONST. art. V.

² U.S. CONST. art. V.

³ 369 U.S. 186 (1962) (holding a challenge to the apportionment of a state legislature to pose a justiciable question).

⁴ *Reynolds v. Sims*, 377 U.S. 533, 575 (1964); *see also Maryland Comm. for Fair Representation v. Tawes*, 377 U.S. 656 (1964).

⁵ *Reynolds*, 377 U.S. at 576; *Tawes*, 377 U.S. at 674; *see also Wesberry v. Sanders*, 376 U.S. 1, 8 (1964) ("one man's vote . . . is to be worth as much as another's"); *Lucas v. Forty-Fourth Colo. Gen. Assembly*, 377 U.S. 713, 736 (1964), *aff'd in part and vacated in part*, 379 U.S. 693 (1965) ("An individual's constitutionally protected right to cast an equally weighted vote cannot be denied even by a vote of a majority of a State's electorate.").

⁶ *Reynolds*, 377 U.S. at 574; *see also Wesberry*, 376 U.S. at 9-14.

⁷ *Reynolds*, 377 U.S. at 575.

⁸ Indeed, somewhat ironically, the Court in *Reynolds* also stated that "*neither history alone*, nor economic or other sorts of group interests, are permissible factors in attempting to justify disparities from population-based representation." 377 U.S. at 579-80 (emphasis added).

⁹ *Id.* at 575.

In this Article, we demonstrate that our nation would be better served today by a federal legislature, whether unicameral or bicameral, which afforded the states representation solely in proportion to their shares of the nation's population and which employed a supermajority decision rule. We also show, however, that there is scant theoretical or real possibility of adopting this scheme under the Constitution, even though a *supermajority* of the American people is demonstrably disadvantaged by the existing arrangement. To the extent that the existing allocation of representation in the Senate systematically disadvantages residents of the large-population states, we are left to ponder why the five large states among the original thirteen agreed to this structure of congressional representation.

Part I of this Article explains how the existing allocation of representation in the Senate provides small-population states a disproportionately great coalition-building power relative to their shares of the nation's population, and how it injects a significant supermajoritarianism into the federal lawmaking process. This Part fills an important gap in the political science literature by presenting both a model for determining the power that each state theoretically has in Congress as a whole and the computer-calculated results of that model.

In Part II, this Article demonstrates that the disproportionately great coalition-building power that the Senate affords small states, and the supermajoritarianism it injects into the federal lawmaking process combine to produce three problematic effects on the structure of government. First, the Senate systematically and unjustifiably redistributes wealth from the large population states to the small ones. Second, it systematically and unjustifiably provides racial minorities a voice in the federal lawmaking process which is disproportionately small relative to their numbers. And finally, it systematically and unjustifiably affords large population states disproportionately little power, relative to their shares of the nation's population, to block federal homogenizing legislation that they consider disadvantageous.

Part III proposes that representation in the Senate be allocated to the states in proportion to their shares of the nation's population, and that the Senate thus constituted employ a supermajority decision rule. It argues that this alternative structure of representation retains the advantages of the Senate's current structure while eliminating its disadvantages. The implications of this proposal for the House are also discussed. Part IV considers both the constitutional barriers and the possible constitutionally-based routes to adopting the proposed changes,

and concludes that there is little theoretical or real possibility of reform under the existing Constitution.

Part V seeks to explain the origins of the predicament in which we now find ourselves. It examines whether the consent that the five original large states gave to the Constitution (and therefore to Article I's allocation of congressional representation) can be explained within the confines of interest group theory's rational actor model. The Article concludes by discussing one important practical implication of its analysis for current American lawmaking and its equally important implications for the new democracies continually emerging around the world.

I. THE STRUCTURE OF REPRESENTATION IN THE SENATE

By providing the states equal representation without regard to population,¹⁰ the Senate affords small-population states ("small" states) disproportionately great representation, and large-population states ("large" states) disproportionately little representation, relative to their shares of the nation's population. This in turn means that the small states have disproportionately great coalition-building power in the Senate relative to their shares of the population.

One measure of a state's theoretical "coalition-building power" is the likelihood that it will be the swing vote on any proposed legislation.¹¹ In the Senate, each state has the same 2-in-100 theoretical chance to be the swing vote on a given piece of proposed legislation.¹² In the language of modern game theory, the Shapley-Shubik power index of every state is equal in the Senate.¹³ But this means that smaller

¹⁰ U.S. CONST. art. I, § 3, cl. 1.

¹¹ The notion of the swing voter or "pivot" for the winning coalition is central to both the Shapley-Shubik power index and the Banzhaf power index. See MARTIN SHUBIK, GAME THEORY IN THE SOCIAL SCIENCES: CONCEPTS AND SOLUTIONS 200-04 (1982). We assume throughout that each state's representatives vote as a block. Relaxing this assumption simplifies the calculations we discuss in this part, but does not change the results.

¹² Each Senator has the same one-in-100 theoretical chance to be the swing vote on any proposed legislation. And each of the fifty states is represented by two Senators, each with one vote. See U.S. CONST. art. I, § 3, cl. 1.

¹³ The Shapley-Shubik index considers all possible orders in which a vote can take place. For any ordering of n players (voters) there will be a unique player who is in a position to provide the winning coalition with just enough strength to win. That player is the pivot for the coalition. If all $n!$ orderings are assumed equiprobable, then the Shapley-Shubik index is a measure of the probability that any player is pivotal. If one assumes instead that every winning coalition is equiprobable, the Banzhaf Index can be used to measure the probability that any one player (voter) is pivotal. See SHUBIK, *supra* note 11, at 200-04. The analysis is not affected, however, by one's choice of assumptions or the index used.

states have a disproportionately great likelihood, relative to their shares of the nation's population, of being the swing vote on any proposed legislation. In the House, in contrast, where each state's representation is substantially proportional to its population,¹⁴ the theoretical likelihood that a small state is the swing vote on any proposed legislation is roughly equal to its share of the population and therefore small.¹⁵ This means that smaller states are less likely than larger states to

There are 100 players (Senators) in the Senate. Thus, there are $100!$ possible orderings in which a vote can take place. Because each player has the same number of votes (one) on a given piece of proposed legislation, each player has the same likelihood of being the swing vote. And, since each state is represented by the same number of players (two Senators) each state has the same likelihood of being the swing vote. Calculated precisely, each state has a 2-in-100 chance to be the swing vote on any given piece of proposed legislation, and each state's Shapley-Shubik index is therefore .02.

Although in this instance each state's (and each player's) Shapley-Shubik index is the same as its voting strength, that will not always be the case. Indeed, a major contribution of the Shapley-Shubik index is to demonstrate the erroneousness of the common intuition that the *a priori* power distribution inherent in a given apportionment of voting strength is always a trivial function of the nominal voting strengths. In particular, the Shapley-Shubik index shows that large weighted majority games (such as the electoral college) give a disproportionate power advantage to the big players, and that some voters may be incapable of affecting the outcome of any proposed legislation even though they have a vote. The former finding is presented in Irwin Mann & L.S. Shapley, *The A Priori Voting Strength of the Electoral College*, in *GAME THEORY AND RELATED APPROACHES TO SOCIAL BEHAVIOR* 151-64 (Martin Shubik ed., 1964) (demonstrating that states with 16 or more votes in the electoral college have a Shapley-Shubik index slightly greater than their number of votes, while states with 14 or fewer votes have a Shapley-Shubik index that is slightly smaller than their number of votes). The latter finding is demonstrated by the following example:

Consider a game with four players (or coalitions)—A, B, C, d—with votes of 2, 2, 2, and 1, respectively. A simple majority of four votes is needed to carry a motion. In each of the 24 ($4!$) possible orderings of the four players, the pivot is underlined.

A <u>B</u> Cd	B <u>A</u> Cd	B <u>C</u> A <u>d</u>	B <u>C</u> dA
A <u>B</u> dC	B <u>A</u> dC	B <u>d</u> A <u>C</u>	B <u>d</u> <u>C</u> A
A <u>d</u> <u>B</u> C	C <u>A</u> Bd	C <u>B</u> A <u>d</u>	C <u>B</u> dA
A <u>d</u> <u>C</u> B	C <u>d</u> <u>A</u> B	C <u>d</u> <u>A</u> B	C <u>d</u> <u>B</u> A
A <u>C</u> <u>B</u> d	d <u>A</u> <u>B</u> C	d <u>C</u> <u>A</u> B	d <u>B</u> <u>C</u> A
A <u>C</u> dB	d <u>A</u> <u>C</u> B	d <u>B</u> <u>A</u> C	d <u>C</u> <u>B</u> A

Lynn A. Baker, *Direct Democracy and Discrimination: A Public Choice Perspective*, 67 CHI.-KENT L. REV. 707, 730 n.83 (1991). The Shapley-Shubik indices for A, B, C, and d are, respectively 8/24 (.33), 8/24 (.33), 8/24 (.33), and 0/24 (0). Thus, although the player denoted d has 1/7 of the total *voting strength* in this hypothetical body, it can be shown to have no *power*. That is, it can be shown mathematically to be incapable of affecting the outcome of any motion, no matter how it votes. *Id.*; see also SHUBIK, *supra* note 11, at 203-04. Similarly, in a game with three players with votes of 2, 2, and 1, respectively, each of the players has a Shapley-Shubik index of 0.33 if a simple majority of three votes is required for passage. Thus, even though one player has a *voting strength* only one-half as large as the others', his *power* to affect the outcome of any vote is identical to theirs.

¹⁴ Because the Constitution provides that "each State shall have at Least one Representative" no matter how small its population, the smallest states may be slightly overrepresented in the House even though representation in that body is "apportioned among the several States ... according to their respective Numbers." U.S. CONST. art. I, § 2, cl. 3. Thus, although California, for example, currently has nearly 66 times the population of Wyoming (29,760,021 versus 453,588), it has only 52 times as many Representatives in the House (52 versus 1). See THE COUNCIL OF STATE GOV'TS, 30 THE BOOK OF THE STATES 635-36 tbl.10.3 (1994-95 ed.) [hereinafter THE BOOK OF THE STATES].

¹⁵ For two reasons, a small state's Shapley-Shubik index will only approximate, rather than be

cast the deciding vote in the House. In sum, the Shapley-Shubik power index of a small state is larger in the Senate than in the House.¹⁶

Of course, neither the House nor the Senate alone may enact legislation; the approval of at least a simple majority present in each body is required.¹⁷ Thus, one must determine each state's theoretical coalition-building power in the Congress as a whole. It is important to appreciate that one cannot simply add a state's power indices in the House and in the Senate, then divide by two. Naively adding the likelihood that a particular state is the swing voter in the House once legislation has already passed the Senate and the likelihood that it is the swing voter in the Senate once legislation has already passed the House, giving equal weight to these two possibilities, will result in a useless measure. One seeks instead to measure the frequency with which a particular state will be the pivot or swing voter *in Congress*. A state is the swing voter in Congress whenever its votes *in Congress as a whole* enable legislation to pass that would not have passed without its votes.

Table 1 presents the first computer calculations of each state's Shapley-Shubik power index for Congress.¹⁸ Comparing any large and small state, one can see that the disproportionately great power, relative to its share of the nation's population, that the Senate affords a small state is only very slightly mitigated by the proportional representation that the House provides. Consider, for example, the following

identical to, its share of the nation's population. First, as explained in note 14, *supra*, the smallest states' voting strength in the House slightly exceeds their actual share of the nation's population. Second, as explained in note 13, *supra*, large weighted majority voting games such as the House give a disproportionate power advantage to the big players. For a complete listing of the various states' current Shapley-Shubik power indices for the House, Senate, and Congress, and their number of House Representatives, see Table 1, *infra*.

¹⁶ See *infra* Table 1. Similarly, the *voting strength* of a small state is greater in the Senate than in the House. See *supra* note 13.

¹⁷ See U.S. CONST. art. I, § 7, cl. 2. Sometimes, of course, more than a simple majority of one or both chambers is required, as in the case of Senate filibusters, *see infra* note 28, in order to override a President's veto, *see* U.S. CONST. art. I, § 7, cl. 2, or where supermajorities are required by the Constitution. *See infra* notes 146-49.

¹⁸ A formal mathematical statement of how these Shapley-Shubik values were calculated appears in Appendix One, *infra*. Appendix Two, *infra*, contains the computer program used to calculate the values presented in Table 1, *infra*.

TABLE 1

**Shapley-Shubik Power Indices for the States
After 1990 Reapportionment**

State	Reps	S-Shubik Index for House	S-Shubik Index for Senate	S-Shubik Index for Congress
CA	52	.130	.02	.081
NY	31	.073	.02	.049
TX	30	.070	.02	.047
FL	23	.053	.02	.038
PA	21	.048	.02	.035
IL	20	.046	.02	.034
OH	19	.044	.02	.033
MI	16	.036	.02	.029
NJ	13	.029	.02	.025
NC	12	.027	.02	.024
GA; VA	11	.025	.02	.023
MA; IN	10	.022	.02	.021
MO; WI; TN; WA	9	.020	.02	.020
MD; MN	8	.018	.02	.019
LA; AL	7	.016	.02	.018
KY; AZ; SC; CO; CT; OK	6	.013	.02	.016
OR; IA; MS	5	.011	.02	.015
KS; AR	4	.009	.02	.014
WV; UT; NE; NM	3	.007	.02	.013
ME; NV; NH; HI; ID; RI	2	.004	.02	.011
MT; SD; DE; ND; VT; AK; WY	1	.002	.02	.010

relationships between California and Rhode Island:¹⁹

population ²⁰	29.7 to 1
power in House ²¹	32.5 to 1
power in Senate ²²	1 to 1
power in Congress ²³	7.4 to 1

Counterintuitively, the ratio of California's and Rhode Island's power in Congress (7.4 to 1) turns out not to be the midpoint between the ratio of their power in the House and in the Senate (16.25 to 1), but much more nearly approximates the ratio of their power in the Senate (1 to 1) than the ratio of their power in the House (32.5 to 1).

Of course, theoretical measures of coalition-building power such as the Shapley-Shubik power index capture only part of the complex reality. The committee system, seniority, savvy, and charisma—to name just a few variables—all affect a particular legislator's, and therefore a particular state's, *actual* coalition-building power in the Senate. Happily, however, we need not attempt to quantify these myriad, often intangible, variables. For the apportionment of representation in the Senate also determines the likelihood that an especially powerful Senator—by *any measure of influence*—represents a particular state.

Thus, West Virginia, for example, has a 2-in-100 chance of having one of its representatives chair all of the important Senate committees and otherwise wield the influence that Senator Byrd historically has.²⁴

¹⁹ Rhode Island was chosen because it receives two Representatives in the House. See THE BOOK OF THE STATES, *supra* note 14, at 635-36 tbl.10.3. States such as Wyoming that receive only one Representative may be overrepresented in the House because of the Constitution's dictate that "each State shall have at Least one Representative" no matter how small its share of the nation's population. U.S. CONST. art. I, § 2, cl. 3.

²⁰ See THE BOOK OF THE STATES, *supra* note 14, at 635-36 tbl.10.3.

²¹ See *supra* Table 1.

²² See *supra* Table 1.

²³ See *supra* Table 1.

²⁴ In the 104th Congress, for example, Senator Byrd's committee memberships included Appropriations, Armed Services, and Rules and Administration. See 1995-1996 OFFICIAL CONGRESSIONAL DIRECTORY 439 (1995) (S. Pub. 104-14). Many observers have attributed Byrd's extraordinary success in steering federal dollars to his home state to his chairmanship of the Senate Appropriations Committee. See, e.g., Richard Munson, *Deforming Congress; Why Those Capitol Hill Budget Reforms Could Cost You Plenty*, WASH. POST, Sept. 5, 1993, at C3; Brian Kelly, *Pigging Out at the White House; Never Mind Last Week's Spending Bonanza; George Bush Has Long Been a Closet Pork Barreler*, WASH. POST, Sept. 6, 1992, at C1; see also BRIAN KELLY, ADVENTURES IN PORKLAND (1992) (highlighting Senator Byrd's ability to obtain a relatively large share of federal benefits for his small home state and crowning him "the Pontiff of Pork"); Drummond Ayres, Jr., *Senator Who Brings Home the Bacon*, N.Y. TIMES, Sept. 6, 1991, at A16 (detailing Senator Byrd's steering of over \$750 million worth of federal projects and over 3000 jobs into West Virginia over a three-year period); Kevin Merida, *Watchdog Group Cites Congress for Barreling of Porcine Projects*, WASH. POST, Feb. 17, 1994, at A21 (observing that "watchdog group" awarded Senator Byrd a "Lifetime Achievement" award for obtaining more tax dollars than any other member of Congress for his home state).

To be sure, this is the same 2-in-100 chance that California or Texas has, but it is much larger than the 3-in-435 chance that West Virginia would have if representation in the Senate were apportioned as it is in the House.²⁵ That is, relative to its share of the nation's population, West Virginia has a disproportionately greater chance of having an especially powerful representative in the Senate, while it has only a substantially proportional chance of having an especially powerful representative in the House.

In addition to providing small states disproportionately great coalition-building power relative to their shares of the nation's population, the structure of representation in the Senate injects a significant supermajoritarianism into the federal lawmaking process. Legislation that reaches a vote in the full House can be blocked only by legislators formally representing at least a simple majority of the nation's population.²⁶ In the Senate, however, it is possible for legislators representing only eighteen percent of the population to block the enactment of any proposed legislation.²⁷ Moreover, the Senate's cloture rule makes it possible for legislators representing only eleven percent of the population to prevent legislation from coming to a vote even when all 100 Senators are present.²⁸

²⁵ See *THE BOOK OF THE STATES*, *supra* note 14, at 636 tbl.10.3.

²⁶ As an *a priori* matter, 218 of 435 Representatives are necessary to block legislation in the House, assuming that all 435 members are present for the vote. Under the Constitution, however, as few as 218 Representatives constitutes a quorum. See U.S. CONST. art. I, § 5, cl. 1 ("[A] Majority of each [chamber] shall constitute a Quorum to do Business . . ."). Thus, as few as 110 Representatives will be able to block legislation in the House if only the minimum necessary quorum is present. And these 110 Representatives, of course, will formally represent far less than a simple majority of the nation's population, 25.3% (110/435). It is important to note, however, that the Constitution specifies the same quorum rule for the Senate. See U.S. CONST. art. I, § 5, cl. 1.

The distinction between formal and actual representation is also important. In order to be elected, a Representative needs the support of only a simple majority of her constituents (even more precisely, a simple majority of constituents who chose to vote in the relevant election). On any given issue, therefore, she may actually represent the views of only a simple majority of all the individuals she formally represents. Thus, the formal Representatives of a simple majority of the nation's population may actually represent only 26% (.51 x .51) of the population on any given issue. See Baker, *supra* note 13, at 716; JAMES M. BUCHANAN & GORDON TULLOCK, *THE CALCULUS OF CONSENT: LOGICAL FOUNDATIONS OF CONSTITUTIONAL DEMOCRACY* 220-22 (1962); Harold H. Bruff, *Legislative Formality, Administrative Rationality*, 63 TEX. L. REV. 207, 219 (1984); Saul Levmore, *Bicameralism: When Are Two Decisions Better than One?*, 12 INT'L REV. L. & ECON. 145, 151-52 (1992). This is also true for the Senate, however, and should therefore make no systematic difference when comparing the two chambers.

²⁷ This represents the total population of the 26 smallest states. See *THE BOOK OF THE STATES*, *supra* note 14, at 635-36 tbl.10.3. Of course, as explained *supra* note 26, the number of persons *actually*, rather than *formally*, represented by these states' Senators on a given issue may be a vastly smaller 9.2% (.51 x .18). And when the minimum constitutionally required quorum is present, U.S. CONST. art. I, § 5, cl. 1, legislation in theory can be blocked by Senators who may actually represent only the 4.4% of the nation's population that resides in the 13 smallest states. See *THE BOOK OF THE STATES*, *supra* note 14, at 635-36 tbl.10.3.

²⁸ This represents the total population of the 21 smallest states. See *THE BOOK OF THE STATES*,

II. THE EFFECTS OF THE STRUCTURE OF THE SENATE TODAY

Today, the disproportionately great coalition-building power that the Senate affords small states and the supermajoritarianism that it injects into the federal lawmaking process combine to produce three very different effects on the structure of government. First, the Senate ensures that the federal government will systematically redistribute income from the large states to small ones. Second, it provides racial minorities a voice in the federal lawmaking process that is disproportionately small relative to their numbers. Third, it protects diversity among the states by making federal homogenizing legislation more difficult to pass. By examining how and why the Senate generates each of these effects, we can begin to assess whether this institution's costs outweigh its benefits within our present constitutional culture.

A. *Systematic Redistribution from Large States to Small States*

1. Special Legislation

Insofar as legislators are concerned with re-election, and therefore also with the welfare of their constituents, they will each seek to enact legislation whose expected benefits to his or her own constituents exceed its expected costs to them. Moreover, because legislators themselves are scarce resources and their choice of agenda necessarily entails opportunity costs,²⁹ their first priority is likely to be legislation

supra note 14, at 635-36 tbl.10.3. Under Senate Rule XXII, a three-fifths vote of the full membership—60 votes—is required to end debate regardless of the number of Senators present. See S. DOC. NO. 100-1, at 21-23 (1988) (Rule 22.2). Thus, 41 Senators representing as few as 21 states can prevent any piece of legislation from coming to a vote. The House has no analogous cloture rule. H.R. DOC. NO. 102-405, at 665-66 (1993) (Rule 23(5)(a)); H.R. DOC. NO. 103-342, at 604 (1995) (Rule 17).

The use of the filibuster has expanded greatly during the past 200 years. See Hendrik Hertzberg, *Comment: Catch-XXII*, NEW YORKER, Aug. 22 & 29, 1994, at 9-10 (summarizing June 1994 study by the Congressional Research Service of the Library of Congress: “[D]uring the eighteenth century, no filibusters; during the nineteenth, sixteen; during the first half of this one, sixty-six; during the nineteen-sixties, twenty; during the seventies, fifty-two; and during the eighties, ninety. During the nineties, if the pace set so far is maintained, the Senate will rack up some two hundred.”). Lloyd Cutler, White House counsel in two Administrations, has recently argued that Senate Rule 22 is unconstitutional. *Id.* at 10.

²⁹ Professors Paul Samuelson and William Nordhaus explain “opportunity costs” as follows:

The immediate dollar cost of going to a movie instead of studying is the price of a ticket, but the opportunity cost also includes the possibility of getting a lower grade on the exam. The opportunity costs of a decision include all its consequences, whether they reflect monetary transactions or not.

Decisions have opportunity costs because choosing one thing in a world of scarcity means giving up something else. The opportunity cost is the value of the good or service foregone.

whose expected benefits to their constituents *most greatly* exceeds its expected costs to them. Thus, we would expect each legislator to be especially eager to enact "special legislation" whose benefits accrue uniquely to her own constituents but whose costs are spread among the constituents of all legislators. Certainly, each legislator should be relatively more interested in enacting such special legislation than in seeking legislation whose costs and benefits are both generally distributed or are both concentrated on her own constituents.³⁰

Unfortunately, special legislation is more likely to be expropriative, that is, to have aggregate costs that exceed its aggregate benefits, than legislation whose costs and benefits are both generally distributed or both concentrated on the same constituency. Each of these latter two types of legislation is likely to be enacted only if its aggregate benefits exceed its aggregate costs since no constituency is likely to seek the passage of legislation whose costs to itself exceed its benefits. Special legislation, however, may be enacted even if its aggregate costs exceed its aggregate benefits. Since vote trading is possible, Legislator A will often agree to support legislation that yields \$10 million in benefits for Legislator B's constituents even if it imposes aggregate costs of \$11 million on the rest of the nation (including, but not concentrated on, Legislator A's constituents). Legislator A will support this legislation in exchange for Legislator B's vote on legislation that similarly benefits Legislator A's constituents at the expense of the rest of the nation (including Legislator B's constituents).

Notwithstanding the aggregate welfare loss, this type of vote trading would be attractive to representatives for at least two reasons. First, the terms of each representative's trades, taken alone, might well provide *her own constituents* aggregate benefits that exceed aggregate costs to them. That is, in order to obtain support sufficient to enact legislation that provides her constituents \$10 million in special benefits, a representative may need to support legislation that provides other representatives' constituents special benefits at an aggregate cost to her

omitted).

³⁰ Although any legislator's first preference logically might be to enact special legislation that uniquely benefits her own constituents and whose costs are borne *exclusively* by other legislator's constituents, such legislation likely will face greater opposition than similar legislation whose costs are distributed more generally. This is particularly likely to be the case if the costs of the legislation are concentrated on another group. See Maxwell L. Stearns, *The Public Choice Case Against the Line Item Veto*, 49 WASH. & LEE L. REV. 385, 400-22 (1992); cf. Peter H. Aranson et al., *A Theory of Legislative Delegation*, 68 CORNELL L. REV. 1, 44 (1983) ("A representative or senator seldom can argue convincingly that he alone is responsible for the legislative production of a *public good*") (emphasis added).

own constituents of only \$8 million. This is possible because the approval of only a simple majority of legislators is necessary for enactment. Thus, the constituents of representatives who were not a party to these particular bargains, and who may have even opposed the legislation, will nonetheless bear a portion of its total cost, a portion that the beneficiaries of the special legislation need not internalize.³¹

Second, even if the terms of a particular set of trades do not provide a representative's constituents aggregate benefits that exceed its aggregate costs to them, the representative will be able to claim complete credit for the special legislation that benefits her constituents, but will share only diffuse blame for helping enact special legislation that benefits others at the partial expense of her own constituents. And because this blame is diffuse, it will be less salient to her constituents and may also be less well publicized than the passage of the beneficial special legislation. Thus, the benefits *to each representative* of this sort of vote trading are likely to exceed the costs.

This is the tragedy of the legislative commons.³² Although each representative's individually rational decisions will necessarily contribute to a decline in social welfare, a representative can only hurt his own

³¹ In making such bargains, therefore, a representative might logically be expected to seek the support of the minimum number of representatives necessary to secure passage of her legislation. See WILLIAM H. RIKER, THE THEORY OF POLITICAL COALITIONS 32-101 (1962) (arguing that in American politics, parties seek to increase votes only until they achieve the minimum necessary to form a winning coalition). By doing so, a representative simultaneously minimizes the amount of strategic bargaining in which she must engage (i.e., the representative's opportunity costs), and maximizes the competition among legislators to join her coalition, thereby driving down the price of obtaining any legislator's support. This in turn minimizes the total amount the representative must "pay" to ensure passage of her legislation.

In practice, however, proponents of legislation will strive to secure a supermajority of votes, largely because of the uncertainty under which pre-vote lobbying and logrolling takes place: the outcome of the final vote cannot be known in advance. In this context, political scientist R. Douglas Arnold has observed:

All else equal, [legislative] leaders prefer large coalitions because they provide the best insurance for the future. Each proposal must survive a long series of majoritarian tests—in committees and subcommittees, in House and Senate, and in authorization, appropriations, and budget bills. Large majorities help to insure that a bill clears these hurdles with ease.

R. DOUGLAS ARNOLD, THE LOGIC OF CONGRESSIONAL ACTION 117-18 (1990); see also R. DOUGLAS ARNOLD, CONGRESS AND THE BUREAUCRACY: A THEORY OF INFLUENCE 43, 52 (1979) (Legislators seek supermajorities "because a whole series of majorities are required, one at each stage of the congressional process. ... [and] they want to minimize risks of miscalculation or last-minute changes."); DAVID R. MAYHEW, CONGRESS: THE ELECTORAL CONNECTION 111-15 & n.67 (1974) (frequency distribution data indicate that House and Senate roll call votes "are bimodal, with a mode in the marginal range (50-59.9%) and a mode in the unanimity or near-unanimity range (90-100%)").

³² Cf. Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968); see also BUCHANAN & TULLOCK, *supra* note 26, at 139-40; Clayton P. Gillette, *Expropriation and Institutional Design in State and Local Government Law*, 80 VA. L. REV. 625, 645-46 (1994).

constituents (and therefore his own chances for re-election) if he does not seek special legislation.³³ For, as we have seen, in a majoritarian system in which vote trading is possible, a representative's constituents nonetheless will bear part of the costs of other successful bargains resulting in special legislation for other representatives' constituents, including bargains to which the representative was not a party and which he even may have opposed. Thus, only by joining the race to forge successful bargains that simultaneously benefit his constituents and exploit those who are not members of the winning coalition—a true "race to the bottom"—can an individual legislator maximize his constituents', and therefore also his own, welfare.³⁴

Of course, legislation must also receive the approval of the President before it becomes law, and such expropriative legislation seems a likely target for an executive veto. Because his constituency is the entire nation, a President might be expected to be guided by the preferences of a majority of the entire electorate.³⁵ And, notwithstanding its passage by a majoritarian body, special legislation, as we have seen, is unlikely to have the sincere support of a majority of voters.³⁶ Nonetheless, special legislation is unlikely to be vetoed for the same sorts of reasons that legislators seek its enactment. Should he veto such legislation, the President will arouse the intense, well publicized, and not-soon-forgotten ire of the concentrated minority that would have benefited from the

³³ BUCHANAN & TULLOCK, *supra* note 26, at 139-40; Gillette, *supra* note 32, at 636-38, 645-46.

³⁴ The "race to the bottom" and the "tragedy of the commons," whether legislative or otherwise, are both variants on the Prisoner's Dilemma. See, e.g., Gillette, *supra* note 32, at 638 n.36 (explaining tragedy of the commons in terms of the prisoner's dilemma); Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the "Race-to-the-Bottom" Rationale for Federal Environmental Regulation*, 67 N.Y.U. L. REV. 1210, 1217-19 (1992) (explaining race to the bottom in terms of the prisoner's dilemma).

³⁵ BUCHANAN & TULLOCK, *supra* note 26, at 248 ("The President should, insofar as he uses his veto power as a simple legislative tool, follow the preferences of the majority of the voters."); Levmore, *supra* note 26, at 155 ("One-quarter of the voters may elect one-half of the legislature, but the President must still be responsive to a coalition of one-half.").

This expectation must be modified slightly, however, in light of the fact that the President is not elected directly by the People, but rather by the electoral college which gives different weights to the votes of residents of different states. See U.S. CONST. art. II, § 1, cl. 2-3. By affording each state "a Number of Electors, equal to the whole Number of Senators and Representatives to which the State may be entitled in the Congress," U.S. CONST. art. II, § 1, cl. 2, the Constitution gives the small states a disproportionately great power to choose the President, relative to their shares of the nation's population. Thus, although California, for example, currently has nearly 66 times the population of Wyoming (29,760,021 versus 453,588), it has only 18 times as many presidential Electors ((52 Reps. + 2 Senators = 54) versus (1 Rep. + 2 Senators. = 3)). See THE BOOK OF THE STATES, *supra* note 14, at 635-36 tbl.10.3. This in turn means that the President, who needs 268 electoral votes in order to be (re)elected, may formally represent only the 45.4% of the nation's population that resides in the 40 smallest states. *Id.*

³⁶ That is, in a world without vote trading, this legislation would not garner the support of a majority. Cf. Gillette, *supra* note 32, at 636-47.

legislation while simultaneously providing a diffuse and scarcely salient benefit to a substantial majority.³⁷ Certainly, the benefits *to a President* of vetoing such legislation (particularly during his first term) will seldom exceed the costs.³⁸

2. The Role of the Senate

How does the apportionment of representation in the Senate affect the enactment of special legislation today? If the Constitution prohibited special legislation, any such enactments would presumably be invalidated if challenged, and legislators would therefore have little incentive to seek their passage.³⁹ As currently interpreted, however, the Constitution contains only a few restrictions, all of limited applicability, on Congress' ability to enact special legislation:⁴⁰ the religion clauses of the First Amendment;⁴¹ the protection Article I, Section 9 affords

³⁷ See Glen O. Robinson, *Public Choice Speculations on the Item Veto*, 74 VA. L. REV. 403, 411-12 (1988) (suggesting this as the reason why one "may doubt that item veto authority would effect a major change in political practice"). These same incentives nearly led President Clinton in 1995 to veto the recommendations of an independent commission on military base closings—a body originally established to avoid the problem of special legislation—because their recommendation would result in a loss of nearly 20,000 jobs in California, a state crucial to his re-election. See Tim Weiner, *Decrying Base-Closing Plan as an "Outrage," the President Gives a Grudging Go-Ahead*, N.Y. TIMES, July 14, 1995, at A16. Indeed, Clinton ultimately approved the Commission's recommendations only after the Commission assured him that the Pentagon would be permitted to turn over most of the jobs at risk to local private contractors. See Eric Schmitt, *After Assurances on California Jobs, Clinton Is Expected to Approve Base-Closing List*, N.Y. TIMES, July 10, 1995, at B9.

³⁸ Buchanan and Tullock do not appear to see this. See BUCHANAN & TULLOCK, *supra* note 26, at 248 (contending that "the President should, insofar as he uses his veto power as a simple legislative tool, follow the preferences of the majority of the voters" and "[t]herefore, he would accept only bargains which meet the approval of the majority of the populace"). Yet this lack of presidential incentive is why Professor Robinson predicts that "the item veto would be only marginally useful in curtailing private goods [or "special"] legislation." Robinson, *supra* note 37, at 419-20. In addition, the President may himself have "special political debts to particular groups or geographic regions, and can be expected to favor special benefits for them" or at least not to veto such benefits. *Id.* at 412 n.32. Former President Reagan, for example, did not extend "his general campaign against wasteful spending to subsidized grazing rights and electric power in the West, his strongest political base." *Id.* (citing Norman Ornstein, *Veto the Line Item Veto*, FORTUNE, Jan. 7, 1985, at 109-11).

³⁹ For discussion of how constitutional prohibitions on special legislation have operated in the states, see, e.g., JAMES W. HURST, THE GROWTH OF AMERICAN LAW 79, 233-42 (1950); Lyman H. Cloe & Sumner Marcus, *Special and Local Legislation*, 24 KY. L.J. 351 (1936); Gillette, *supra* note 32, at 642-44 nn.44-49 and accompanying text.

⁴⁰ The Constitution also contains restrictions on the ability of individual states to secure a benefit for themselves by (discriminatorily) imposing a cost solely on others. See, e.g., U.S. CONST. art. I, § 8, cl. 3 (Commerce Clause); U.S. CONST. art. I, § 9, cl. 5 ("No Tax or Duty shall be laid on Articles exported from any State."). These sorts of restrictions, however, are not relevant to the current discussion.

⁴¹ U.S. CONST. amend. I ("Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof . . ."). Richard Epstein has suggested that the religion clauses, particularly the Establishment Clause, should be invoked more frequently to prevent government-mandated redistribution. RICHARD A. EPSTEIN, BARGAINING WITH THE STATE 260-61 (1993) (observing that "[o]nce general takings and public trust arguments are no longer sufficient to forestall all forms of redistribution, whether covert or overt, between A and B, then additional pressure is placed upon the religion clauses to forbid redistribution both from or to any religious group," and implicitly suggesting that the notion of a "religious group" be read broadly). But see

against the congressional imposition of “any Regulation of Commerce or Revenue” that gives a preference “to the Ports of one State over those of another;”⁴² the requirement of Article I, Section 8 that “all Duties, Imposts and Excises shall be uniform throughout the United States;”⁴³ the “public use” requirement of the Fifth Amendment’s Takings Clause,⁴⁴ and the equal protection guarantee of the Fifth Amendment.⁴⁵

The most promising constraint on the enactment of special legislation might appear to be the Spending Clause of Article I, Section 8, which authorizes Congress to “pay the Debts and provide” only “for the common Defence and *general Welfare* of the United States.”⁴⁶ The Court, however, has long held this “general Welfare” restriction on congressional spending to be virtually nonjusticiable.⁴⁷ In addition,

Lynn A. Baker, *Bargaining for Public Assistance*, 72 DENV. U. L. REV. 949 (1995) (contribution to a symposium on “The Unconstitutional Conditions Doctrine”) (critiquing Epstein’s argument).

⁴² U.S. CONST. art. I, § 9, cl. 6. It is not facially clear whether the last portion of this provision, “nor shall Vessels bound to, or from, one State, be obliged to enter, clear, or pay Duties in another,” is intended to restrict Congress, the state legislatures, or both. If state legislatures are the target, this provision is not relevant to the current discussion. *See supra* note 40. And, if Congress is the target, this provision is arguably redundant with Article I, Section 8, Clause 1: “all Duties, Imposts and Excises shall be uniform throughout the United States.”

⁴³ U.S. CONST. art. I, § 8, cl. 1.

⁴⁴ U.S. CONST. amend. V, cl. 4 (“nor shall private property be taken for public use, without just compensation”). Richard Epstein contends that this clause should be, and once was, a more significant constraint on redistribution, including special legislation, than it is today. *See* RICHARD A. EPSTEIN, TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN (1985).

⁴⁵ U.S. CONST. amend. V, cl. 3 (“No person shall be … deprived of life, liberty, or property, without due process of law”). Although the Fifth Amendment contains no explicit equal protection guarantee, it was interpreted by the Court in *Bolling v. Sharpe*, 347 U.S. 497, 499 (1954), to contain one nonetheless: “the concepts of equal protection and due process, both stemming from our American ideal of fairness, are not mutually exclusive. … [D]iscrimination may be so unjustifiable as to be violative of due process.”

Although this may seem a promising constraint on Congress’s ability to enact special legislation (which is, after all, nothing more than unjustifiable unequal treatment), its utility is substantially diminished in the context of federal appropriations by (1) the courts’ unwillingness to grant federal taxpayers standing in most contexts to question the constitutionality of federal expenditures, *see* LAURENCE H. TRIBE, AMERICAN CONSTITUTIONAL LAW § 3-16, at 116, § 3-19, at 143-44 (2d ed. 1988); and (2) the absence of any form of “heightened scrutiny” in the courts’ review of economic legislation since 1937, *see* TRIBE, *supra*, § 8-7, at 581-84, § 16-2, at 1439-43.

⁴⁶ U.S. CONST. art. I, § 8, cl. 1 (emphasis added).

⁴⁷ *See, e.g.*, *Massachusetts v. Mellon*, 262 U.S. 447 (1923) (holding that a challenge to a conditional offer of funds to the states under the federal Maternity Act posed a non-justiciable political question). In *South Dakota v. Dole*, 483 U.S. 203 (1987), the Court observed that the “general welfare” restriction on Congress’s spending power is subject to the caveat that “courts should defer substantially to the judgment of Congress” when applying this standard. The Court went on to acknowledge that the required level of deference is so great that it has “questioned whether ‘general welfare’ is a judicially enforceable restriction at all.” *Id.* at 207 n.2 (citing *Buckley v. Valeo*, 424 U.S. 1, 90-91 (1976) (per curiam)).

For discussion of the evolution of the Court’s spending power jurisprudence, see Lynn A. Baker, *Conditional Federal Spending After Lopez*, 95 COLUM. L. REV. 1911, 1924-32 (1995); David E. Engdahl, *The Spending Power*, 44 DUKE L.J. 1 (1994); Thomas R. McCoy & Barry Friedman, *Conditional Spending: Federalism’s Trojan Horse*, 1988 SUP. CT. REV. 85, 123-24.

Congress' power under Article I, Section 8, "[t]o regulate Commerce ... among the several States," has been expansively interpreted,⁴⁸ and the powers "reserved to the States" under the Tenth Amendment, therefore, have simultaneously decreased.⁴⁹

Given the scant modern constraints on Congress' regulatory and spending powers, the apportionment of representation in the Senate seems highly likely to affect the enactment of special legislation. Two questions therefore require answers. How does the apportionment of representation in the Senate affect the *size* of the pork barrel? And, how does the apportionment affect the *distribution* of that pork? As we have seen, the Senate affords small states disproportionately great representation, and therefore also disproportionately great coalition-building power, relative to their shares of the nation's population. There is no a priori reason, however, to expect this allocation of coalition-building power to affect the total dollar amount of special legislation that is enacted. A legislator's incentive to seek special legislation for his constituents is not affected by whether the representation he affords them is disproportionately great, disproportionately small, or directly proportional to their numbers. In each case, he has the same maximum incentive to seek legislation with aggregate benefits to his constituents that exceed the aggregate costs to them. Thus, there is no a priori reason to expect any particular allocation of representation in a

⁴⁸ In 1995, in *United States v. Lopez*, 115 S. Ct. 1624 (1995), the Supreme Court held for the first time in nearly sixty years that a federal law exceeded Congress's power under the Commerce Clause. *Id.* at 1624 ("We hold that the Act exceeds the authority of Congress 'to regulate Commerce ... among the several States'"). See also TRIBE, *supra* note 45, §§ 5-4 to 5-7, at 305-16 (observing before *Lopez* that "[c]ontemporary commerce clause doctrine grants Congress such broad power that judicial review of the affirmative authorization for congressional action is largely a formality"); JOHN E. NOWAK & RONALD D. ROTUNDA, CONSTITUTIONAL LAW § 4.8, at 154 (4th ed. 1991) (observing before *Lopez* that "[t]he Supreme Court ... today interprets the commerce clause as a *complete* grant of power") (emphasis added); cf. JOHN E. NOWAK & RONALD D. ROTUNDA, CONSTITUTIONAL LAW § 4.8, at 155 (5th ed. 1995) (observing after *Lopez* that "[t]he Supreme Court today interprets the commerce clause as a *broad* grant of power") (emphasis added).

⁴⁹ The Tenth Amendment states that "[t]he powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people." U.S. CONST. amend. X. In *Garcia v. San Antonio Metro. Transit Auth.*, 469 U.S. 528 (1985), the Court explicitly overruled *National League of Cities v. Usery*, 426 U.S. 833 (1976), which had interpreted the Tenth Amendment to put matters "essential to [the] separate and independent existence" of the states beyond the reach of congressional authority under the Commerce Clause. 426 U.S. at 845. The *Garcia* Court emphasized that the Tenth Amendment did not provide an independent check on congressional ability to regulate "the States as States." 469 U.S. at 552. The Court held that "State sovereign interests ... are more properly protected by procedural safeguards inherent in the structure of the federal system than by judicially created limitations on federal power." *Id.*; see also *New York v. United States*, 505 U.S. 144, 156-57 (1992) (the Tenth Amendment "restrains the power of Congress, but this limit is not derived from the text of the Tenth Amendment itself, which ... is essentially a tautology").

legislative body to prevent the tragedy of the legislative commons, or to affect the size of the pork barrel.⁵⁰

The Senate's allocation of coalition-building power, however, will importantly affect the *distribution* of the legislative pork that is enacted. In the Senate, each state has the same likelihood over time of providing the swing vote on a given piece of proposed legislation,⁵¹ and each state's Senators therefore have the same power to secure special legislation for their constituents. Thus, if the Senate alone could enact legislation, and if all Senators were rationally self-interested,⁵² we would expect the total dollar amount of special legislation that each state receives over time to be equal. This means, however, that the per capita benefits of the special legislation received would be substantially greater in small population states than in large ones. When California and Wyoming each secure the equivalent of one billion dollars in special legislation from the federal government, for example, this amounts to \$34 for each of California's 29.76 million residents, but \$2,207—*sixty-five times as much*—for each of Wyoming's 453,000 residents.⁵³ In the House, in contrast, representation is allocated on the basis of population, and each state's coalition-building power within that body is substantially proportional to its share of the nation's population.⁵⁴ Thus, if the House alone could enact legislation, we would expect the total dollar amount of each state's benefits from all the special legislation enacted over time to be approximately proportional to its population.⁵⁵ And, the *per capita* benefits to each state would therefore be nearly the same.

⁵⁰ The best ways to reduce the total size of the federal pork barrel, in order of decreasing effectiveness, are: to reduce the size of the federal fisc; to increase the proportion of legislators' votes necessary for the enactment of pork or special legislation; to prohibit the enactment of pork or special legislation; and to prohibit legislative logrolling. For a discussion of why constitutional prohibitions on special legislation may not be desirable, see Gillette, *supra* note 32, at 640-57. For a discussion of why there is little direct regulation of logrolling, see *id.* at 639-40.

⁵¹ See *supra* notes 12-13 and accompanying text.

⁵² This is a central assumption of the interest group theory component of public choice theory. See, e.g., BUCHANAN & TULLOCK, *supra* note 26, at 11-39; DANIEL A. FARBER & PHILIP P. FRICKEY, LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION 12-37 (1991).

⁵³ The 1990 Census determined the population of California to be 29,760,021 and the population of Wyoming to be 453,588. THE BOOK OF THE STATES, *supra* note 14, at 635-36 tbl.10.3.

⁵⁴ See *supra* notes 14-15 and accompanying text.

⁵⁵ See *supra* notes 14-15. It is a common misconception that if the House acting alone could enact legislation a permanent majority coalition of large states would form, depriving the smaller states of the benefits of Union membership while imposing on them all of its costs. This outcome, however, would require the congressional logrolling "game" to have a permanent "core," which it lacks.

Robert Sugden explains that a Condorcet choice provides the only "core solution" to the logrolling game:

But, of course, neither the House nor the Senate acting alone can pass legislation. The approval of at least a simple majority present in each body is required.⁵⁶ And, we would therefore expect the total dollar amount of each state's benefits from all the special legislation enacted over time to be neither directly proportional to its share of the nation's population (House), nor equal (Senate), but somewhere in between. More specifically, we might expect the percentage share of special legislation that each state will receive over time to approximate its Shapley-Shubik power index in Congress as set forth in Table 1. Thus, the existing allocation of coalition-building power in the Senate is likely to affect the distribution of the "gains" from the special legislation that is enacted by ensuring small states a disproportionately large slice, and large states a disproportionately small slice, of the federal "pie." The prediction, in short, is that the Senate's current structure of

An outcome is said to be in the core of a game if it cannot be *blocked* by any coalition of players. Given the assumption that all preferences take the form of strict orderings, a coalition of players blocks one outcome, x , if there is some other alternative, y , such that (i) every member of the coalition prefers y to x , and (ii) by the rules of the game, concerted action by the members of the coalition can ensure that y is the outcome of the game, irrespective of what non-members do. ... [A]n alternative, x , is in the core of the majority rule game if and only if, for every other feasible alternative, y , a majority of voters prefer x to y . This, of course, is Condorcet's criterion. The core of the game is identical with the Condorcet choice.

ROBERT SUGDEN, THE POLITICAL ECONOMY OF PUBLIC CHOICE: AN INTRODUCTION TO WELFARE ECONOMICS 148 (1981).

In the following example, alternative 1 is the Condorcet winner, even though only A prefers it to all other alternatives, because both A and B prefer 1 to 3, and both A and C prefer 1 to 2:

A	B	C
1	2	3
2	1	1
3	3	2

See SUGDEN, *supra*, at 140, 147; DENNIS C. MUELLER, PUBLIC CHOICE II, at 114-15 (1989); Saul Levmore, *Parliamentary Law, Majority Decisionmaking, and the Voting Paradox*, 75 VA. L. REV. 971, 989 n.55, 994-96 (1989).

Whenever a Condorcet choice does not exist—that is, whenever there is no single alternative that cannot be blocked by any coalition of voters even though it is not the first choice of a majority—the legislative outcome will be a function of such "procedural" variables as the order in which various alternatives are formally considered. This is the "voting paradox," frequently referred to as the Arrow "impossibility theorem." See KENNETH J. ARROW, SOCIAL CHOICE AND INDIVIDUAL VALUES (1951). The theoretical significance of the paradox was discussed by Black in the 1940s. See DUNCAN BLACK, THE THEORY OF COMMITTEES AND ELECTIONS (1958); see also SUGDEN, *supra*, at 140; Levmore, *supra*, at 984-90; Richard H. Pildes & Elizabeth S. Anderson, *Slinging Arrows at Democracy: Social Choice Theory, Value Pluralism, and Democratic Politics*, 90 COLUM. L. REV. 2121 (1990).

⁵⁶ See U.S. CONST. art. I, § 7, cl. 2. Sometimes, of course, more than a simple majority of one or both chambers is required, as in the case of Senate filibusters, *see supra* note 28, in order to override a President's veto, *see* U.S. CONST. art. I, § 7, cl. 2, or where supermajorities are required by the Constitution, *see infra* notes 145-48 and accompanying text.

TABLE 2

**Balance of Payments with the Federal Government:
Fiscal Year 1995**

Ten Largest States

State	Per Capita Income Transfer	Population (Millions)	Poverty Rate (%)
California	-\$132	32	21.5
New York	-\$1,024	18	20.4
Texas	+\$118	19	18.8
Florida	+\$406	14	15.5
Pennsylvania	+\$81	13	15.3
Illinois	-\$1,517	12	13.7
Ohio	-\$447	11	14.7
Michigan	-\$1,221	10	14.9
New Jersey	-\$2,055	8	12.7
North Carolina	+\$123	7	13.6
			144

Average per capita income transfer = -\$446

Average poverty rate among these states = 17.4%

Mean poverty rate nationwide = 15.8%

Source: MONICA E. FRIAR ET AL., THE FEDERAL BUDGET AND THE STATES: FISCAL YEAR 1995
(20th ed. 1996)

TABLE 3

**Balance of Payments with the Federal Government:
Fiscal Year 1995**

Ten Smallest States

State	Per Capita Income Transfer	Population (Millions)	Poverty Rate (%)
Wyoming	+\$364	0.5	10.6
Alaska	+\$1,224	0.6	13.4
Vermont	+\$49	0.6	10.9
North Dakota	+\$1,608	0.6	10.8
Delaware	-\$1,378	0.7	9.5
South Dakota	+\$1,071	0.7	14.3
Montana	+\$1,563	0.9	12.3
Rhode Island	+\$506	1.0	14.3
Idaho	+\$606	1.2	13.4
New Hampshire	-\$1,313	1.1	9.8
		7.9	

Average per capita income transfer = **+\$356**

Average poverty rate among these states = 12.0%

Mean poverty rate nationwide = 15.8%

Source: MONICA E. FRIAR ET AL., THE FEDERAL BUDGET AND THE STATES: FISCAL YEAR 1995
(20th ed. 1996)

representation ensures a systematic redistribution of wealth from the larger states to the smaller states.⁵⁷

Empirical evidence supports this theoretical claim. A September 1996 statistical study conducted by researchers at Harvard's Kennedy School of Government calculates the "balance of payments" that each state had with the federal government in fiscal year 1995.⁵⁸ Each state's contribution to the federal fisc (e.g., individual and corporate income taxes, social security taxes, and Medicare taxes)⁵⁹ is measured against the federal outlays it received (e.g., payments to individuals, grants to state and local governments, procurement, salaries and wages).⁶⁰ The results are striking and consistent with the prediction. As Tables 2 and 3 reveal, the 1995 Fiscal Year balance of payments with the federal government was negative in six of the ten largest states, but positive in eight of the ten smallest states. The result is an average per capita income transfer of -\$446 for residents of the ten largest states, compared to an average per capita transfer of +\$356 for residents of the ten smallest states.⁶¹ A regression analysis of the data for all fifty states reveals that the Per Capita Shapley-Shubik Index is a statistically significant ($p < 0.05$) explanator of the Per Capita Balance of Payments between the states and the federal government for Fiscal Year 1995.⁶²

Such systematic redistribution is not problematic if there is a principled justification for it. Unfortunately, however, there does not appear to be one.⁶³ The most obvious possible justification, poverty,

⁵⁷ This prediction rests in part on the assumption that large and small states' contributions to the federal fisc are not systematically disproportional to their shares of the nation's population.

⁵⁸ See MONICA E. FRIAR ET AL., THE FEDERAL BUDGET AND THE STATES: FISCAL YEAR 1995 (20th ed. 1996) [hereinafter FY 1995 STUDY]. It is revealing that the federal government, usually a font of statistics, does not appear to compile and publish such state-by-state, balance of payment data. The federal government does, however, publish one of the two sets of data on which Friar et al. base their calculations: the annual report of the Bureau of the Census titled *Federal Expenditures by State*. See MONICA E. FRIAR & HERMAN B. LEONARD, THE FEDERAL BUDGET AND THE STATES: FISCAL YEAR 1994, at 3, 4 (19th ed. 1995) [hereinafter FY 1994 STUDY]; FY 1995 STUDY, *supra*, at 93. The tax collection data published by the I.R.S., however, "show which states collect the taxes rather than those states that bear the burden of Federal taxes." FY 1994 STUDY, *supra*, at 4; FY 1995 STUDY, *supra*, at 93. Thus, FRIAR ET AL. relies on the "state by state tax estimates published by the nonprofit and nonpartisan Tax Foundation." FY 1994 STUDY, *supra*, at 4; FY 1995 STUDY, *supra*, at 93.

⁵⁹ FY 1995 STUDY, *supra* note 58, at 30-31; *see also id.* at 93-96.

⁶⁰ *Id.* at 32-35; *see also id.* at 93-96 (stating methodology).

⁶¹ Because of the difficulties in aggregating data reflecting different states' cost of living indices, our comparisons rely solely on data that do not include any cost of living adjustment. This typically requires that we divide FRIAR ET AL.'s data by the cost of living indices they used. *See id.* at 96-100; *see also id.* at 93-94.

⁶² *See Appendix Three, infra.*

⁶³ One intriguing possibility is that this federal wealth redistribution from the large states to the small ones is "just compensation" for the federal government's "taking" of a disproportionate amount of land from those states for the establishment of National Parks and other public purposes. There

does not explain this systematic difference. In fact, calculations based on the Census Bureau's poverty statistics indicate that the rate of poverty in the ten largest states is substantially higher on average than in the ten smallest states,⁶⁴ yet the direction of the federal income transfer is from the larger to the smaller states.

That a state has a small population does not make it, or its residents, obviously more virtuous, needy, beneficial to the larger society, or otherwise deserving of a disproportionately large share of the federal fisc relative to large-population states and their residents. Such redistribution therefore offends our notions of equality⁶⁵ and distributional justice,⁶⁶ among both individuals and sovereigns. This forced redistribution also conflicts with our notions of property⁶⁷ and cannot be justified by a compensating increase in aggregate social welfare since none is likely to result. In short, both moral and economic theory provide arguments against, but can offer no justification for, the type of redistribution ensured by the existing allocation of representation in the Senate.

are two obvious problems with this argument, however. First, the small states with a positive balance of payments with the federal government in fiscal year 1995 included Alabama, Louisiana, Kentucky, West Virginia, Maine, and Rhode Island. See FY 1995 STUDY, *supra* note 58, at 97. Thus, the federal redistribution is not solely in favor of the western states with large portions of federally controlled land. Second, the extent of the federal redistribution in favor of the small states each year is not determined by the amount of federal land in the recipient states. That is, the amount of "compensation" paid bears no particular relationship to the fair market value of the land "taken." Moreover, the redistribution in favor of the small western states with disproportionately large shares of federally controlled land has likely already more than compensated them for the land taken, yet such redistribution in their favor is likely to continue for the indefinite future.

For a brief history of federal land ownership in the American West and of its role in the fact that "westerners have experienced and continue to experience the federal government in ways that are profoundly different than easterners," see Robert Jerome Glennon, *Federalism as a Regional Issue: "Get Out! And Give Us More Money,"* 38 ARIZ. L. REV. 829, 835-42 (1996).

⁶⁴ See *supra* Tables 2 & 3; see also FY 1995 STUDY, *supra* note 58, at 94, 100.

⁶⁵ For discussion of various conceptions of "equality," see, e.g., IMMANUEL KANT, FOUNDATION OF THE METAPHYSICS OF MORALS 47 (L. Beck trans., 1959) ("Act so that you treat humanity, whether in your own person or in that of another as an end and never as a means only."); THE IDEA OF EQUALITY: AN ANTHOLOGY (George L. Abernathy ed., 1959); AMY GUTMANN, LIBERAL EQUALITY (1980); NOMOS IX: EQUALITY (J. Roland Pennock & John W. Chapman eds., 1967).

⁶⁶ The classic discussion of distributional justice is JOHN RAWLS, A THEORY OF JUSTICE (1971). See also JOHN RAWLS, POLITICAL LIBERALISM (1993); JOHN LOCKE, OF CIVIL GOVERNMENT (J.M. Dent ed., 1943); JOHN LOCKE, TWO TREATISES OF GOVERNMENT (Peter Laslett ed., 1960) [hereinafter TWO TREATISES].

⁶⁷ A cornerstone of American political, legal, and economic institutions is the idea that private property is a natural adjunct of individual dignity and an essential foundation for democracy and free enterprise. See TWO TREATISES, *supra* note 66, bk.II, ch.V ("Of Property") (asserting that private property originates in the law of nature and individual ownership rights stem from mixing one's labor with the property); RICHARD SCHLATTER, PRIVATE PROPERTY: THE HISTORY OF AN IDEA (1951). Thus, our Constitution provides that "[n]o person shall ... be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation." U.S. CONST. amend. V (emphasis added).

B. Race Discrimination

A second noteworthy effect of the existing allocation of representation in the Senate is to deny equal representation to members of racial minorities.⁶⁸ It does this in two ways: through the at-large nature of Senate districts,⁶⁹ and by providing each state the same number of Senators without regard to the number of its residents who are members of racial minority groups.⁷⁰ The 1990 Census, for example, reveals that members of racial minorities constituted twenty-four percent of all Americans, and did not constitute a simple majority of the residents of any state.⁷¹ Since each state comprises a single Senate district,⁷² the approval of minority voters is not likely ever to be sufficient, and will often not even be necessary, for a Senate candidate to be elected.⁷³ Thus, to the extent that race-based group interests may exist or arise,⁷⁴ racial minorities might often expect not to find *any* representation of their interests in the Senate. House districts, in contrast, comprise only

⁶⁸ We include as racial minorities all racial categories other than "non-Hispanic White," as indicated in the 1990 Census data: Blacks, American Indian, Eskimo, Aleut, Asian or Pacific Islander, Hispanic White, and Other. BUREAU OF THE CENSUS, 1990 CENSUS OF POPULATION: SOCIAL AND ECONOMIC CHARACTERISTICS 153-59 tbl.135 (1993) [hereinafter 1990 CENSUS SOCIAL CHARACTERISTICS].

⁶⁹ That is, all residents of a state may vote for each of its two U.S. Senators. It is also relevant that Senators are elected under a "winner-take-all" voting rule.

⁷⁰ It is of course also significant that the Constitution specifies that "each Senator shall have one Vote." U.S. CONST. art. I, § 3, cl. 1. Professor Bill Eskridge has argued that this "clause is the most problematic one remaining in the Constitution." William N. Eskridge, Jr., *The One Senator, One Vote Clause*, 12 CONST. COMMENTARY 159 (1995). He contends that "it is anti-democratic, skews policy in hard-to-defend ways, and cannot be ameliorated by conventional interpretive or practical mechanisms." *Id.* at 161-62.

⁷¹ See *supra* note 68; see also 1990 CENSUS SOCIAL CHARACTERISTICS, *supra* note 68. California had the highest proportion of members of racial minorities at 43 percent. *See id.* at 159.

⁷² It is intriguing that this is uniformly the case, since the Seventeenth Amendment, which provided for the direct election of Senators, does not explicitly require that all of a state's voters be permitted to vote for each Senator. U.S. CONST. amend. XVII. Although the Seventeenth Amendment does specify that the "two Senators from each state" are to be "elected by the people thereof," this language is arguably consistent with the division of a state into two single-member Senate districts of equal population.

⁷³ This is likely to be the case even under the highly implausible assumption that all of the minority voters vote as a block.

⁷⁴ For arguments that race-based group interests do exist, see, e.g., CAROL M. SWAIN, BLACK FACES, BLACK INTERESTS: THE REPRESENTATION OF AFRICAN AMERICANS IN CONGRESS 5-13 (1995) (identifying objective and subjective indicators of the interests of American blacks); Lani Guinier, *The Triumph of Tokenism: The Voting Rights Act and the Theory of Black Electoral Success*, 89 MICH. L. REV. 1077, 1129-30 (1991) ("Empirical evidence of racial bloc voting supports the assumption that blacks, to a great extent, are ideologically homogeneous on many issues. Black voting patterns reflect two decades of consensus on the need for greater civil rights enforcement, social welfare expenditures, and government intervention in domestic affairs.") (footnotes omitted) [hereinafter *Tokenism*]; Lani Guinier, *No Two Seats: The Elusive Quest for Political Equality*, 77 VA. L. REV. 1413, 1468-70 (1991) (same and arguing for "interest, not just voter, representation," *id.* at 1461) [hereinafter *No Two Seats*]. For a contrary view, see WILLIAM WILSON, THE DECLINING SIGNIFICANCE OF RACE (1978) (arguing that the relevant distinction is class rather than race).

one-ninth of a state, on average.⁷⁵ Thus, the approval of minority voters is much more likely to be necessary or sufficient for a candidate to be elected to the House than to the Senate. Therefore, a racial minority is likely to find that her group interests are more often represented, and consistently better represented, in the House than in the Senate.⁷⁶

In order to test this claim empirically, one needs a way to measure the representation of racial minorities' interests in Congress. One plausible, if crude and controversial, proxy is simply to count the number of Senators and Representatives who are members of racial minorities.⁷⁷ Since 1901, the number of black members of the House has steadily increased to the high of forty (nine percent) elected to the 104th Congress.⁷⁸ During those same ninety-five years, however, there have been only two black Senators: Brooke (1967-79) and Mosley-Braun (1993- present). *To the extent that* black legislators may be better representatives of "black interests" than legislators of other

⁷⁵ See THE BOOK OF THE STATES, *supra* note 14, at 635-36 tbl.10.3. There are 435 House districts and 50 states: $435/50 = 8.7$. Only 18 states, however, have nine or more House districts. *Id.*

⁷⁶ Observers of the 104th Congress may reasonably question whether Newt Gingrich's House better represents the interests of America's racial minorities than does the Senate. One must keep in mind, however, that only one-third of the sitting Senators, but all of the sitting House members, were elected in November 1994. See U.S. CONST. art. I, § 3, cl. 2 (prescribing the division of the Senate into three classes, with one class up for reelection every two years). Thus, the real question is whether the Representatives elected in November 1994 are better representatives of the interests of racial minorities than those Senators elected at the same time. See Lani Guinier, *Don't Scapegoat the Gerrymander*, N.Y. TIMES, Jan. 8, 1995, § 6 (Magazine), at 36.

For a panel discussion of the value of majority-minority congressional districts see Conference, *The Supreme Court, Racial Politics, and the Right to Vote: Shaw v. Reno and the Future of the Voting Rights Act*, 44 AM. U. L. REV. 1, 55-81 (1994). For other discussion, see Anthony E. Gay, *Congressional Term Limits: Good Government or Minority Vote Dilution*, 141 U. PA. L. REV. 2311, 2339 (1993) (asserting "that district-based, as opposed to at-large elections, better protect minority interests"); T. Alexander Aleinikoff & Samuel Issacharoff, *Race and Redistricting: Drawing Constitutional Lines after Shaw v. Reno*, 92 MICH. L. REV. 588, 612 (1993) (observing that "[t]here is only rudimentary evidence of the relative quality of representation and responsiveness in racially drawn districts, ... none of which supports [the Shaw Court's] categorical assertion that representation from such districts is fundamentally different from that afforded other constituent groups who form a majority in a congressional district") (internal footnote omitted).

⁷⁷ This is what Hannah Pitkin terms "descriptive representation," that is, representation by culturally and physically similar persons. See HANNAH FENICHEL PITKIN, *THE CONCEPT OF REPRESENTATION* 60, 92, 113 (1967) (identifying the "descriptive," "symbolic," and "substantive" roles of representatives). Professor Lani Guinier, however, is critical of the fact that much voting rights litigation "is premised on the assumption that, by increasing the number of black representatives, single-member district voting will ensure that blacks have effective representation." Guinier, *No Two Seats*, *supra* note 74, at 1448. See also Guinier, *Tokenism*, *supra* note 74, at 1102-09 (arguing that "[e]lectoral success by culturally and ethnically black candidates in majority-white jurisdictions does not necessarily mean that black concerns will be addressed").

⁷⁸ See *infra* Table 4.

TABLE 4

Black Members of Congress Since 1901

Year	Congress	House	Senate
1901-29	57th-70th	0	0
1929-35	71st-73rd	1	0
1935-43	74th-77th	1	0
1943-45	78th	1	0
1945-55	79th-83rd	2	0
1955-57	84th	3	0
1957-63	85th-87th	4	0
1963-65	88th	5	0
1965-67	89th	6	0
1967-69	90th	6	1 (Brooke)
1969-71	91st	10	1
1971-73	92nd	13	1
1973-75	93rd	16	1
1975-77	94th	17	1
1977-79	95th	17	1
1979-81	96th	16	0
1981-83	97th	18	0
1983-85	98th	20	0
1985-87	99th	20	0
1987-89	100th	22	0
1989-91	101st	23	0
1991-93	102nd	25	0
1993-95	103rd	38	1 (Mosley-Braun)
1995-97	104th	40	1

races,⁷⁹ one might conclude that black interests have been substantially better represented in the House than in the Senate throughout this century.⁸⁰

It is further noteworthy that America's racial minorities do not reside in all states in equal proportions.⁸¹ Indeed, *fully fifty percent of the nation's persons of color reside in the five largest states.*⁸² Assuming that each state's U.S. Senators represent all of their constituents equally and without regard to race, persons of color are represented by the equivalent of only nineteen Senators nationwide although they constitute twenty-four percent of all Americans.⁸³ Thus, the concentration of racial minorities in large-population states dilutes their overall representation in the Senate to seventy-nine percent of their proportional share. This, in turn, means that non-Hispanic whites, who constitute seventy-six percent of all Americans, are represented by the equivalent of eighty-one Senators, or 107 percent of their proportional share.

There is no principled justification for this race-based discrimination in representation in the Senate and, therefore, also in Congress. Indeed, as shall be discussed in Part IV below, it is difficult to reconcile this form of discrimination with the Fifteenth Amendment's prohibition against abridging the right of citizens to vote on account of race or color,⁸⁴ and the Fifth Amendment's guarantee of equal protection of the laws.⁸⁵ Nor can this discrimination be defended on the ground that

⁷⁹ Scholars have hotly disputed the issue of whether a racial minority is most effectively represented by a member of that race or by a sympathetic member of the majority group. See, e.g., LANI GUINIER, THE TYRANNY OF THE MAJORITY: FUNDAMENTAL FAIRNESS IN REPRESENTATIVE DEMOCRACY (1994); CAROL M. SWAIN, BLACK FACES, BLACK INTERESTS: THE REPRESENTATION OF AFRICAN AMERICANS IN CONGRESS (1993); Kathryn Abrams, "Raising Politics Up": Minority Political Participation and Section 2 of the Voting Rights Act, 63 N.Y.U. L. REV. 449, 500-03 (1988); Lani Guinier, *Keeping the Faith: Black Voters in the Post-Reagan Era*, 24 HARV. C.R.-C.L. L. REV. 393, 420-29 (1989); Guinier, *Tokenism*, *supra* note 74, at 1102-34; Samuel Issacharoff, *Polarized Voting and the Political Process: The Transformation of Voting Rights Jurisprudence*, 90 MICH. L. REV. 1833, 1868-72, 1880, 1887-88 (1992); Pamela S. Karlan, *Maps and Misreadings: The Role of Geographic Compactness in Racial Vote Dilution Litigation*, 24 HARV. C.R.-C.L. L. REV. 173, 216-18 (1989); Peter H. Schuck, *The Thickest Thicket: Partisan Gerrymandering and Judicial Regulation of Politics*, 87 COLUM. L. REV. 1325, 1367-72 (1987); see also Symposium, *Race Consciousness and the Law of Elections*, 44 EMORY L.J. 827 (1995); Symposium, *Regulating the Electoral Process*, 71 TEX. L. REV. 1409 (1993).

⁸⁰ See *supra* note 76.

⁸¹ See 1990 CENSUS SOCIAL CHARACTERISTICS, *supra* note 68, at 153-59 tbl.135.

⁸² The five largest states are California, New York, Texas, Florida, and Pennsylvania. *Id.*

⁸³ This number is calculated by multiplying each state's proportion of racial minorities by its two Senators and summing the fifty results.

⁸⁴ "The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of race, color, or previous condition of servitude." U.S. CONST. amend. XV, § 1.

⁸⁵ See *supra* note 45; *infra* note 210 and accompanying text.

persons of color residing in large states are always free to move to a small state in which, according to the above analysis, their vote will be worth more.⁸⁶ Under such an argument, decennial redistricting in the states is unnecessary, as was the Court's decision in *Baker v. Carr*.⁸⁷ But the Court has determined that individuals have a "constitutionally protected right to cast an equally weighted vote,"⁸⁸ which requires that legislative districts (other than those for the U.S. Senate) be examined, and if necessary adjusted, after every census.⁸⁹

C. Protecting Interstate Diversity

A third, and seemingly beneficial, effect of the Senate is to make it more difficult for some federal legislation that reduces interstate diversity to be enacted. Of course, this federal homogenizing legislation is problematic if, and only if, it reduces aggregate social welfare. The federal laws most likely to be problematic in this way are ones that seek to regulate in areas in which some states have enacted laws expressing a moral preference that does not violate the Constitution but which many individuals (and therefore some states) nonetheless consider reprehensible. Timely examples of such controversial state laws include those making the death penalty available for first-degree murder convictions,⁹⁰ providing legal recognition to same-sex marriages or

⁸⁶ There are also financial incentives for large-state residents of any race to move to a small state. *See supra* part II.A.2.

⁸⁷ 369 U.S. 186 (1962) (holding that a challenge to the apportionment of state legislative districts presents a justiciable question).

⁸⁸ *Lucas v. Forty-Fourth Colo. Gen. Assembly*, 377 U.S. 713, 736 (1964); *aff'd in part and vacated in part*, 379 U.S. 693 (1965); *see also Reynolds v. Sims*, 377 U.S. 533, 568, 575 (1964) (holding that representation in both chambers of a state legislature must be apportioned on the basis of population: "an individual's right to vote for State legislators is unconstitutionally impaired when its weight is in a substantial fashion diluted when compared with votes of citizens living in other parts of the State," and rejecting the "federal analogy" scheme of apportionment); *Maryland Comm. for Fair Representation v. Tawes*, 377 U.S. 656, 675 (1964) (same); *Wesberry v. Sanders*, 376 U.S. 1, 8 (1964) (declaring existence of a basic right to have a state's Representatives in the U.S. House apportioned according to population: "one man's vote ... is to be worth as much as another's"). *See generally TRIBE, supra* note 45, § 13-5, at 1068-71.

⁸⁹ *See Reynolds*, 377 U.S. at 583-84 ("While we do not intend to indicate that decennial reapportionment is a constitutional requisite, compliance with such an approach would clearly meet the minimal requirements for maintaining a reasonably current scheme of legislative representation. ... [I]f reapportionment were accomplished with less frequency, it would assuredly be constitutionally suspect.").

⁹⁰ Today the death penalty is available in 38 states. As of December 31, 1993, the death penalty was available in 36 states. *See JAMES STEPHAN*, U.S. DEPT. OF JUSTICE STATISTICS BULL.: CAPITAL PUNISHMENT 1993, at 5 (1994) (listing by state the capital offenses and statutes authorizing the death penalty). New York and Kansas have since adopted laws providing for capital punishment. *See James Dao, Death Penalty in New York Reinstated after 18 Years; Pitaki Sees Justice Served*, N.Y. TIMES, Mar. 8, 1995, at A1; John A. Dvorak, *Kansas is Returning to the Death Penalty*, KAN. CITY STAR, Apr. 23, 1994, at C1.

"domestic partnerships,"⁹¹ providing free abortions to indigent women,⁹² or prohibiting the use of affirmative action in admitting undergraduates to the state's public universities.⁹³ Such areas of substantial moral disagreement within our society at any given time are precisely the areas in which interstate diversity is most valuable and in which federal homogenizing legislation will therefore most probably and most greatly reduce aggregate social welfare.⁹⁴

To understand how federal homogenizing legislation can reduce aggregate social welfare, consider that in the ordinary course of affairs, each of the fifty states chooses the package of taxes and services, including state constitutional rights and other laws, which it will offer its

⁹¹ No state has yet authorized the legal marriage of same-sex couples, but Hawaii may soon be the first. In *Baehr v. Lewin*, 852 P.2d 44 (Haw. 1993), the Hawaii Supreme Court held that, under the Hawaii Constitution, the prohibition on same-sex marriage implicit in the Hawaii Marriage Law "(1) ... is presumed to be unconstitutional (2) unless Lewin, as an agent of the State of Hawaii, can show that (a) the statute's sex-based classification is justified by compelling state interests and (b) the statute is narrowly drawn to avoid unnecessary abridgments of the applicant couples' constitutional rights." *Id.* at 67. The Hawaii Supreme Court vacated the decision of the circuit court and remanded the matter, reminding the lower court that "the burden will rest on Lewin to overcome the presumption that [the Hawaii Marriage Law] is unconstitutional." *Id.* at 68.

On December 3, 1996, the Circuit Court of Hawaii found that the defendant had "not demonstrated a basis for his claim of the existence of compelling state interests sufficient to justify withholding the legal status of marriage from Plaintiffs." *Baehr v. Miike*, No. Civ. 91-1394, 1996 WL 694235, at *21 (Haw. Cir. Ct., Dec. 3, 1996). The court concluded that the "sex-based classification" in the Hawaii marriage law "on its face and as applied, is unconstitutional and in violation of the equal protection clause of article I, section 5 of the Hawaii Constitution." *Id.* at *22; see also *Carey Goldberg, Hawaii Judge Ends Gay Marriage Ban*, N.Y. TIMES, Dec. 4, 1996, at A1.

At present, the laws granting legal recognition to same-sex "domestic partnerships" are local ordinances. See LAMBDA LEGAL DEFENSE FUND, DOMESTIC PARTNERSHIP ISSUES AND LEGISLATION 1-21 (1992); Vada Berger, *Domestic Partnership Initiatives*, 40 DEPAUL L. REV. 417, 423-27 (1991) (collecting and comparing ordinances); Craig A. Bowman & Blake M. Cornish, Note, *A More Perfect Union: A Legal and Social Analysis of Domestic Partnership Ordinances*, 92 COLUM. L. REV. 1164, 1188-92 (1992) (collecting and comparing ordinances).

⁹² See, e.g., *Doe v. Gomez*, 542 N.W.2d 17 28-29 n.12, 32 (Minn. 1995) (overturning on state constitutional grounds a statute forbidding state medical assistance funds from being used for therapeutic abortions and citing cases); *Right to Choose v. Byrne*, 450 A.2d 925, 935, 938 (N.J. 1982) (interpreting N.J. Stat. Ann. § 30:4D-6.1 (West 1981) to require the state to provide funds for all medically necessary abortions); *Doe v. Maher*, 515 A.2d 134, 143-45 (Conn. Super. Ct. 1986) (same result interpreting Conn. Gen. Stat. § 17-134b (renumbered as § 17b-260), and holding invalid regulation limiting funding to those abortions necessary to save the life of the mother).

⁹³ In July 1995, the University of California Regents passed a resolution, which took effect January 1, 1997, which prohibits the University from using "race, religion, gender, color, ethnicity or national origin" as criteria in its admissions decisions unless applicants can prove that race or other factors had been barriers to their success." David G. Savage & Amy Wallace, *U.S. Backs Away From Threatened UC Funding Cuts*, L.A. TIMES, July 25, 1995, at A1. The Fifth Circuit has recently held that affirmative action admissions programs in public universities cannot be justified except to remedy institution-specific prior discrimination. *Hopwood v. Texas*, 78 F.3d 932, 950-51 (5th Cir. 1996), cert. denied, 116 S. Ct. 2581 (1996). And a panel of the Ninth Circuit Court of Appeals has even more recently held that a provision of the California Constitution "prohibiting public race and gender preferences," which was adopted through the initiative process ("Prop. 209"), does not violate the Equal Protection Clause of the U.S. Constitution. *Coalition for Econ. Equality v. Wilson*, No. Civ. 96-4024-TEH, 1997 WL 160667, at *1, *17 (9th Cir., Apr. 8, 1997).

⁹⁴ The analysis which follows is derived from Baker, *supra* note 47, at 1947-54, 1969-72.

residents and potential residents.⁹⁵ In this way, the states compete for both individual and corporate residents and their tax dollars.⁹⁶ As part of its unique package, a state might choose, for example, to prohibit the death penalty,⁹⁷ to prohibit race-based “affirmative action” in the admission of students to its public universities,⁹⁸ or to provide a constitutional right to same-sex marriage.⁹⁹ The resulting choices can be understood as a state’s determination that *for itself* the benefits of a particular statutory or state constitutional provision exceed the costs.¹⁰⁰

Thus, a state’s prohibition against the death penalty, for example, could be understood as its determination that the benefits of precluding a type of state action that some consider morally repugnant outweigh the costs of any foregone deterrence of crime. In the absence of a federal government, a state in which the death penalty is available would have only two ways to compete with a state that chose to prohibit the execution of individuals it convicts of crimes.¹⁰¹ The former state could continue to offer its current package of taxes and services, including the availability of the death penalty for certain crimes, and seek to attract (and retain) those individuals and corporations that prefer this package. Or, the state could make some adjustment(s) to its package, which may include adopting a statutory or constitutional prohibition against the death penalty.¹⁰²

⁹⁵ This is not a one-time decision but a choice that a state makes repeatedly over time.

⁹⁶ See Charles M. Tiebout, *A Pure Theory of Local Expenditures*, 64 J. POL. ECON. 416 (1956). For commentary on Tiebout’s classic model, see, e.g., CLAYTON P. GILLETTE, LOCAL GOVERNMENT LAW: CASES AND MATERIALS 382 (1994) (collecting sources); Vicki Been, “*Exit* as a Constraint on Land Use Exactions: Rethinking the Unconstitutional Conditions Doctrine”, 91 COLUM. L. REV. 473, 514-28 (1991) (offering critique and collecting sources).

⁹⁷ See *supra* note 90.

⁹⁸ See *supra* note 93.

⁹⁹ See *supra* note 91.

¹⁰⁰ By a “state’s determination” is meant the judgment of the voters of the state as expressed either indirectly (through the election of state legislators or judges) or directly (through the state constitution’s amendment process, an initiative process, or a referendum process). Of course, some individuals and interest groups may have more influence than others on the outcome of these democratic processes.

¹⁰¹ The competition here is for non-criminal residents. Individuals (or corporations) with strong views on the death penalty are the subgroup most likely to be influenced in their selection of a state in which to reside by the availability of the death penalty in that state.

¹⁰² An obvious third option, simply lowering taxes, is not really available. Because the revenue a state generates through taxation is necessary to provide various services, any decrease in taxes is likely to bring a concomitant reduction in service provision. Although this combination of changes may make the state more attractive to residents with a preferred package of taxes and services different from that currently offered by the state, it cannot make the state more attractive to residents who would prefer to receive the current package of services, but at a reduced rate.

But, the existence of our federal legislature gives states that favor the death penalty a third, competition-impeding option: their congressional representatives could enact legislation directly,¹⁰³ or more probably indirectly,¹⁰⁴ requiring all states to make the death penalty available for certain crimes.¹⁰⁵ Through such homogenizing legislation, a majority of states can force an outlier state to disgorge any competitive gains that its uncommon choice previously afforded.¹⁰⁶ More importantly, such legislation reduces the diversity among the states in the package of taxes and services, including state constitutional rights and other laws, that each offers.¹⁰⁷

Consider the following hypothetical federal statute:

Any state receiving federal Law Enforcement funds ("Funds") must use the Funds to provide "beat cops" who will patrol the state's urban neighborhoods daily on foot, and must demonstrate its depth of commitment to the national fight against crime by having the death penalty available for first-degree murder convictions; participating states will receive Funds in the amount of \$5.00 per resident according to the most recent federal census.¹⁰⁸

Upon the enactment of this statute, it is possible that each of the twelve states in which the death penalty is not currently available would choose to make it available for first-degree murder convictions rather than forego the offered funds.¹⁰⁹ This means that some individuals, who

¹⁰³ In light of the Court's decision in *United States v. Lopez*, 115 S. Ct. 1624 (1995), a direct congressional mandate of this sort is likely to be held to exceed Congress's regulatory powers under the Commerce Clause and, therefore, to be invalid. *Id.* at 1632.

¹⁰⁴ The indirect route would be a conditional offer of federal funds. See *infra* text accompanying notes 108-10 (providing an example); Baker, *supra* note 47, at 1967-73 (discussing similar hypothetical congressional enactments).

¹⁰⁵ For a more detailed discussion of when and why these states' representatives in Congress would enact such federal homogenizing legislation, see Baker, *supra* note 47, at 1942-47, 1951-52.

¹⁰⁶ Of course, at least a majority of states must favor the death penalty in order for this legislation to be enacted. See text accompanying note 17, *supra*.

¹⁰⁷ This reduction in diversity results if even one state that would *not* have complied with the federal condition in the absence of the contingent offer of funds chooses to comply rather than to forego the offered funds.

¹⁰⁸ This hypothetical is not so far removed from actual federal legislation. Cf. Violent Crime Control and Law Enforcement Act of 1994 §§ 10201-10209, 42 U.S.C.A. §§ 13701-09 (West Supp. 1995) ("Part A - Violent Offender Incarceration and Truth in Sentencing Incentive Grants"). This Act appropriates \$8 billion over six years to be distributed to states that, *inter alia*, demonstrate that their correctional policies and programs "provide sufficiently severe punishment for violent offenders, including violent juvenile offenders," *id.* § 13701(b)(1), and have in effect "laws which require that persons convicted of violent crimes serve not less than 85 percent of the sentence imposed." *Id.* § 13702(a)(1).

¹⁰⁹ When the rights of a minority, such as individuals convicted of first-degree murder, are involved, the majority can be expected readily to "sell" those rights in exchange for federal funds that more directly benefit themselves. Consider, for example, the salience and desirability to the

would prefer to live in a state in which the death penalty is not available, may no longer find *any* state that offers a package of taxes and services, including state constitutional rights and other laws, which they find attractive. Meanwhile, other individuals may now confront a surfeit of states offering a package, including the availability of the death penalty for first-degree murder convictions, which suits their preferences. The net result is likely to be a decrease in aggregate social welfare since the aggregate loss in welfare to death penalty opponents from the decrease from twelve to zero in the number of non-death-penalty states seems likely to be greater than the aggregate gain in welfare to death penalty proponents from the increase from thirty-eight to fifty in the number of death-penalty states.¹¹⁰

To better appreciate the welfare effects of this type of federal homogenizing legislation, it is useful to compare the state of affairs following its enactment with a scenario in which the thirty-eight states that currently favor the death penalty negotiate an agreement with the remaining twelve states under which they, too, will make the death penalty available for first-degree murder convictions in exchange for financial compensation from those thirty-eight states.¹¹¹ Assume further that the financial payment is made directly from the coffers of the thirty-eight states to those of the remaining twelve. From the perspective of each state, the resulting agreement will be both Pareto superior and Kaldor-Hicks efficient.¹¹² We can conclude that each of

median voter of a grant of federal education funds to the local school district—or even a grant of federal law enforcement funds to the state—versus a state prohibition against the death penalty. See Baker, *supra* note 47, at 1950. But cf. Jeff E. Shapiro, *Allen Calls Beyer "Disloyal,"* RICH. TIMES-DISPATCH, May 31, 1996, at A1 (reporting that Virginia refused to accept money from the federal Goals 2000 education program, even though 92 of 134 school boards statewide favored the program, because the program demanded that the state account for how the money was spent).

¹¹⁰ That is, the mere existence of the last remaining state in which the death penalty is *not* available seems likely to yield aggregate benefits for death-penalty opponents which are far greater than the aggregate benefits that death-penalty proponents would realize if there were 50 rather than 49 states in which the death penalty were available. Indeed, for death-penalty opponents, the last remaining state in which the death penalty is not available may have a value many times higher than that of the second-to-last state.

¹¹¹ The transaction costs incurred in reaching such an agreement among all 50 states are likely to be high and even prohibitive. The number of parties involved in the negotiations is relatively large, and the opportunities for holding out and free riding are correspondingly great. See, e.g., RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* § 3.8, at 62 (4th ed. 1992) ("The costs of transacting are highest when elements of bilateral monopoly coincide with a large number of parties to the transaction—a quite possible conjunction."); JESSE DUKEMINIER & JAMES E. KRIER, *PROPERTY* 51-52 (3d ed. 1993); Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347, 354-57 (1967).

¹¹² Judge Richard Posner describes "Pareto superiority" and "Kaldor-Hicks efficiency" as follows:

A Pareto-superior transaction is one that makes at least one person better off and no one worse off. ... In other words, the criterion of Pareto superiority is unanimity of

the thirty-eight pro-death-penalty states prefers the increase in the number of states in which the death penalty is available to the funds it has paid to the remaining twelve states. And each of the twelve states that did not make the death penalty available in the status quo ante apparently values the increase in revenue offered by the other thirty-eight states more than it values remaining a non-death-penalty state. By their actions, all fifty states have indicated that they prefer the new state of affairs to the status quo ante, and the agreement has therefore indisputably increased aggregate social welfare.

The enactment of federal homogenizing legislation, such as the above statute, cannot be shown to be similarly Kaldor-Hicks efficient, however. Even if each state accepts this federal offer, all we will know is that each state prefers the offered funds to not making the death penalty available for those convicted of first-degree murder. In the case of the twelve states that do not currently make the death penalty available, we will now know an amount of money that is *sufficient* for each to overcome its aversion to the death penalty.¹¹³ If, as in the previous scenario, this dollar amount were now willingly paid to the twelve states *directly from the coffers of the thirty-eight states* that had the death penalty in the status quo ante, we could be confident that this federal statute would increase aggregate social welfare. But the money that the twelve non-death-penalty states will receive under the federal statute comes instead from the federal fisc and, before that, from those very same twelve states.¹¹⁴ Since we do not know how much of *their own*

all affected persons. ... In the less austere concept of efficiency ... called the Kaldor-Hicks concept or wealth maximization—if A values the wood carving [that he owns] at \$5 and B at \$12, so that at a sale price of \$10 (indeed at any price between \$5 and \$12) the [sale of the carving to B] creates a total benefit of \$7 (at a price of \$10, for example, A considers himself \$5 better off and B considers himself \$2 better off), then it is an efficient transaction, provided that the harm (if any) done to third parties (minus any benefit to them) does not exceed \$7. The transaction would not be Pareto superior unless A and B actually compensated the third parties for any harm suffered by them. The Kaldor-Hicks concept is also and suggestively called potential Pareto superiority: The winners could compensate the losers, whether or not they actually do.

POSNER, *supra* note 111, § 1.2, at 13-14.

It should be noted that the example provided above, *supra* notes 108-10 and accompanying text, assumes that there are no third-party effects that need to be considered insofar as each state is presumed to be acting on behalf of its residents. Thus, the only parties to be compensated are the 12 states that do not have the death penalty in the status quo ante.

¹¹³ This amount of money is clearly sufficient, but may also be more than is necessary, for some or all of the 12 states that did not have the death penalty in the status quo ante to overcome their aversion to the death penalty. In the absence of individualized negotiations, the amount of money necessary for each state to overcome its aversion cannot be precisely determined.

¹¹⁴ Since the proffered federal funds are available to all 50 states, and all 50 states have contributed to the federal fisc, each state that accepts the offer is simply getting back a portion of its

money the thirty-eight pro-death-penalty states would willingly have paid to ensure that the death penalty is also available in the remaining twelve states, we do not have any measure of the increase in welfare that these thirty-eight states will realize from the availability of the death penalty in the remaining twelve states. And this statute cannot therefore be proven to increase aggregate social welfare even if all fifty states accept the conditional offer of funds.¹¹⁵

The benefits of making welfare-reducing federal homogenizing legislation more difficult to enact should now be clear. But how does the apportionment of representation in the Senate help achieve this result? By providing small states disproportionately great representation relative to their shares of the nation's population, the Senate enables representatives of as little as eighteen percent of the nation's population to block any federal homogenizing legislation that might be proposed.¹¹⁶ If the House alone could enact such legislation, in contrast, the consent of representatives of at least a simple majority of the people would be necessary to block its enactment.¹¹⁷ Thus, any benefit the Senate provides in this context is not at bottom due to the disproportionately great representation, relative to their shares of the nation's population, which it affords small states, but rather to the supermajoritarianism that this apportionment of representation systematically injects into the lawmaking process.¹¹⁸ *Ceteris paribus*, welfare-reducing homogenizing legislation, or any other sort of legislation, is always more difficult to enact under a supermajority rule than under a simple-majority rule, no matter how representation is apportioned.

Ultimately, the Senate's allocation of representation and the supermajoritarianism it implicitly injects into the federal lawmaking process

(corporate and individual residents') earlier contributions to the federal fisc. See Baker, *supra* note 47, at 1935-39; see also Lino A. Graglia, *From Federal Union to National Monolith: Mileposts in the Demise of American Federalism*, 16 HARV. J.L. & PUB. POL'Y 129, 130-31 (1993) (The Sixteenth Amendment, establishing the federal income tax, gave Congress the power to "extract[] money from the now-defenseless states and offer[] to return it with strings attached"); Thomas R. McCoy & Barry Friedman, *Conditional Spending: Federalism's Trojan Horse*, 1988 SUP. CT. REV. 85, 124 ("[F]or most states' voters the only real question is how much they can get back in federal financial handouts. There is no immediate sense that *it is their own money being returned to them with strings attached* and that the net effect of the money's round trip to Washington is simply to carry the regulatory strings with it back to the state.") (emphasis added).

¹¹⁵ It also cannot be proven to *decrease* aggregate social welfare, although intuitively it seems likely that this is the effect.

¹¹⁶ See *supra* note 27 and accompanying text.

¹¹⁷ See *supra* note 26 and accompanying text.

¹¹⁸ See *supra* notes 27-28 and accompanying text.

are beneficial only when two conditions are met: (1) the proposed federal homogenizing legislation is likely to reduce aggregate social welfare; and (2) the states seeking to block the passage of the legislation are small ones. Some federal homogenizing legislation, however, is likely to *increase* aggregate welfare by impeding welfare-reducing interstate races to the bottom,¹¹⁹ or by reducing the costs that non-uniformities may impose on corporations and individuals seeking to act in more than one state.¹²⁰ To the extent that the current allocation of representation in the Senate makes this welfare-*increasing* homogenizing legislation more difficult to enact, it is further problematic.

Even when the proposed federal homogenizing legislation is likely to reduce aggregate social welfare, however, the states seeking to block its passage will sometimes be large ones. By affording these large states disproportionately *little* coalition-building power relative to their shares of the nation's population, the Senate makes it more—not less—difficult for the large states to block legislation, in stark contrast to the effect when a small state seeks to block legislation. Taken alone, Representatives from the nine largest states, representing *fifty percent* of the nation's population,¹²¹ may not be able to block federal homogenizing legislation that they find unattractive. In contrast, Senators from the twenty-six smallest states, representing only *eighteen percent* of the nation's population,¹²² can block the enactment of such legislation.

¹¹⁹ The obvious examples are laws concerning environmental regulation and poverty relief. As Professor Richard Revesz has observed, "the race to the bottom has been invoked as an overarching reason to vest regulation that imposes costs on mobile capital at the federal rather than the state level, and has been cited as one of the bases for [federal environmental statutes and for] the New Deal." Revesz, *supra* note 34, at 1210-11 (footnotes omitted); see also Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196, 1211-12 (1977). But see Revesz, *supra* note 34, at 1233-44, 1244-53 (arguing that race-to-the-bottom hypothesis lacks sound theoretical basis, and that even if there were a race to the bottom in the environmental arena, federal regulation would not necessarily be the solution).

¹²⁰ The costs imposed by such disuniformities are among the arguments currently made in favor of the federal reform of tort law. See, e.g., S. REP. NO. 104-69, at 1-2 (1995) (arguing that different state laws create "[i]nefficiency and unpredictability" to the detriment of the U.S. economy); 141 CONG. REC. E595 (daily ed. Mar. 8, 1995) (Rep. Stephen E. Buyer (Ind.) speaking); Gary T. Schwartz, *Considering the Proper Federal Role in American Tort Law*, 38 ARIZ. L. REV. 917, 924-32 (1996) (discussing the "fifty-state non-uniformity problem" in modern products liability law); William Powers, Jr., *Some Pitfalls of Federal Tort Reform Legislation*, 38 ARIZ. L. REV. 909, 910 (1996) (observing that the federal government "may ... have an interest in keeping states from 'racing to the top' with their domestic rules about products liability," but remaining "skeptical about most federal tort reform legislation").

¹²¹ See *supra* note 14; THE BOOK OF THE STATES, *supra* note 14, at 635-36 tbl.10.3.

¹²² See *supra* note 27. This figure falls to 11% in the case of a filibuster. See *supra* note 28.

In addition to its adverse implications for aggregate social welfare, this aspect of the Senate's allocation of representation raises an important equity concern. Why are large states afforded disproportionately little power relative to their shares of the nation's population, and small states disproportionately great power, to block federal homogenizing legislation that they find unattractive? Once again, neither moral nor economic theory offers any justification for this inequitable allocation of power within the federal legislative process.¹²³

III. ALTERNATIVES TO THE SENATE

We have seen that the structure of representation in the Senate has three problematic effects. It facilitates the systematic and unjustifiable redistribution of wealth from large states to small ones. It systematically and unjustifiably denies America's racial minorities representation in proportion to their numbers. And it systematically and unjustifiably affords large states disproportionately little power, relative to their shares of the nation's population, to block federal homogenizing legislation that they consider welfare-reducing. This is scarcely a list in which our nation can take pride. It might therefore be useful to consider whether an alternative structure of representation could provide the advantages of the Senate without its disadvantages.

To begin, it seems clear that the states should be represented in the Senate, just as in the House, in proportion to their population. If, in addition, state boundaries continue to be respected so that no Senator represents more than one state and each state receives at least one Senator, this change to proportional representation in the Senate will likely require an increase in the total size of its membership. These alterations will eliminate the three major disadvantages of the Senate's current allocation of representation. They will preclude wealth redistribution from large states to small ones. They will provide both large and small states a power in proportion to their shares of the nation's population to block federal homogenizing legislation that they consider welfare-reducing. And, they will afford representation in proportion to their shares of the nation's population to states with

¹²³ See *supra* notes 65-66. The argument that a federal government can only acknowledge state sovereignty through formal equality of representation in at least one legislative chamber is not especially persuasive for the reasons discussed in the text following note 167, *infra*.

disproportionately large numbers of racial minorities, as well as states with disproportionately small numbers of racial minorities.

These changes in the structure of representation in the Senate may also impose new costs, however. Most notably, they are likely to facilitate wealth redistribution in the opposite direction, from small states to large ones. And they are likely to make some welfare-reducing homogenizing legislation easier to enact. In addition, increasing the size of the Senate may simultaneously increase its costs of decisionmaking and decrease its capacity for deliberation. Finally, Senate districts may resemble House districts much more closely than they currently do.¹²⁴

A. *The Supermajority Decision Rule*

There is a ready solution for two of the three problematic effects of the existing structure of representation in the Senate: require a supermajority for passage in the Senate. A supermajority decision rule would impede the enactment of both legislation that redistributes wealth from small states to large ones and welfare-reducing homogenizing legislation. And it would not diminish any of the benefits of the proposed change to proportional representation of the states in the Senate. A supermajority rule is likely to impose two new costs, however, which need to be weighed against its substantial expected benefits.

First, the change to a supermajority rule in the Senate would increase the cost of decisionmaking in that chamber and, therefore, in Congress. For any group of a given size, the expected costs of decisionmaking increase when the proportion of the group whose approval is required for a decision increases.¹²⁵ That is, building a coalition of a supermajority of representatives can be expected to consume more legislative time and resources than building a coalition of a simple majority. And since representatives have finite time and resources, some legislation that would increase aggregate social welfare, and which

¹²⁴ This is most likely to be true if the format of Senate districts is changed from at-large to single-member. Thus, if the membership of the Senate were increased to match that of the House (435), we would need to decide if California would elect its 52 Senators all from one state-wide, at-large district, from 52 single-member districts, or in some other way. The thesis of this Article does not require us to choose among the various options and we are agnostic on the matter. For discussions of the costs and benefits of at-large, single-member, and other districting and election possibilities, see, e.g., ENID LAKEMAN, HOW DEMOCRACIES VOTE: A STUDY OF ELECTORAL SYSTEMS (4th ed. 1974); Richard H. Pildes & Kristen A. Donoghue, *Cumulative Voting in the United States*, 1995 U. CHI. LEGAL F. 241 (1995); Dana R. Carstarphen, Note, *The Single, Transferable Vote: Achieving the Goals of Section 2 Without Sacrificing the Integration Ideal*, 9 YALE L. & POL'Y REV. 405, 420-23 (1991).

¹²⁵ See BUCHANAN & TULLOCK, *supra* note 26, at 107.

would be enacted under a simple-majority rule, might therefore not be enacted under a supermajority rule. Thus, the costs of any supermajority rule include both the deadweight social losses and the opportunity costs reflected in the nonenactment, or delays in the enactment, of welfare-increasing legislation that could have been adopted, or adopted more quickly, under a simple majority rule. At the same time, however, a super-majority rule may provide countervailing benefits by preventing or delaying the enactment of welfare-reducing legislation that could have been adopted, or adopted more quickly, under a simple majority rule.

Second, a supermajority rule may be troubling to some individuals, and its adoption will therefore impose costs on them, merely because it is not a simple majority decision rule. This concern is largely baseless, however. Although the fifty-percent-plus-one decision rule has come to occupy a central place in democratic theory,¹²⁶ it is most accurately

¹²⁶ For classical statements of the centrality to democracy of majority rule, see, e.g., JOHN LOCKE, THE SECOND TREATISE OF GOVERNMENT § 95 (T.P. Pardon ed., 1952) ("When any number of men have so consented to make one community or government, they are thereby presently incorporated and make one body politic wherein the majority have a right to act and conclude the rest."); WILMOORE KENDALL, JOHN LOCKE AND THE DOCTRINE OF MAJORITY-RULE 112 (1959) (regarding the aforementioned quote as the "most concise statement of the faith of the majority-rule democrat" to be found in Locke's work); JEAN-JACQUES ROUSSEAU, THE SOCIAL CONTRACT 153 (Maurice Cranston trans., 1968) (Bk. 4, ch. 2) ("[T]he counting of votes yields a declaration of the general will. When, therefore, the opinion contrary to my own prevails, this proves only that I have made a mistake, and that what I perceived to be the general will was not so."); NOMOS XXXII: MAJORITIES AND MINORITIES (John W. Chapman & Alan Wertheimer eds., 1990) (essays discussing various theorists).

For other, recent discussion of the centrality of majority rule to democracy, see, e.g., DUNCAN BLACK, THE THEORY OF COMMITTEES AND ELECTIONS 3 (1958) (restating the "usual" procedural principle that if a motion "obtains the necessary majority of votes it becomes the decision of the committee"); ANTHONY DOWNS, AN ECONOMIC THEORY OF DEMOCRACY 24 (1957) (defining democratic government as one in which the party "receiving the support of a majority of those voting" is given the right to hold office); James Buchanan, *Social Choice, Democracy, and Free Markets*, 62 J. POL. ECON. 114, 119 (1954) (asserting that majority rule within the democratic process "serves to insure that competing alternatives may be experimentally and provisionally adopted, tested, and replaced by new compromise alternatives approved by a majority group of ever changing composition"); Benjamin Lieber & Patrick Brown, Note, *On Supermajorities and the Constitution*, 83 GEO. L.J. 2347 (1995) (discussing the constitutional implications of various supermajority voting requirements); Kenneth O. May, *A Set of Independent Necessary and Sufficient Conditions for Simple Majority Decision*, 20 ECONOMETRICA 680, 683 (1952) (arguing that simple majority rule is the only decision rule that does not (1) favor one individual over another, (2) favor one alternative over another, (3) fail to generate a definite result in some situation, or (4) fail to respond positively to individual preferences).

Many of the Framers made clear their attraction to majority rule. See, e.g., Thomas Jefferson, *Notes on the State of Virginia*, in THE PORTABLE THOMAS JEFFERSON 23, 171 (Merrill D. Peterson ed., 1975) ("Lex majoris partis [is] founded in common law as well as common right. It is the natural law of every assembly of men."); THE FEDERALIST NO. 22, at 146 (Alexander Hamilton) (Clinton Rossiter ed., 1961) (declaring that a "fundamental maxim of republican government ... requires that the sense of the majority should prevail"); THE FEDERALIST NO. 58, at 361 (James Madison) (Clinton Rossiter ed., 1961) (proclaiming majority rule "the fundamental principle of free government").

For examples of the attractiveness of majority rule to modern legal scholars, see, e.g., Bruce Ackerman et al., *An Open Letter to Congressman Gingrich*, 104 YALE L.J. 1539, 1539 (1994) (invoking "our central constitutional commitments to majority rule and deliberative democracy" in

viewed as but one of many possible alternatives to the unanimity rule. The unanimity rule is the rightful, if forgotten, touchstone for democratic decisionmaking because it is the only rule that ensures Pareto optimal results.¹²⁷ That is, any law enacted under a unanimity rule can be presumed to make at least one legislator (and her constituents) "better off" without making any other legislator (and his constituents) "worse off," thereby increasing the aggregate welfare of the legislators (and their constituents).¹²⁸ All other rules have one important advantage over the unanimity rule, however: they reduce the costs of decisionmaking.¹²⁹

urging the House "to reconsider [its] proposal to amend the House Rules to require a three-fifths vote for enactment of laws that increase income taxes" (signatories numbered 17 law professors); Akhil Reed Amar, *The Consent of the Governed: Constitutional Amendment Outside Article V*, 94 COLUM. L. REV. 457, 458 (1994) ("majoritarian popular sovereignty principles are clearly a part of the U.S. Constitution in both word and deed") [hereinafter *Consent of the Governed*]; Akhil Reed Amar, *Philadelphia Revisited: Amending the Constitution Outside Article V*, 55 U. CHI. L. REV. 1043, 1044 (1988) ("I believe that the first, most undeniable, inalienable and important, if enumerated, right of the People is the right of a majority of voters to amend the Constitution") [hereinafter *Philadelphia Revisited*].

¹²⁷ See BUCHANAN & TULLOCK, *supra* note 26, at 94-95, 110; cf. JEAN JACQUES ROUSSEAU, THE SOCIAL CONTRACT AND DISCOURSES 11 (G.D.H. Cole trans., 1947) ("The law of majority voting is itself something established by convention, and presupposes unanimity, on one occasion at least."); Gordon Tullock, *Some Problems of Majority Voting*, 67 J. POL. ECON. 571, 579 (1959) (discussing the limitations of majority voting as a tool for allocating resources in a democratic government); John O. McGinnis & Michael B. Rappaport, *The Constitutionality of Legislative Supermajority Requirements: A Defense*, 105 YALE L.J. 483, 509 (1995) (arguing that supermajority requirements placed upon Congress are "in accord with the formal rule that can be derived from the text and structure of the Constitution ... [because] the rule will simultaneously protect the interests of popular, rather than legislative, majorities and protect the exercise of individual rights").

Unfortunately, the primacy of the unanimity rule is often not understood by modern legal scholars. See, e.g., Amar, *Consent of the Governed*, *supra* note 126, at 503 ("Once majority rule is abandoned, there is no logical stopping point between, say, a 50% plus two rule, and a 99.9% rule. And the latter, of course, surely is not rule by the people.") (emphasis in second sentence added).

¹²⁸ BUCHANAN & TULLOCK, *supra* note 26, at 92. The unanimity rule is the only rule that safeguards each decisionmaker "against the external damage that may be caused by the actions of other individuals, privately or collectively." *Id.* at 81. "Better off" and "worse off" are defined simply "in terms of the voluntary preferences of the individuals as revealed by [their] behavior." *Id.* at 92. Thus, no interpersonal utility calculations need be made. *Id.*

In the context of representative democracy, one can be certain only that a unanimity rule increases the aggregate welfare of the *legislators*. Thus, *each* legislator, rather than a mere majority of legislators under a simple majority rule, can be presumed to view any enactment under a unanimity rule to be consistent with her desire for reelection. This may or may not mean that at least a majority of each legislator's constituents are made better off by any enactment under a unanimity rule. See *id.*

¹²⁹ See *id.* at 111. Indeed, the costs of decisionmaking, both direct and indirect, are often prohibitive under a unanimity rule, as demonstrated by the American experience under the Articles of Confederation. See U.S. ARTICLES OF CONFEDERATION art. XIII (allowing no alteration of the Articles "unless such alteration be agreed to in a congress of the united states, and be afterwards confirmed by the legislatures of every state."). Hamilton attributed the failure of government under the Articles of Confederation to the absence of any authority over "the individual citizens of America" when making "requisitions for men and money." THE FEDERALIST NO. 15, at 108 (Alexander Hamilton) (Clinton Rossiter ed., 1961). The result, he believed, was a de facto unanimity rule for the enactment of federal laws that the states would *all* consider to be binding rather than "mere recommendations which the States observe or disregard at their option." *Id.*

In our case the concurrence of thirteen distinct sovereign wills is requisite under

Ultimately, one's choice of decision rule simply expresses the combination of costs one prefers. As the proportion of the group whose approval is required for a decision increases, the costs of reaching a decision increase.¹³⁰ But the expropriative costs, i.e., the aggregate costs that the enacted law will impose on one or more individuals in the group, simultaneously decrease.¹³¹ In the end, then, a fifty-percent-plus-one decision rule differs from a sixty-seven percent rule or a ninety-five percent rule only in the combination of decision and expropriative costs which it is likely to impose.¹³²

If majority rule is simply "one among many practical expedients made necessary by the costs of securing widespread agreement on political issues when individual and group interests diverge," why has it "been elevated to the status which the unanimity rule should occupy"?¹³³ The most plausible explanation is that the choice of decision rule has typically been posed in terms of the false alternatives of majority rule or minority rule.¹³⁴ Thus, it is commonly argued that "[i]f more than 51 per cent are required for political decision, this will really allow the minority to rule since the wishes of the 51 per cent, a majority, can be thwarted."¹³⁵ This claim is flawed in at least two respects, however.

First, in order for a supermajority decision rule of, say, sixty-seven percent to be the equivalent of rule by a minority of thirty-four percent, two conditions must be met: the decision must involve mutually

the Confederation to the complete execution of every important measure that proceeds from the Union. It has happened as was to have been foreseen. The measures of the Union have not been executed; and the delinquencies of the States have step by step matured themselves to an extreme, which has, at length, arrested the wheels of the national government and brought them to an awful stand.

Id. at 112.

¹³⁰ See BUCHANAN & TULLOCK, *supra* note 26, at 107 ("[T]he costs of securing agreement, *within the decision-making group*, increase as the size of the group increases.") (emphasis in original).

¹³¹ See *id.* at 64, 75, 94, 111, 143, 211, 258.

¹³² See *id.* at 81-82, 94-95.

¹³³ *Id.* at 96. "In political discussion ... many scholars seem to have overlooked the central place that the unanimity rule must occupy in any normative theory of democratic government." *Id.*

¹³⁴ *Id.* at 250, 256. For examples of this error in legal scholarship, see, e.g., Ackerman et al., *supra* note 126, at 1540 (using Alexander Hamilton's argument in *Federalist No. 22* stating that "ordinary legislation should not 'give a minority a negative upon the majority.'"); Amar, *Consent of the Governed*, *supra* note 126, at 460-61 (arguing that Article V of the U.S. Constitution cannot be viewed as the only means of amendment because the provision's "minoritarian" viewpoint betrays the "majoritarian" spirit of the Constitution's creation and ratification); Amar, *Philadelphia Revisited*, *supra* note 126, at 1060 (same).

¹³⁵ BUCHANAN & TULLOCK, *supra* note 26, at 256.

exclusive alternatives,¹³⁶ and inaction must be considered the equivalent of action.¹³⁷ In many contexts, however, *neither* of these two conditions will be met.¹³⁸ Consider, for example, the effect of a sixty-seven percent decision rule on a proposed spending bill that would allocate \$1 million of federal funds to AIDS research. If sixty percent of the legislature would like to spend that \$1 million on AIDS research while the other forty percent would prefer to spend the money on poverty relief, the failure of the majority to secure the support of the required sixty-seven percent will not result in "rule" by the minority. Although the minority will be able to prevent the majority from realizing its desire, the minority is no less thwarted in attaining its own goal. Unless some compromise is reached, inaction is the result: the \$1 million will not be spent and both groups will bear the resulting costs.

Second, juxtaposing "majority rule" and "minority rule" overlooks the critical distinction between the power to authorize action for the entire group and the power to block action proposed by others.¹³⁹ In particular, the power to impose costs on others is importantly different from the power to prevent costs from being imposed on oneself. Under a sixty-seven percent supermajority rule, a thirty-four percent minority has only the latter, "blocking" power. It is the former power, however, which arguably constitutes meaningful "rule."¹⁴⁰ That is, true minority rule would require a supermajority to *block* legislation proposed by a minority.¹⁴¹

¹³⁶ See *id.* at 253 ("In game-theoretic terms, the assumption of mutually exclusive alternatives is equivalent to assuming that the game is zero-sum." That is, "the interests of one or the other of the parties prevail and the interests of the 'loser' [are] subjected to 'defeat.'")

¹³⁷ *Id.* at 257. Whenever a binary choice is presented, this is likely to be perceived to be the case. See *id.* at 258.

¹³⁸ Consider the following example:

Suppose that there are 100 persons on a hayride and ... a fork in the road looms ahead. Suppose that 74 of these persons choose to take the right-hand fork; 26 of them want to go to the left. With the 75 per cent rule in effect, neither road could be taken until and unless some compromises were made. ... Failure to secure the required 75 per cent is not equivalent to granting "rule" to 27 per cent. If the third alternative of stopping the journey is allowed for, the 75 per cent rule will not allow action to be taken. The orthodox theorist would argue that such inaction, in this case, amounts to "victory" for the "recalcitrant" 26 persons making up the minority. Taken individually, however, these persons are thwarted in their desires in precisely the same way that the individual members of the larger group are thwarted. These individuals must also bear the costs of inaction.

BUCHANAN & TULLOCK, *supra* note 26, at 257.

¹³⁹ *Id.* at 258.

¹⁴⁰ *Id.* Buchanan and Tullock suggest that the distinction between the power of determining action and the power of blocking action has received insufficient attention because of "an overconcentration on the operation of simple majority rule. If a simple majority is empowered to

Those still suspicious of a supermajority rule for enacting legislation might also consider that the Senate has always implicitly employed such rules. Today, for example, it is possible for representatives of as little as eighteen percent of the nation's population to block the enactment of legislation that comes to a vote with the support of representatives of the other eighty-two percent (or more) of the population.¹⁴² This is supermajoritarianism of the highest order, thinly veiled by the fact that this eighteen percent of the nation's population is represented by a simple majority of Senators. Moreover, if a filibuster is staged, a supermajority of sixty Senators is required to end debate under that chamber's current rules.¹⁴³ Thus, representatives of as little as eleven percent of the nation's population can prevent proposed legislation from even coming to a vote in the Senate.¹⁴⁴

In addition, it should be noted that the Constitution has long mandated a supermajority decision rule in a wide range of other contexts. To list only the best known such examples: impeachment requires the concurrence of two-thirds of the Senators present;¹⁴⁵ each house may expel a member only with the consent of two-thirds of its members;¹⁴⁶ a presidential veto can be overridden only if two-thirds of each house concurs;¹⁴⁷ and constitutional amendments proposed by Congress require the consent of two-thirds of both houses.¹⁴⁸

determine positive action, there can be no other simple majority empowered to block the action proposed. Two simple majorities cannot simultaneously exist. The distinction becomes clear only when we consider "minority rule." "*Id.*

¹⁴¹ *Id.* at 259.

¹⁴² See *supra* note 26 and accompanying text.

¹⁴³ See S. DOC. NO. 100-1, at 8-9 (1988).

¹⁴⁴ See *supra* note 28.

¹⁴⁵ U.S. CONST. art I, § 3, cl. 6.

¹⁴⁶ U.S. CONST. art I, § 5, cl. 2.

¹⁴⁷ U.S. CONST. art I, § 7, cl. 3.

¹⁴⁸ U.S. CONST. art. V.

Other examples of supermajority decision rules mandated by the Constitution include: U.S. CONST. art. II, § 2, cl. 2 (President shall have power "to make Treaties, provided two thirds of the Senators present concur"); U.S. CONST. art. V ("[O]n the Application of the Legislatures of two thirds of the several States, [Congress] shall call a Convention for proposing amendments."); U.S. CONST. art. V (proposed amendments to the Constitution are adopted "when ratified by the Legislatures of three fourths of the several States, or by Conventions in three fourths thereof"); U.S. CONST. art. VII ("Ratification of the Conventions of nine [of the then-existing thirteen] States, shall be sufficient for the Establishment of [the] Constitution"); U.S. CONST. amend. XIV, § 3 (the concurrence of two-thirds of each house is necessary to enable anyone to hold "any office civil or military, under the United States, or under any State," who, "having previously taken an oath, as a member of Congress, or as an officer of the United States, or as a member of any State legislature, or as an executive or judicial officer of any State, to support the Constitution of the United States, shall have engaged in insurrection or rebellion against the same, or given aid or comfort to the enemies thereof"); U.S. CONST. amend. XXV, § 4 (should the President disagree with the Vice President "and

Thus far, it seems that a scheme of proportional representation of the states and a supermajority decision rule has many advantages and scant disadvantages relative to the Senate's current arrangement of equal representation of the states without regard to population and a simple majority decision rule. Two issues remain to be discussed before a final comparative judgment can be rendered, however: What are the likely effects on the legislative process of significantly increasing the membership of the Senate, and of having Senate districts that may also in other respects much more closely resemble the existing House districts?

B. Changing the Size and Apportionment of the Senate

Increasing the membership of the Senate will undoubtedly increase the cost of decisionmaking in that chamber. Under any decision rule, the expected costs of decisionmaking increase as the size of the group—and, therefore, the absolute number of group members whose approval is required for a decision—increases. That is, building a coalition of 101 legislators (in a chamber numbering 200) can be expected to consume more legislative time and resources than building a coalition of fifty-one (in a chamber numbering 100). And since representatives have finite time and resources, some legislation that would increase aggregate social welfare, and which would be enacted by a body of 100, therefore might not be enacted by a group numbering 200. Thus, the costs of increasing the size of the Senate include both the deadweight social losses and the opportunity costs reflected in the nonenactment, or delays in the enactment, of welfare-increasing legislation that could have been adopted, or adopted more quickly, by the existing, smaller body.

Increasing the size of the Senate may also affect the amount or quality of deliberation in which that body engages. Assuming arguendo that an increase in the Senate's membership will in fact decrease the amount or quality of its deliberation, it should nonetheless be at least as deliberative as the current House so long as the number of Senators does not exceed 435.¹⁴⁹ But will increasing the membership of

a majority of either the principal officers of the executive department or of such other body as Congress may by law provide" as to the President's ability "to discharge the powers and duties of his office," the President will resume those powers and duties unless two-thirds of both houses of Congress conclude that the President is unable to do so).

¹⁴⁹ Indeed, it is worth recalling that the House originally had only 65 members, and that the Framers imposed no ceiling on the total membership of the House. U.S. CONST. art. I, § 2, cl. 3. They specified only that "[t]he Number of Representatives shall not exceed one for every thirty Thousand [persons]" and that "each State shall have at Least one Representative." *Id.* Thus, the Framers' primary concern, at least in the House, appears to have been to ensure a minimum level of

the Senate from 100 to 435, for example, in fact decrease the amount or quality of its deliberation? It is hard to know, not least because there is little agreement on what constitutes "deliberation" by lawmakers.¹⁵⁰ There is no obvious reason, however, to expect members of a Senate of 435 to be systematically less likely than members of a Senate of 100 to: (1) be well-informed about legislation on which they vote,¹⁵¹ (2) more thoughtfully and rationally consider the issues on which they vote,¹⁵² (3) discuss an issue with fellow decisionmakers prior to voting,¹⁵³ (4) revise their preferences in light of discussion or new information,¹⁵⁴ (5) be motivated in their decisionmaking by a concern with "the public

representation rather than a minimum level of deliberation.

¹⁵⁰ See, e.g., Kathryn Abrams, *Law's Republicanism*, 97 YALE L.J. 1591 (1988); Baker, *supra* note 13, at 738-50; J.M. Balkin, *Populism and Progressivism as Constitutional Categories*, 104 YALE L.J. 1935 (1995) (book review); Derrick A. Bell, Jr., *The Referendum: Democracy's Barrier to Racial Equality*, 54 WASH. L. REV. 1 (1978); Richard A. Epstein, *Modern Republicanism—Or the Flight from Substance*, 97 YALE L.J. 1633 (1988); David M. Estlund, *Who's Afraid of Deliberative Democracy? On the Strategic/Deliberative Dichotomy in Recent Constitutional Jurisprudence*, 71 TEX. L. REV. 1437 (1993); Julian N. Eule, *Judicial Review of Direct Democracy*, 99 YALE L.J. 1503 (1990); James E. Fleming, *Securing Deliberative Autonomy*, 48 STAN. L. REV. 1 (1995); Clayton P. Gillette, *Plebiscites, Participation, and Collective Action in Local Government Law*, 86 MICH. L. REV. 930 (1988); Linda K. Kerber, *Making Republicanism Useful*, 97 YALE L.J. 1663 (1988); Jonathan R. Macey, *The Missing Element in the Republican Revival*, 97 YALE L.J. 1673 (1988); Jerry Mashaw, *As If Republican Interpretation*, 97 YALE L.J. 1685 (1988); Frank Michelman, *Law's Republic*, 97 YALE L.J. 1493 (1988); Martha Minow, *Interpreting Rights: An Essay for Robert Cover*, 96 YALE L.J. 1860 (1987); H. Jefferson Powell, *Reviving Republicanism*, 97 YALE L.J. 1703 (1988); Kathleen M. Sullivan, *Rainbow Republicanism*, 97 YALE L.J. 1713 (1988); Cass R. Sunstein, *Beyond the Republican Revival*, 97 YALE L.J. 1539 (1988).

¹⁵¹ Cf. Baker, *supra* note 13, at 744-45 ("[I]t is not at all clear that representatives are systematically more likely than plebiscite voters to be well-informed."); Richard Briffault, *Distrust of Democracy*, 63 TEX. L. REV. 1347, 1362 (1985); see also DAVID B. MAGLEBY, *DIRECT LEGISLATION: VOTING ON BALLOT PROPOSITIONS IN THE UNITED STATES* 186-88 (1984).

¹⁵² Cf. MAGLEBY, *supra* note 151, at 186-88 (pointing out that larger representative bodies may be more deliberative at the front-end of legislation due to member specialization, but that members are forced to call upon the knowledge of their colleagues to inform their ultimate votes); Baker, *supra* note 13, at 744-45, 748 (arguing that nothing inherent in representative bodies requires that information be thoughtfully and rationally considered).

¹⁵³ Cf. Baker, *supra* note 13, at 744-45, 748-50 (comparing the incentives of representatives to "discuss and exchange views on proposed legislation" with those of plebiscite voters); Fleming, *supra* note 150, at 32 (comparing deliberative democracy and deliberative autonomy); see also James A. Gardner, *Shut Up and Vote: A Critique of Deliberative Democracy and the Life of Talk*, 83 TENN. L. REV. 421, 428 (1996) (discussing the merits and drawbacks of deliberative democracy); Michelman, *supra* note 150, at 1531 (pointing to the large amount of information exchanged on local levels via civic and social organizations); Minow, *supra* note 150, at 1861-62 (asserting that "interpretive activity" takes place at the community level); Sunstein, *supra* note 150, at 1572-73 (listing local organizations that serve as outlets for republican debate).

¹⁵⁴ Cf. Baker, *supra* note 13, at 744-45, 750; Judith F. Daar, *Direct Democracy and Bioethical Choices: Voting Life and Death at the Ballot Box*, 28 U. MICH. J.L. REF. 799, 837-38 (1995); Ernest Tollerson, *Politics: New Thinking on Polling; Changing Opinions Through Information and Debate*, N.Y. TIMES, Jan. 27, 1996, § 1, at 8 (observing that political science professor James S. Fishkin believes that "shifts in thinking are evidence of the value of encouraging Americans to deliberate in a serious way so that they can make more informed judgments") (emphasis added). But cf. Herbert Hovenkamp, *Legislation, Well-being, and Public Choice*, 57 U. CHI. L. REV. 63, 104 (1990).

good,"¹⁵⁵ (6) explicitly justify their decisions by appeals to "the public good,"¹⁵⁶ or (7) reach a result through consensus-building conversation rather than by bargaining over and aggregating preferences.¹⁵⁷

Indeed, the fact that building a coalition of 218 (of 435) Senators can be expected to consume more legislative time and resources than building a coalition of fifty-one (of 100) may suggest that a Senate of 435 is actually *more* likely than the existing Senate to deliberate. At a minimum, the members of the larger body are likely to take longer to build a consensus (or to reach agreement) on any issue. Moreover, even if an increase in the membership of the Senate from 100 to 435 can be shown to yield a likely reduction in the quantity or quality of that chamber's deliberation, there is a clear countervailing benefit. A Senate of 435 is likely to be much more *representative* of the nation's people and myriad interests, especially its people of color and their interests, than is the current Senate.¹⁵⁸

Apportioning Senate representation on the basis of a state's population may increase the similarities between Senate districts and the

¹⁵⁵ Cf. Baker, *supra* note 13, at 738-39; see also Gillette, *supra* note 150, at 946-60; Sunstein, *supra* note 150, at 1550. Unfortunately, it is not clear how a political actor in a group of any size is to determine what "the public good" is. See, e.g., Abrams, *supra* note 150, at 1599-1601; Kerber, *supra* note 150, at 1670; Macey, *supra* note 150, at 1676-77 & n.16; Powell, *supra* note 150, at 1710-11; Sullivan, *supra* note 150, at 1713. Nor is it clear that any coherent content can be given the notion. See, e.g., Abrams, *supra* note 150, at 1599-1604; Epstein, *supra* note 150, at 1640; Mashaw, *supra* note 150, at 1698; Sullivan, *supra* note 150, at 1713; Sunstein, *supra* note 150, at 1540. Daniel Farber and Philip Frickey contend, however, that

A legislative decision has a good claim to represent the public interest when individual preferences on particular issues themselves generally fall into coherent ideological patterns; when decisions are made using techniques that embody society's understandings about relevance; when norms of fair division are respected; and when the end result is preferred by a majority to the status quo.

DANIEL A. FARBER & PHILIP P. FRICKEY, LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION 59 (1991). See also Hovenkamp, *supra* note 154.

¹⁵⁶ Cf. Baker, *supra* note 13, at 742-43 ("[A] representative interested in reelection is likely to provide a 'public-regarding' explanation for her vote only if she believes that a substantial portion of her constituents want to hear such a justification."); Sunstein, *supra* note 150, at 1544-45 (asserting that any political actor is likely to justify her choices by appealing to the public good).

¹⁵⁷ Cf. Baker, *supra* note 13, at 743-44 (explaining that procedural aspects of both legislatures and plebiscites provide incentives for political actors to seek agreement of merely a simple majority); Sunstein, *supra* note 150, at 1554 (arguing that "republicans will be hostile to bargaining mechanisms in the political process and will instead seek to ensure agreement among political participants"). But see Mark Seidenfeld, *A Civic Republican Justification for the Bureaucratic State*, 105 HARV. L. REV. 1511, 1533 (1992) (discussing pluralist democracy and the aggregation of private interests).

¹⁵⁸ Quite obviously, 435 Senators (or people) are capable of expressing a greater variety of views on any issue than are 100 Senators (or people). One would expect this to be the case whether the 435 Senators were elected from at-large, single-member, or some other type of district. The greater diversity of viewpoints made possible by a larger legislative body, however, should not be confused with a guaranteed or more effective representation of any particular viewpoint or interest. Increasing the size of the legislative body simply increases the likelihood that a minority interest will receive *some* representation; it does not necessarily increase the likelihood that a minority interest will be *more successfully* represented.

existing House districts. This will be the case, for example, if multiple single-member districts are substituted for each state's existing at-large district—a change as to which we are agnostic.¹⁵⁹ As *Federalist No. 62* states, differences between the two legislative chambers are important because “the improbability of sinister combinations will be in proportion to the dissimilarity in the genius of the two bodies.”¹⁶⁰ But, as the Court observed in *Reynolds v. Sims*,¹⁶¹ “[s]imply because the controlling criterion for apportioning representation is required to be the same in both houses does not mean that there will be no differences in the composition and complexion of the two bodies.”¹⁶² For example, differences in the total membership of the two chambers may still exist, in part, because of variation in the geographical size of the House and Senate districts within each state.¹⁶³ Even if the House and Senate are of identical size, the lines of the House and Senate districts within each state need not be identically drawn, nor must both chambers' members be elected from the same type of district (e.g., single-member or at-large).¹⁶⁴ In addition, the length of terms¹⁶⁵ and proportion of the membership whose term expires in a given year¹⁶⁶ may differ between the two chambers. As the *Reynolds* Court concluded, “these and other factors could be, and *are presently in many States*, utilized to engender differing complexions and collective attitudes in the two bodies of *a state legislature*, although both are apportioned substantially on a population basis.”¹⁶⁷ And there is no reason why the result in the federal legislature need be any different.

It is further important to appreciate that reapportioning the Senate on the basis of population will not adversely affect the existing independent sovereignty of the states. Under the proposed scheme, the states will

¹⁵⁹ That is, we should not be construed to be either advocating or opposing such a change. As explained *supra* note 124, we remain agnostic as to whether single-member districts or any other form of districting or vote aggregation is superior to the Senate's existing at-large districts. And, a determination on this issue is in any case not necessary to our larger argument.

¹⁶⁰ THE FEDERALIST NO. 62, at 379 (James Madison) (Clinton Rossiter ed., 1961).

¹⁶¹ 377 U.S. 533 (1964).

¹⁶² *Id.* at 576.

¹⁶³ See *id.*; see also, e.g., 1993-94 OFFICIAL MANUAL, STATE OF MISSOURI 106, 122, 183 [hereinafter MISSOURI MANUAL].

¹⁶⁴ See 377 U.S. at 577; see also, e.g., MISSOURI MANUAL, *supra* note 163, at 122, 183.

¹⁶⁵ See 377 U.S. at 577; THE BOOK OF STATES, *supra* note 14, at 113 tbl.3.3 (citing 34 states with different term lengths for members of upper and lower houses of their legislatures).

¹⁶⁶ See, e.g., FLA. CONST. art. 3, § 15 (all state representatives, but only one-half of state senators, to be elected every two years).

¹⁶⁷ 377 U.S. at 577 (emphasis added).

retain their current identities and boundaries. They will retain all of the lawmaking and other powers that they currently possess. In addition, all congressional districts will continue to be drawn within the borders of a single state, enabling each federal legislator to represent the interests of a single state (or a part thereof). Those who would nonetheless argue that the *only* way a federal government can properly acknowledge the sovereignty of its several states is by affording them a formal equality of representation in at least one legislative chamber must explain why this is so. Such an explanation seems especially necessary when, as we have seen, this formal equality of representation yields unjustifiable, systematic inequalities in the representation afforded citizens of different races,¹⁶⁸ in the various states' balance of payments with the federal government,¹⁶⁹ and in the states' ability to block federal homogenizing legislation that they consider disadvantageous.¹⁷⁰

In summary, a scheme of proportional representation of the states and a supermajority decision rule has many advantages relative to the existing arrangement in the Senate. It impedes systematic wealth redistribution both from large states to small ones, and from small states to large ones. It affords both large and small states a power in proportion to their shares of the population to block federal homogenizing legislation they consider disadvantageous, thereby impeding the enactment of all such aggregate welfare-reducing legislation. And it provides states with disproportionately large numbers of racial minorities, as well as states with disproportionately small numbers of racial minorities, representation in proportion to their shares of the nation's population. The only demonstrable disadvantage of the proposed scheme is that the cost of congressional decisionmaking is likely to be somewhat greater than under the existing arrangement.

Were the proposed changes adopted, how large a supermajority should be required for passage in the Senate? As a starting point, we might recall that the Senate's current apportionment of representation may effectively impose as high as an eighty-nine percent decision rule.¹⁷¹ The supermajority rule one chooses, however, will depend on one's preferred combination of decisionmaking costs and the costs of

¹⁶⁸ See *supra* part II.B.

¹⁶⁹ See *supra* part II.A.

¹⁷⁰ See *supra* part II.C.

¹⁷¹ See *supra* notes 27-28 and accompanying text. In some contexts, of course, an 89% rule may impose absurdly high decision costs. We invoke it here simply as the current theoretical extreme to be improved upon.

legislation that will have expropriative effects on one or more individuals, keeping in mind that the former costs increase but the latter simultaneously decrease as the decision rule approaches unanimity.¹⁷²

One's choice of a particular supermajority rule will also be influenced by whether one chooses to retain Congress's bicameral structure. Were the Senate to operate under a scheme of proportional representation of the states and a supermajority decision rule, the House in its current form would have reduced influence. Even more often than at present, passage in the Senate might be a necessary *and sufficient* condition for enacting legislation.¹⁷³ As a result, one might choose either (1) to abolish the House and have a unicameral federal legislature with representation proportional to each state's share of the population, and with some supermajority decision rule, or (2) to retain the House with its allocation of representation substantially in proportion to each state's share of the population, but to have it employ the same supermajority decision rule that is chosen for the Senate.¹⁷⁴ Insofar as bicameralism and supermajoritarianism both serve to stop or stall the enactment of legislation and therefore preserve the status quo,¹⁷⁵ a smaller supermajority should be required under the second alternative than under the first to achieve any chosen combination of decision-making and expropriative costs.¹⁷⁶

¹⁷² See *supra* notes 130-32 and accompanying text.

¹⁷³ This is most obviously, but not exclusively, the case whenever a state's House and Senate members vote the same way on a particular bill. And spending legislation—a decision to send federal money to one's home state rather than to another state—seems especially likely to yield such agreement among a state's representatives in Congress.

¹⁷⁴ Assuming again, see *supra* note 173, that a state's House and Senate members are both likely to vote in favor of legislation that sends federal dollars to their home state, such spending legislation is likely to pass both congressional chambers whenever it would pass either chamber—if the decision rule in both chambers is the same and if representation in both chambers is apportioned on the basis of population.

¹⁷⁵ See, e.g., Baker, *supra* note 13, at 716-17 ("The addition of a second chamber will likely increase the number of voters necessary to pass legislation by a representative body."); Levmore, *supra* note 26, at 151-53 ("It is easy and even, perhaps, historically correct to think of bicameralism as designed to stall or stop legislation."); William H. Riker, *The Merits of Bicameralism*, 12 INT'L REV. L. & ECON. 166, 167-68 (1992) ("[T]he effect of breaking the unicameral house into a tricameral body is about the same as going from simple-majority to supermajority rule in the unicameral body, namely delay and stability."); see also BUCHANAN & TULLOCK, *supra* note 26, at 236 ("[T]o produce the same results in a single-house legislature [as in a bicameral body], a rule of three-fourths majority might be required under certain circumstances.").

¹⁷⁶ There are other unique advantages that bicameralism provides, however, which may make it desirable to retain that particular aspect of the current Congress. See, e.g., BUCHANAN & TULLOCK, *supra* note 26, at 236 ("[A] bicameral legislature may prove to be an effective means of securing a substantial reduction in the expected external costs of collective action without incurring as much added decision-making [sic] costs as a more inclusive rule would involve in a single house."); Levmore, *supra* note 26, at 155 ("The simple fact that in a bicameral system a proposal must be openly considered in two forums may work to expose misbehavior."); Riker, *supra* note 175, at 168 ("[T]he bicameral structure is the solution to the institutional problem of majority rule. Like the other

Were we to adopt these proposed changes to the Senate's decision rule and structure of representation, we would of course need to resolve a variety of other issues. What will be the total number of Senators?¹⁷⁷ How will Senate districts be allocated within each state?¹⁷⁸ What will be the duration of a Senator's term of office?¹⁷⁹ How frequently will Senate elections be held?¹⁸⁰ What proportion of the Senate's membership will have a term that expires in a particular year?¹⁸¹ But these are details. And they may readily be resolved simply by keeping in mind the concerns underlying the major components of the proposed Senate reform.

IV. THE (IM)POSSIBILITY OF REFORM

We have seen that a scheme of proportional representation of the states and a supermajority decision rule has many important advantages relative to the Senate's current arrangement of equal representation of the states without regard to population and a simple majority decision rule.¹⁸² Unfortunately, however, the Constitution contains a variety of barriers, and no especially plausible route, to adopting these proposed reforms.¹⁸³

A. Article V

The most obvious barrier to any reapportionment of the Senate is Article V of the Constitution, which mandates that "no State, without its

mechanisms, it delays when no equilibrium exists. Unlike them, however, it encourages—or at least does not prevent—decision when an equilibrium does exist. Simultaneously it deters majority tyranny and promotes majority rule.”).

¹⁷⁷ Cf. U.S. CONST. art. I, § 3, cl. 1 (“The Senate of the United States shall be composed of two Senators from each State, ... and each Senator shall have one Vote.”); U.S. CONST. amend. XVII (same).

¹⁷⁸ Cf. U.S. CONST. amend. XVII (Senators from each state to be “elected by the people thereof.”). One might read this provision as requiring that each Senator be elected by *all* the people of a state; that is, as requiring at-large, multimember districts. However, one might also read it as merely requiring direct election. Cf. U.S. CONST. art. I, § 2, cl. 1 (Representatives to be elected “by the People of the several states.”).

¹⁷⁹ Cf. U.S. CONST. art I, § 3, cl. 1 (term of six years); U.S. CONST. amend. XVII (same).

¹⁸⁰ Cf. U.S. CONST. art. I, § 3, cl. 2 (elections to be held every two years for one-third of the Senate).

¹⁸¹ Cf. *id.* (term of one-third of the Senate to expire every two years).

¹⁸² See *supra* part III.

¹⁸³ There may well be fewer constitutional and other barriers to adopting a supermajority decision rule in the Senate, or to changing from at-large, multimember Senate districts to single-member districts, than to reapportioning the Senate on the basis of population. Because we consider reapportionment so necessary to alleviating the Senate's existing adverse effects on our structure of government, however, see *supra* part II, our reapportionment proposal is the focus of our discussion.

Consent, shall be deprived of its equal Suffrage in the Senate.”¹⁸⁴ As we have seen, each of the small states, for which “equal” representation in the Senate means disproportionately great representation relative to its share of the nation’s population, reaps financial and political benefits from this arrangement.¹⁸⁵ And none of these states is therefore likely to consent to a (disadvantageous) reapportionment of the Senate on the basis of population without a prohibitively large one-time payment from the (presumably large) states seeking the reapportionment.

Nonetheless, Article V need not preclude such a reapportionment—at least as a theoretical matter. First, the Senate clause of Article V is itself arguably subject to repeal or change under the *general* procedures outlined within the Article.¹⁸⁶ Second, even if this clause were determined to be unamendable,¹⁸⁷ or to be amendable only pursuant to its own dictates,¹⁸⁸ it could simply be rendered moot by alterations to

¹⁸⁴ U.S. CONST. art. V.

¹⁸⁵ See *supra* part II.A. & II.C.

¹⁸⁶ That is, the text of Article V arguably could be amended simply to delete the clause stating that “no State, without its Consent, shall be deprived of its equal Suffrage in the Senate,” if the change were proposed by two-thirds of both houses of Congress and ratified by the legislatures of three-fourths of the states, for example. See U.S. CONST. art. V; Amar, *Consent of the Governed*, *supra* note 126, at 461. Some might plausibly argue, however, that such a change to Article V does deprive some states of their equal suffrage in the Senate and therefore also requires the consent of the affected states, pursuant to the special amendment provision of Article V. See, e.g., Thomas A. Baker, *Exercising the Amendment Power to Disapprove of Supreme Court Decisions: A Proposal for a “Republican Veto”*, 22 HASTINGS CONST. L.Q. 325, 340 n.47 (1995) (calling such a proposal to amend the entrenchment clause “disingenuous”); Douglas Linder, *What in the Constitution Cannot be Amended?*, 23 ARIZ. L. REV. 717, 726-27 (1981) (contending that any amendment that “represents an effort to dilute the influence in the Senate of the smaller states” should be invalid, but that “an amendment abolishing the Senate” could be upheld “on a holistic theory of constitutional interpretation”).

¹⁸⁷ The Senate clause of Article V, however, seems obviously different from—more amendable than—the companion clause specifying that “no Amendment which may be made prior to [1808] shall in any Manner affect the first and fourth Clauses in the Ninth Section of the first Article [protecting the foreign slave trade through 1808].” U.S. CONST. art. V (emphasis added). See Sanford Levinson, *The Political Implications of Amending Clauses*, 13 CONST. COMMENTARY 107, 122 (1996) (noting that the other “entrenchment” provision of Article V seems to have precluded “any amendment concerning congressional abolition of the slave trade prior to 1808” and contending that “the Senate clause is not ‘unamendable’ as a matter of theory”) (emphasis in original).

¹⁸⁸ Professor Sandy Levinson has argued that amending the Senate clause of Article V pursuant to its own dictates would essentially require unanimous consent:

Contrary to what is sometimes asserted, the Senate clause is *not* “unamendable” as a matter of theory, though, as a practical matter, that is almost certainly the case, given the extreme unlikelihood of, say, Wyoming agreeing to give up its excess of power in the Senate. This assumes, incidentally, that *only* Wyoming *must* consent to its reduced representation. But, of course, *all* states would be deprived of “equal Suffrage in the Senate,” even if one assumes, reasonably enough, that the states that benefit would be delighted to accept the inequality. But, as a theoretical matter, this raises the possibility that Vermont’s failure to consent to Wyoming’s reduced representation in the Senate would doom the proposal, since otherwise one would be foisting an “unequal Suffrage” on Vermont, relative to Wyoming’s, without its consent.

other, unambiguously amendable provisions of the Constitution.¹⁸⁹ Notably, Article I, Section 1, which currently vests “[a]ll legislative Powers ... in a Congress of the United States, which shall consist of a Senate and House of Representatives”¹⁹⁰ could be amended to vest “[a]ll legislative Powers ... in a Congress of the United States, which shall consist of a single Chamber that affords each state representation in proportion to its share of the nation’s population and which requires a two-thirds supermajority for the passage of any law.”¹⁹¹

All of these amendment possibilities are likely to remain no more than that, however. Again, any state that currently receives disproportionately great representation in the Senate relative to its share of the nation’s population benefits from the existing allocation of representation and should therefore have little interest in changing it. As Table 5 shows, the number of such overrepresented states has *always* substantially exceeded the one-third-plus-one necessary to block the mere proposal of any constitutional amendment by Congress or the calling of “a Convention for proposing Amendments” on the application of state legislatures.¹⁹² (And, of course, the number of such overrepresented states has always greatly exceeded the *one* necessary to block any reapportionment of the Senate under the special amendment procedures set out in Article V, Clause 3.) It logically follows that none of these overrepresented states should be interested in amending Article

Levinson, *supra* note 187, at 122 n.32 (emphasis in original).

¹⁸⁹ Much less plausibly, “equal Suffrage” in the Senate clause of Article V could be interpreted to mean “equal Suffrage *in proportion to its share of the population.*” The preceding phrase, “deprived of,” however, also suggests that no change from the practice-to-be-established was intended. And our current practice, as well as the implicit interpretation of this clause for the past 200 years, suggest that the equality intended was that of two Senators per state, *see U.S. CONST. art. 1, § 3, cl. 1,* and not that based on each state’s share of the nation’s population. *U.S. CONST. art. I, § 2, cl. 3* (The States’ apportionment in the House of Representatives is to be determined “according to their respective Numbers.”).

¹⁹⁰ *U.S. CONST. art. I, § 1.*

¹⁹¹ Similarly, Article I, Section 3, Clause 6 of the Constitution could be amended to grant this newly constituted Chamber “the sole power to try all impeachments,” and Article I, Section 7, Clause 2 could be modified to state that, “Every bill which shall have passed the Chamber shall, before it becomes a Law, be presented to the President of the United States” Indeed, “Chamber” could be substituted for “Senate” and “House” throughout the Constitution—with the arguable exception of Article V, of course.

¹⁹² Indeed, the closest we have ever been was at the Framing, when the number of states needed to block the proposal of a constitutional amendment in Congress (5) exactly equaled the number of states overrepresented in the Senate, relative to their shares of the nation’s population (also 5).

TABLE 5

**Overrepresentation in the U.S. Senate
and the Amendment Process**

Year	# States	# House Reps.	Sen. Rep. = X House Reps.	# States over-rep. in Senate	# States needed to block proposal to amend Constitution
1787	13	65	5.00	5	5
1790	16	106	6.62	9	6
1800	17	144	8.35	11	6
1810	23	186	8.09	15	8
1820	24	213	8.87	14	9
1830	26	242	9.31	18	11
1840	31	232	7.48	21	12
1850	33	237	7.18	22	13
1860	36	243	6.75	24	13
1870	38	293	7.71	22	15
1880	44	332	7.54	27	16
1890	45	357	7.93	26	16
1900	46	391	8.49	27	16
1910	48	435	9.06	28	16
1920	— no reapportionment —				
1930	48	435	9.06	34	16
1940	48	435	9.06	33	16
1950	50*	437*	8.74	32	17
1960	50	435	8.70	33	17
1970	50	435	8.70	34	17
1980	50	435	8.70	33	17
1990	50	435	8.70	32	17

(1/total # states) x (total # House reps.) = point of perfect proportionality between House and Senate representatives

*Membership was temporarily increased to 437 after Hawaii and Alaska were granted statehood in 1959.

V to permit a smaller proportion of the two congressional houses (or of the state legislatures) to propose constitutional amendments, or to permit a smaller proportion of the states to ratify any amendments that are proposed.

B. Article IV

A different way for the large states to increase their representation in the Senate would be for each to self-partition into several smaller states of equal size, with each new state represented by two Senators. Thus, California, for example, would self-partition into sixty-five new states, each having approximately the same population (454,000) as Wyoming.¹⁹³ Article IV, Section 3 anticipates this action, however, and dictates that "no new State shall be formed or erected within the Jurisdiction of any other State; nor any State be formed by the Junction of two or more States, or Parts of States, without the Consent of the Legislatures of the States concerned as well as of the Congress."¹⁹⁴ If one interprets the first clause of this Section to permit the partitioning of an existing state as long as a simple majority of both the state's legislature and of both houses of Congress approve, the large states will face a substantially lower barrier to reform than under the special amendment procedures of Article V. Under this reading, a large state needs the consent of only twenty-five rather than forty-nine other states in order to increase "its" representation in the Senate through self-partition.¹⁹⁵

Legislation authorizing the partition of one or more large states is likely to be supported only by a coalition of other states that are similarly underrepresented in the Senate relative to their shares of the nation's population and which would also benefit from self-partition.

¹⁹³ According to the 1990 Census, California had a population of 29.76 million compared to Wyoming's 0.45 million. *See THE BOOK OF THE STATES, supra* note 14, at 635-36 tbl.10.3.

¹⁹⁴ U.S. CONST. art. IV, § 3, cl. 1.

It is interesting that the March 1, 1845, joint resolution of Congress annexing Texas to the United States specified that

New States, of convenient size, not exceeding four in number, in addition to said State of Texas, and having sufficient population, may hereafter, by the consent of said State, be formed out of the territory thereof, which shall be entitled to admission under the provisions of the Federal Constitution.

H.R.J. Res. 8, 28th Cong. (1845).

¹⁹⁵ This assumes that the special amendment procedure of Article V requires unanimous consent for any formal alteration in the Senate's apportionment of representation. *See supra* notes 173-76 and accompanying text.

At present, there are eighteen such underrepresented states.¹⁹⁶ Thus, the support of eight small states, each of which benefits from the Senate's existing allocation of representation, would also be necessary. In theory, a coalition of the eighteen large states could make a one-time payment to a coalition of eight small states in exchange for their support in the Senate of a bill appropriately partitioning each of the eighteen large states.¹⁹⁷ The eighteen large states should be willing to pay the small state coalition an amount no greater than the present value of their aggregate anticipated gain over time from the proposed increase in the large states' representation in the Senate. And, the eight small states should be willing to accept any amount greater than the present value of their aggregate expected loss over time from this dilution of their Senate representation.

It is not surprising that such legislation has yet to be enacted, however. The idea may not have occurred to anyone.¹⁹⁸ Or those to whom it may have occurred may also have reasonably considered the notion of 435 American states (not to mention sixty-five "California" states) unwieldy or simply preposterous. Others may reasonably have read the semicolon at the end of Article IV, Section 3, Clause 2—"but

¹⁹⁶ See *supra* Table 5. This may be a slight overestimate, however, since four of these 18 states have nine representatives and are therefore only a tad underrepresented relative to the baseline of 8.70. *Id.*

¹⁹⁷ Of course, no help from these 8 small states is needed in the House, since the 18 large states have well over a majority (72%) of the Representatives: 315 of 435. See *supra* Table 1.

¹⁹⁸ Related ideas, however, have occurred to others. Dividing California into several states is regularly discussed, with differing levels of seriousness, in the California press. See generally Charles Hillinger, *Two Californias? A Split Decision, More Than 100 Attempts Have Been Made to Divide State*, L.A. TIMES, Aug. 25, 1986, at V6 (discussing history of attempts to subdivide California). One author has suggested that California should threaten to secede from the Union unless the Senate is reapportioned in proportion to population. See DANIEL LAZARE, *THE FROZEN REPUBLIC: HOW THE CONSTITUTION IS PARALYZING DEMOCRACY* 285-310 (1996). Various legal scholars have recently expressed their dissatisfaction with the Senate's current apportionment of representation. See, e.g., Amar, *Philadelphia Revisited*, *supra* note 126, at 1069-71 (observing that the malapportionment of the Senate "drastically overrepresents the perspective of rural over urban America" and contending that "[n]otwithstanding the Senate proviso [in Article V], We the People can—and perhaps should—abolish the archaic apportionment rules of the Senate" through a national referendum); Eskridge, *supra* note 70, at 159, 161 (contending that "the one Senator, one Vote clause is the most problematic in the Constitution" and, by implication, arguing that it should be changed to afford Senators from large-population states more than one vote); Suzanna Sherry, *Our Unconstitutional Senate*, 12 CONST. COMMENTARY 213, 213 (1995) (contending that the Senate's current apportionment of representation "is in conflict with the most basic principles of democracy underlying our Constitution and the form of government it establishes" and "would undoubtedly be unconstitutional" were it "not unequivocally enshrined in the Constitution itself"). Finally, Senator Daniel Patrick Moynihan has asserted that "[s]omewhere in the next century we are going to have to face the question of apportionment in the United States Senate." Daniel Patrick Moynihan, *Yes, New Yorkers Pick Up Tab for Other States*, N.Y. TIMES, Sept. 21, 1995, at A22; DANIEL PATRICK MOYNIHAN, *MILES TO GO: A PERSONAL HISTORY OF SOCIAL POLICY* 4-5 (1996) (contending that "[i]n the course of the next century, the United States will have to address the constitutional problem of 'equal Suffrage in the Senate' (Article V), but for this century the next best thing for a large state is to have a chairman of the Committee on Finance, a position last held by a New Yorker in 1851").

no new State shall be formed or erected within the Jurisdiction of any other State [semicolon]"—to indicate that this clause constitutes a per se prohibition against the partitioning of existing states except through the amendment or repeal of this clause.¹⁹⁹ There is the further possibility that the necessary coalitions of large and small states may not be able to form or to be sustained.²⁰⁰ Or the large states may have difficulty raising the money for the lump-sum payment to the eight small states. Finally, the requisite bargaining range may not exist. That is, the aggregate expected loss to any eight small states from the passage of this legislation may exceed the aggregate expected gain to the eighteen large states.

C. The Fifteenth Amendment

The judiciary might be able to play a role in altering the Senate's allocation of representation if the existing apportionment is challenged as a violation of the Fifteenth Amendment's guarantee that "The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of race, color, or previous condition of servitude."²⁰¹ As we have seen, persons of color currently constitute twenty-four percent of all Americans.²⁰² Yet the existing allocation of representation in the Senate affords them the equivalent of only nineteen Senators, or seventy-nine percent of their proportional share of Senate representation.²⁰³ Thus, the Fifteenth Amendment claim would be one of minority vote dilution.

With the early exception of *Gomillion v. Lightfoot*,²⁰⁴ however, the Court has interpreted the Fifteenth Amendment to ensure racial minorities only the ability to "register and vote without hindrance."²⁰⁵

¹⁹⁹ Of course, this clause of Article IV, Section 3 could be amended by deleting the semicolon, or by providing an exception for states that are underrepresented in the Senate, or perhaps by establishing some other procedure for partition. For adoption, however, such an amendment would presumably require the consent of two-thirds of both houses of Congress as well as ratification by the legislatures of three-fourths of the states. U.S. CONST. art. V. And, the requisite consent is likely to be difficult to obtain. *See supra* Table 5 and text accompanying note 192.

²⁰⁰ This will be the case if, for example, the bargaining "game" among the large and small states in this context has no "core." *See supra* note 55.

²⁰¹ U.S. CONST. amend. XV.

²⁰² *See supra* notes 68 & 71 and accompanying text.

²⁰³ *See supra* note 83 and accompanying text.

²⁰⁴ 364 U.S. 339 (1960) (invalidating a redrawing of the City of Tuskegee's boundaries which placed nearly all of the city's black population outside of the city limits).

²⁰⁵ *Mobile v. Bolden*, 446 U.S. 55, 64 (1980); *cf. Rogers v. Lodge*, 458 U.S. 613, 619 n.6 (1982) (observing that "[w]ith respect to the Fifteenth Amendment, the [Mobile] plurality held that the Amendment prohibits only direct, purposefully discriminatory interference with the freedom of

Claims of minority vote dilution have instead been litigated under the Fourteenth Amendment's Equal Protection Clause²⁰⁶ or the Voting Rights Act,²⁰⁷ neither of which provides any basis for such a claim against the federal government.²⁰⁸ A claim of minority vote dilution might be brought against the federal government under the Fifth Amendment, however.

D. The Fifth Amendment

Since the Supreme Court's 1954 decision in *Bolling v. Sharpe*, the Fifth Amendment's "due process" clause has been understood "to yield norms of equal treatment indistinguishable from those of the [Fourteenth Amendment's] equal protection clause."²⁰⁹ Insofar as the existing structure of representation in the Senate systematically affords members of racial minorities less representation than it provides non-Hispanic whites,²¹⁰ it arguably violates this guarantee.

Negroes to vote"). Indeed, the major cases other than *Gomillion* in which the Court found a Fifteenth Amendment violation have involved: a "grandfather" clause in a state literacy requirement exempting the descendants of any persons who had been entitled to vote before January 1, 1866, *see* *Guinn v. United States*, 238 U.S. 347 (1915); racially discriminatory voting qualification tests, *see* *South Carolina v. Katzenbach*, 383 U.S. 301 (1966); and racially exclusionary primaries, *see* *Smith v. Allwright*, 321 U.S. 649 (1944); *Terry v. Adams*, 345 U.S. 461 (1953).

²⁰⁶ See, e.g., *Shaw v. Reno*, 509 U.S. 630 (1993); *Voinovich v. Quilter*, 507 U.S. 146 (1993); *Davis v. Bandemer*, 478 U.S. 109 (1986); *Rogers v. Lodge*, 458 U.S. 613 (1982); *Mobile v. Bolden*, 446 U.S. 55 (1980); *White v. Regester*, 412 U.S. 755 (1973).

²⁰⁷ See, e.g., *Voinovich v. Quilter*, 507 U.S. 146 (1993); *Chisom v. Roemer*, 501 U.S. 380 (1991); *Thornburg v. Gingles*, 478 U.S. 30 (1986); *South Carolina v. Katzenbach*, 383 U.S. 301 (1966). The Court observed in *Mobile* that "the language of § 2 [of the Voting Rights Act] no more than elaborates upon that of the Fifteenth Amendment, and the sparse legislative history of § 2 makes clear that it was intended to have an effect no different from that of the Fifteenth Amendment itself. ... The view that this section simply restated the prohibitions already contained in the Fifteenth Amendment was expressed without contradiction during the Senate hearings." 446 U.S. at 60-61 (footnotes omitted); *see also Chisom*, 501 U.S. at 392; *NAACP v. New York*, 413 U.S. 345, 350 (1973).

²⁰⁸ Claims under the Fourteenth Amendment of course are limited to those against the states. U.S. CONST. amend. XIV. The Voting Rights Act provides:

No voting qualification or prerequisite to voting or standard, practice, or procedure shall be imposed or applied by any State or political subdivision ... which results in denial or abridgment of the right of any citizen of the United States to vote on account of race or color.

Voting Rights Act of 1965, § 2, 42 U.S.C. § 1973 (1994) (emphasis added). *See also Chisom*, 501 U.S. at 392-97 (describing the history of amendments to section 2); *Mobile*, 446 U.S. at 60-61.

²⁰⁹ *Bolling v. Sharpe*, 347 U.S. 497, 499-500 (1954) (holding racial segregation in District of Columbia public schools to violate the Fifth Amendment's guarantee of due process: "[t]he concepts of equal protection and due process, both stemming from our American ideal of fairness, are not mutually exclusive. ... In view of our decision that the Constitution prohibits the states from maintaining racially segregated public schools, it would be unthinkable that the same Constitution would impose a lesser duty on the Federal Government.") (footnote omitted); TRIBE, *supra* note 45, § 16-1, at 1437.

²¹⁰ *See supra* part II.B.

As we have seen, however, there are two sources of the Senate's minority vote dilution: the at-large, or multimember, nature of Senate districts, and the vastly different size of the populations represented in each district. With regard to the former, the Court has repeatedly held that multimember districts are not unconstitutional per se.²¹¹ Rather, "[c]ases charging that multimember districts unconstitutionally dilute the voting strength of racial minorities are ... subject to the standard of proof generally applicable to Equal Protection Clause cases."²¹² And this in turn requires a showing of discriminatory intent or purpose, although the necessary intent "need not be proved by direct evidence."²¹³

Was race discrimination, particularly the dilution of minority voting rights, the Framers' underlying motivation in determining the allocation of representation in the Senate? It is uncontroversial that the boundaries of the first Senate districts were not lines drawn by the Framers but were instead determined by the preexisting state lines. Thus, a plausible case for discriminatory intent would require an initial showing that any states in which non-whites were permitted to vote, for example, were originally afforded disproportionately little representation in the Senate, relative to their shares of the nation's population. This is simply evidence of discriminatory *effect*, however, unless one can offer additional evidence that the Framers intended this effect when they afforded each state two representatives in the Senate.²¹⁴ Given the lack of persuasive evidence

²¹¹ *Rogers v. Lodge*, 458 U.S. 613, 616-17 (1982) (listing cases); *see also* *White v. Regester*, 412 U.S. 755, 765 (1973); *Whitcomb v. Chavis*, 403 U.S. 124, 142 (1971); *Kilgarlin v. Hill*, 386 U.S. 120 (1967); *Burns v. Richardson*, 384 U.S. 73 (1966); *Fortson v. Dorsey*, 379 U.S. 433 (1965). Nonetheless, the *Mobile* Court claimed it was clear "that a court in formulating an apportionment plan as an exercise of its equity powers should, as a general rule, not permit multimember legislative districts. '[S]ingle-member districts are to be preferred in court-ordered legislative reapportionment plans unless the court can articulate a 'singular combination of unique factors' that justifies a different result.' *Mobile*, 446 U.S. at 66 n.12 (citation omitted).

²¹² *Rogers*, 458 U.S. at 617.

²¹³ *Id.* at 618; *Mobile*, 446 U.S. at 70 ("[W]here the character of a law is readily explainable on grounds apart from race ... disproportionate impact alone cannot be decisive, and courts must look to other evidence to support a finding of discriminatory purpose."); *cf. Arlington Heights v. Metropolitan Housing Dev. Corp.*, 429 U.S. 252, 266 (1977) (determining the existence of a discriminatory purpose "demands a sensitive inquiry into such circumstantial and direct evidence of intent as may be available"); *Washington v. Davis*, 426 U.S. 229, 242 (1976) ("Necessarily, an invidious discriminatory purpose may often be inferred from the totality of the relevant facts, including the fact, if it is true, that the law bears more heavily on one race than another.").

²¹⁴ For discussion of the distinction between discriminatory "intent" or "purpose" and discriminatory "effect," *see, e.g.*, *Mobile v. Bolden*, 446 U.S. 55, 66 (1980) (citations omitted):

We have recognized ... that [multimember legislative districts] could violate the Fourteenth Amendment if their purpose were invidiously to minimize or cancel out the voting potential of racial or ethnic minorities. To prove such a purpose it is not enough to show that the group allegedly discriminated against has not elected representatives in proportion to its numbers. A plaintiff must prove that the disputed

of racially discriminatory intent or effect in this context, it is understandable that the Supreme Court has not attributed the Framers' apportionment of Senate representation to racial bias. Instead the Court has invoked the more obvious explanation of the Framers' desire to reach a compromise in the allocation of congressional representation that would permit the Union to be formed,²¹⁵ and their concern to acknowledge the independent sovereignty of the states.²¹⁶

This does not complete the inquiry, however. One might argue that sufficient discriminatory intent nonetheless could be inferred from our maintenance, since 1954,²¹⁷ of an apportionment of Senate representation which we now know significantly dilutes the votes of racial minorities and for which there is at least one good, nondiscriminatory substitute.²¹⁸ There is supporting precedent for such an argument. In its 1982 decision in *Rogers v. Lodge*,²¹⁹ the Supreme Court affirmed the invalidation of a Georgia county's at-large system for electing its Board of Commissioners which, "'although racially neutral when adopted,'"²²⁰ at the time of the litigation was being "maintained for the *invidious purpose* of diluting the voting strength of the black population."²²¹ The Court further affirmed the district court's order that the county begin using single-member districts for electing its Board.²²²

plan was "conceived or operated as [a] purposeful [device] to further racial ... discrimination."

²¹⁵ See, e.g., *Reynolds v. Sims*, 377 U.S. 533, 574 (1964) (stating that the current apportionment of congressional representation grew out of "a compromise between the larger and smaller States ... [and] averted a deadlock in the Constitutional Convention which had threatened to abort the birth of our Nation"); *Wesberry v. Sanders*, 376 U.S. 1, 9-14 (1964) (explaining how the Great Compromise resolved a "dispute [that] came near ending the Convention without a Constitution"); Maryland Comm. for Fair Representation v. Tawes, 377 U.S. 656, 675 (1964) (citing *Reynolds* and asserting that the invocation of any "federal analogy" in defending state apportionment schemes is "clearly misplaced"); *Lucas v. Forty-Fourth Colo. Gen. Assembly*, 377 U.S. 713, 738 (1964) (same).

²¹⁶ See, e.g., *Wesberry*, 376 U.S. at 11 (articulating the concern of William Patterson at the Constitutional Convention that the federal legislature maintain the sovereignty of the states); *Reynolds*, 377 U.S. at 575 (observing that the federal analogy is inapposite in the context of state legislatures' apportionment of representation because "[p]olitical subdivisions of States—counties, cities, or whatever—never were and never have been considered as sovereign entities"); *Tawes*, 377 U.S. at 675 (citing *Reynolds* on this point); *Lucas*, 377 U.S. at 738 (same).

²¹⁷ This is the year *Bolling v. Sharpe* was decided and the Supreme Court held the Fifth Amendment to contain a guarantee of equal protection. See *supra* note 209.

²¹⁸ See *supra* parts II.B. & III.

²¹⁹ 458 U.S. 613 (1982).

²²⁰ 458 U.S. at 622 (quoting finding of the district court in *Rogers*).

²²¹ *Id.* at 622 (emphasis added) (reporting finding of the district court).

²²² *Id.* at 627-28. The Supreme Court reported that "[n]either the District Court nor the Court of Appeals discerned any special circumstances that would militate against utilizing single-member districts." *Id.*

But is minority vote dilution “the invidious purpose” underlying our maintenance of the Senate’s apportionment of representation since 1954?²²³ One might at first be inclined to answer “no.” After all, most individuals (excepting those who have read this far, of course) probably are not even aware that the current allocation of representation in the Senate serves to dilute the voting power of America’s racial minorities. Although some, tragically, may celebrate this racially discriminatory effect,²²⁴ there are surely many less nefarious reasons why we have so long retained the Senate’s original structure of representation, chief among them Article V,²²⁵ inertia, and the substantial costs and uncertainties that would attend changing so central a component of our governmental structure.

In determining “purpose” in the analogous context of race-based dilution claims against state and local governments, however, the Supreme Court has permitted the lower federal courts to examine a variety of factors. These factors include: whether “[the racial minority has] always made up a substantial majority of the [relevant] population ... [but is] a distinct minority of the registered voters;”²²⁶ “evidence of bloc voting along racial lines;”²²⁷ “the impact of past discrimination on the ability of [the racial minority] to participate effectively in the political process,”²²⁸ whether the relevant elected officials “have been

²²³ A powerful case surely can be made that it is the most invidious *effect*.

²²⁴ Indeed, some non-Hispanic whites who are residents of large states may actually (if tragically) find the current apportionment of Senate representation attractive, *notwithstanding the fact that they are victims of the federal redistribution in favor of small states*, described *supra* part II.A., precisely because this apportionment dilutes the voting power of their own state’s—and ultimately the nation’s—racial minorities.

²²⁵ See *supra* part IV.A.

²²⁶ *Rogers v. Lodge*, 458 U.S. 613, 623; *see also* *White v. Regester*, 412 U.S. 755, 769 (1973) (“[A] cultural incompatibility ... conjoined with the poll tax and the most restrictive voter registration procedures in the nation have operated to effectively deny Mexican-Americans access to the political processes in Texas even longer than the Blacks were formally denied access by the white primary.”) (quoting the district court in *White v. Regester*, 343 F. Supp. 704, 731 (1972)).

²²⁷ *Rogers*, 458 U.S. at 623. The Court observed that “although there had been black candidates, no black had ever been elected to the Burke County Commission. ... Because it is sensible to expect that at least some blacks would have been elected in Burke County, the fact that none have ever been elected is important evidence of purposeful exclusion.” *Id.* at 623-24; *see also Regester*, 412 U.S. at 766-67 (observing that “since Reconstruction days, there have been only two Negroes in the Dallas County delegation to the Texas House of Representatives and ... these were the only two Negroes ever slated by ... a white-dominated organization that is in effective control of Democratic Party candidate slating in Dallas County”); *id.* at 768-69 (noting further that “only five Mexican-Americans since 1880 have served in the Texas Legislature from Bexar County” and “[o]f these, only two were from the Barrio area”).

²²⁸ *Rogers*, 458 U.S. at 624. The Court examined whether past discrimination in the form of literacy tests, poll taxes, and white primaries, as well as past discrimination in education, may have had “an adverse effect on black voter registration which lingers to this date.” *Id.* at 624. In addition, the Court examined whether past discrimination had prevented blacks “from effectively participating

unresponsive and insensitive to the needs of the [racial minority's] community;”²²⁹ “the depressed socio-economic status of [the relevant community's racial minorities];”²³⁰ and the ability of racial minorities “to get to polling places or to campaign for office.”²³¹

Considering these sorts of factors, it is at least arguable that an “invidious purpose” does indeed underlie our maintenance of the Senate’s apportionment of representation since 1954. In the context of Senate elections, there is evidence that non-Hispanic whites register and vote in higher proportions than do persons of color.²³² In addition, the

in Democratic Party affairs and in primary elections,” or from serving as chief registrar, grand jurors, or county employees. *Id.* at 625; *see also Regester*, 412 U.S. at 767 (“[T]he black community has been effectively excluded from participation in the Democratic primary selection process.”) (quoting the district court in *Regester*, 343 F. Supp. at 726); *id.* at 769 (“[T]he multimember district, as designed and operated in Bexar County, invidiously excluded Mexican-Americans from effective participation in political life, specifically in the election of representatives to the Texas House of Representatives.”).

²²⁹ *Rogers*, 458 U.S. at 625. The Court noted that examples of such disregard for the interests of black communities include:

[T]he infrequent appointment of blacks to county boards and committees; the overtly discriminatory pattern of paving county roads; the reluctance of the county to remedy black complaints, which forced blacks to take legal action to obtain school and grand jury desegregation; and the role played by the County Commissioners in the incorporation of an all-white private school to which they donated public funds for the purchase of band uniforms.

Id. at 625-26. *See also Regester*, 412 U.S. at 766-67 (“[A] white-dominated organization that is in effective control of Democratic Party candidate slating in Dallas County ... the District Court found, did not need the support of the Negro community to win elections in the county, and it did not therefore exhibit good-faith concern for the political and other needs and aspirations of the Negro community.”) (footnote omitted); *id.* at 769 (“The District Court also concluded from the evidence that Bexar County legislative delegation in the House was insufficiently responsive to Mexican-American interests.”).

²³⁰ *Rogers*, 458 U.S. at 626. The Court explained that “more blacks than whites have incomes below the poverty level,” that “[n]ot only have blacks completed less formal education than whites, but also the education they have received ‘was qualitatively inferior to a marked degree;’” that “[b]lacks tend to receive less pay than whites, even for similar work, and they tend to be employed in menial jobs more often than whites;” and that “seventy-three percent of houses occupied by blacks lacked all or some plumbing facilities,” compared with “only sixteen percent of white occupied houses [that] suffered the same deficiency.” *Id.* (citations omitted). *See also Regester*, 412 U.S. at 768 (noting that the district court “observed, based upon prior cases and the record before it, that the Bexar community, along with other Mexican-Americans in Texas, had long ‘suffered from, and continues to suffer from, the results and effects of invidious discrimination and treatment in the fields of education, employment, economics, health, politics and others.’” (citing 343 F. Supp. at 728)).

²³¹ *Rogers*, 458 U.S. at 627. The Court attributed this lowered ability to vote and campaign to the multimember nature of the districts, which tended “to minimize the voting strength of racial minorities,” and “the sheer geographic size of the county, which is nearly two-thirds the size of Rhode Island.” *Id.* In addition, the “majority vote requirement,” the requirement that candidates run for specific seats, and the absence of a residency requirement in the county were all found to enhance blacks’ lack of access to polling places or to political office. *Id.*; *see also Regester*, 412 U.S. at 766-67 (noting the district court’s finding that the “white-dominated organization that is in effective control of Democratic Party candidate slating in Dallas County [was] relying upon ‘racial campaign tactics in white precincts to defeat candidates who had the overwhelming support of the black community’” (quoting *Regester*, 343 F. Supp. at 726)).

²³² *See* BUREAU OF THE CENSUS, CURRENT POPULATION REPORTS tbl.V1 (1995) (Ser. P20, Nos. 453 and 466) (pointing out consistently lower voter registration and turnout for blacks than for whites).

socio-economic status of persons of color continues to lag nationwide behind that of non-Hispanic whites.²³³ The critical remaining issues on which one would need to find supporting data in order to have a plausible chance to prevail include: the frequency with which persons of color have sought and been denied a major party's nomination for a Senate seat; the extent to which unsuccessful minority candidates for the Senate have been victims of bloc voting along racial lines; and whether the non-Hispanic whites elected to the Senate have been "unresponsive and insensitive" to the needs of the persons of color in their respective districts.

Even if one is not persuaded that the existing apportionment of representation in the Senate is maintained for the purpose of diluting the voting power of America's racial minorities, there is the additional possibility that the vastly different size of the populations represented in each Senate district violates the Fifth Amendment's equal protection guarantee. Race is not central to this vote-dilution claim, of course. And the precedents involving the apportionment of the U.S. House and of state legislative districts are clear: *Wesberry v. Sanders*, *Reynolds v. Sims*, and their progeny mandate that "as nearly as is practicable one [person's] vote ... is to be worth as much as another's."²³⁴

Even if the Court were to conclude that "an individual's right to vote for [federal] legislators is in a substantial fashion diluted when compared with votes of citizens living in other parts of the [nation],"²³⁵ however, the most significant barrier of all remains.²³⁶ In order to find

²³³ See 1990 CENSUS SOCIAL CHARACTERISTICS, *supra* note 68, at 42 tbl.42, 48 tbl.48 (showing that blacks lag behind whites nationwide in percentage graduating from high school and/or attending or graduating college, and indicating lower mean earnings and mean wage or salary income for blacks than for whites).

²³⁴ *Wesberry*, 376 U.S. at 7-8; see also *Reynolds*, 377 U.S. at 576 (holding "that the Equal Protection Clause requires both houses of a state legislature to be apportioned on a population basis"); *Maryland Comm. for Fair Representation v. Tawes*, 377 U.S. 656, 656 (1964) (relying on *Reynolds v. Sims*); *Lucas v. Forty-Fourth Colo. Gen. Assembly*, 377 U.S. 713, 736 ("An individual's constitutionally protected right to cast an equally weighted vote cannot be denied even by a vote of a majority of a State's electorate.").

²³⁵ Cf. *Reynolds*, 377 U.S. at 568.

²³⁶ In addition, of course, there remains the question of the remedy to be awarded in the unlikely event that such a minority vote dilution claim were successful. Notwithstanding the courts' past willingness to undertake managerial tasks and to order structural solutions to various social problems, see, e.g., *Rogers v. Lodge*, 458 U.S. 613, 615-16, 627-28 (approving a District Court's order that a county be divided into five districts for purposes of selecting Commissioners where the method of electing Commissioners had been maintained for discriminatory purposes); *Brown v. Board of Educ.*, 347 U.S. 483, 495 (1954) (holding racially segregated public schools to be "a denial of equal protection of the laws" and observing that "the formulation of decrees in these cases presents problems of considerable complexity"), a court is highly unlikely to order a reconstitution of Congress along the lines set out in part III, *supra*. It seems especially unlikely that a court would not only reapportion the Senate but also divest both houses of Congress of their constitutional power to

that the existing allocation of representation in the Senate violates the Fifth Amendment, a court likely would need to determine that Congress or a sufficient number of the ratifying states²³⁷ intended this amendment: *both* (1) to repeal Article I, Section 3, Clause 1 of the Constitution, which specifies that "The Senate of the United States shall be composed of two Senators from each State;" *and* (2) to repeal that portion of Article V which specifies that "no State, without its Consent, shall be deprived of its equal Suffrage in the Senate." (This line of argument is further complicated by the fact that the Fifth Amendment was not understood to include any sort of equal protection guarantee until the Court's 1954 decision in *Bolling v. Sharpe*.²³⁸) Neither the text of the Fifth Amendment,²³⁹ its legislative history,²⁴⁰ nor the subsequent years of American governance provide evidence of such intent, however.

E. A Large-state "Work Stoppage"

One intriguing route to reform which does not involve the courts is a large-state "work stoppage." This possibility takes on substantial plausibility at a time when Congress has repeatedly demonstrated its capacity to shut down the federal government.²⁴¹ Taken alone, the Representatives of the nine largest of the existing eighteen large states constitute more than half of the total membership of the House.²⁴² If

"determine the Rules of its Proceedings," U.S. CONST. art. I, § 5, cl. 2, as the institution of a super-majority decision rule in both chambers would seem to require. *See Skaggs v. Carle*, 898 F. Supp. 1, 1-2 (D.D.C. 1995) (rejecting a constitutional challenge to the three-fifths tax vote rule adopted by the House (House Rule 21(5)) on separation-of-powers grounds and observing that "[t]he Rulemaking Clause of the Constitution confers power upon both chambers of Congress to make the rules by which they conduct business").

²³⁷ The number of ratifying states necessary would depend on one's view of whether Article I, Section 3, Clause 1, and Article V must be amended pursuant to the special requirements of the Senate clause of Article V which arguably amounts to a unanimity rule. *See supra* note 188. Presumably, however, it would be necessary for *no fewer* than the three-fourths of the then-extant 16 states required to ratify the Fifth Amendment to have had the necessary intent.

²³⁸ *See supra* note 209 and accompanying text.

²³⁹ The amendment states in potentially relevant part: "No person shall be ... deprived of life, liberty, or property, without due process of law" U.S. CONST. amend. V.

²⁴⁰ For discussion of the legislative history of the 5th Amendment, see, e.g., BERNARD SCHWARTZ, THE BILL OF RIGHTS: A DOCUMENTARY HISTORY 984-1162 (1971); SENATE COMM. ON THE JUDICIARY, SUBCOMM. ON THE CONST., 99TH CONG., AMENDMENTS TO THE CONSTITUTION: A BRIEF LEGISLATIVE HISTORY (1985).

²⁴¹ *See, e.g.*, Eric Pianin, *Workers Go Home; Talks Go Nowhere; Clinton, GOP At Impasse on Budget*, WASH. POST, Nov. 15, 1995, at A1; Ann Devroy & Eric Pianin, *Shutdown Widens As Impasse Persists; D.C. Government Services Spared Disruption*, WASH. POST, Dec. 18, 1995, at A1; Dana Priest, *Columbus Day Cushions, Shutdown's Initial Blow; "Anything that Can Be Closed ... Will Be,"* WASH. POST, Oct. 6, 1990, at A1.

²⁴² *See THE BOOK OF STATES, supra* note 14, at 635-36 tbl.10.3; Table 1, *supra*.

these Representatives simply refused to appear on the floor of the House, there would be no quorum and no legislation could be passed.²⁴³ Through such a work stoppage, the Representatives of the large states could conceivably coerce unanimous consent to a formal amendment of Article I, Section 3, Clause 1, along the lines of the proposed scheme.²⁴⁴

Why, then, have the large states not yet taken this route? The idea may not have occurred to anyone.²⁴⁵ Or those to whom it may have occurred may also have been uncertain as to the ramifications for their own political careers. Even the large-state residents, who clearly have the most to gain from a reapportionment of the Senate, may not be eager to bear certain short-term costs of such a shut down of Congress and, eventually, of the federal government.²⁴⁶ In this regard, the aggregate expected costs of such a large-state work stoppage, which necessarily include the (likely small) risk of Union dissolution, may rationally be thought to exceed the likely benefits. That is, the existence of the Union, even in its present, imperfect form, may rationally be understood to provide even the large states (and their residents) a host of benefits which exceed the aggregate costs imposed by the existing apportionment of congressional representation. Included among these benefits might be better national defense at lower per capita cost, a

²⁴³ Article I, Section 5 specifies that "a Majority of each [house] shall constitute a Quorum to do Business." The 18 largest states have a total of 318 of 435 Representatives, *see supra* Table I; THE BOOK OF THE STATES, *supra* note 14, at 635-36 tbl.10.3, leaving the remaining 32 states 95 Representatives short of the 218 House members necessary for a quorum.

It is further noteworthy that the remaining 32 states cannot formally amend this quorum requirement today, since, taken alone, they will fall well short of the two-thirds of each chamber needed to propose the amendment, as well as of the three-fourths of the states necessary to ratify. It should be noted, however, that a smaller number of Representatives "may be authorized to compel the Attendance of absent Members, in such Manner, and under such penalties, as each House may provide." U.S. CONST. art. I, § 5. Under House Rules 5 and 15(4), in the absence of a quorum, a majority of fifteen present members may have absent members arrested, "by officers appointed by the Sergeant-at-Arms for that purpose," brought before the House by the Sergeant-at-Arms and noted as present. At that point, whether or not the Representatives vote on the pending matter, the member will be counted toward the majority necessary to constitute a quorum. *See* H.R. DOC. NO. 102-405, at 538, 542 (1991) (Rule 15(2)(a) & Rule 15(4)). Because these rules only provide for arrest "by officers appointed by the Sergeant-at-Arms," and for members to be brought before the House by the Sergeant-at-Arms, *see id.*, they appear only to contemplate the arrest and forced attendance of members already in the Capitol building, or at least nearby. Members would thus seem to be able to avoid becoming part of a quorum this way simply by staying in their home districts.

²⁴⁴ It seems likely, but not certain, that unanimity would be necessary. *See supra* notes 188, 190.

²⁴⁵ Cf. John J. Donohue, III, *Opting for the British Rule, Or If Posner and Shavell Can't Remember the Coase Theorem, Who Will?*, 104 HARV. L. REV. 1093, 1118 (1991) ("[E]xceptional intelligence and thorough familiarity with the Coase Theorem cannot guarantee that Coasean bargains will be perceived and struck."); Daniel A. Farber, *The Case Against Brilliance*, 70 MINN. L. REV. 917, 919 (1986) ("[T]he Coase Theorem is just too contrary to common sense to keep in mind.").

²⁴⁶ See, e.g., Raymond Hernandez, *Federal Budget Impasse Hits Home With the Threat of Layoffs in School Districts*, N.Y. TIMES, March 18, 1996, at B1 (explaining how the 1996 federal budget impasse adversely affected local school districts in New York State).

federal floor on the rights that individuals have against their state government,²⁴⁷ the availability of higher quality goods at lower prices ensured by the prohibition against discriminatory tariffs imposed by other states,²⁴⁸ protection against oppression by other states' governments when one travels,²⁴⁹ and a common currency.²⁵⁰

F. Popular Revolt

Finally, a revolution, whether bloody or bloodless, resulting in the framing of a new Constitution is always a possibility.²⁵¹ This possibility acquires some plausibility when one considers that fully seventy-two percent of the American population currently resides in the eighteen states that today receive disproportionately little representation in the Senate relative to their shares of the nation's population.²⁵² Until "Reapportion the Senate Now!" bumper stickers are seen with greater frequency, however, the likelihood that the People will take to the streets on this issue appears small.

A related possibility is that of amending Article I, Section 3, Clause 1 to comport with the proposed scheme through a national referendum of the sort that Professor Akhil Amar has repeatedly discussed.²⁵³ Under

²⁴⁷ Under the Due Process Clause of the 14th Amendment, virtually all of the rights guaranteed by the first eight Amendments have been selectively absorbed into the 14th Amendment and, therefore, applied to the states. The U.S. Supreme Court has justified this incorporation by holding the rights involved to be "implicit in the concept of ordered liberty," *Palko v. Connecticut*, 302 U.S. 319, 325 (1937), and "fundamental to the American scheme of justice," *Duncan v. Louisiana*, 391 U.S. 145, 148-49 (1968), *reh'g denied*, 392 U.S. 947 (1968). See *TRIBE, supra* note 45, § 11-2, at 772-74; Akhil Reed Amar, *The Bill of Rights and the Fourteenth Amendment*, 101 YALE L.J. 1193 (1992).

²⁴⁸ See U.S. CONST. art. I, § 8, cl. 3 ("The Congress shall have power ... To regulate Commerce ... among the several States"); U.S. CONST. art. I, § 10, cl. 2 ("No State shall, without the Consent of the Congress, lay any Imposts or Duties on Imports or Exports, except what may be absolutely necessary for executing its inspection Laws: and the net Produce of all Duties and Imposes, laid by any State on Imports or Exports, shall be for the Use of the Treasury of the United States; and all such Laws shall be subject to the Revision and Controul of the Congress.").

²⁴⁹ See U.S. CONST. art. IV, § 2 ("The Citizens of each State shall be entitled to all Privileges and Immunities of Citizens in the several States."); U.S. CONST. amend. XIV ("No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.").

²⁵⁰ See U.S. CONST. art. I, § 8, cl. 5 ("The Congress shall have Power ... To coin Money, regulate the Value thereof, and of foreign Coin"); U.S. CONST. art. I, § 10, cl. 1 ("No State shall ... coin Money; ... [or] make any Thing but gold and silver Coin a Tender in Payment of Debts").

²⁵¹ Indeed our nation was born of the bloody American Revolution of 1776, and the unbloody revolution that was the Constitutional Convention of 1787.

²⁵² These underrepresented states are currently all those with nine or more Representatives in the House. See *supra* Table 5; notes 75 & 196 and accompanying text.

²⁵³ See Amar, *Consent of the Governed*, *supra* note 126; Amar, *Philadelphia Revisited*, *supra* note 126.

Amar's proposed simple majority decision rule,²⁵⁴ such an amendment would in theory appear to have a good chance of being adopted.²⁵⁵ Unfortunately, Amar has yet to set forth the practical details of his scheme, such as the procedure by which a national referendum may be called.²⁵⁶ If, for example, the consent of (the equivalent of) a simple majority of both chambers of Congress is necessary at any point,²⁵⁷ a referendum to reapportion Congress is unlikely to be held today or at any time when the number of small (overrepresented) states in the Senate is large enough to block such a proposal.²⁵⁸ And, in any case, the legitimacy of formally amending the Constitution through a national popular vote, a procedure not mentioned anywhere in Article V, is far from clear.²⁵⁹

²⁵⁴ See Amar, *Philadelphia Revisited*, *supra* note 126, at 1044 ("I believe that the first, most undeniable, inalienable and important, if unenumerated, right of the People is the right of a majority of voters to amend the Constitution—even in ways not expressly provided for by Article V."); Amar, *Consent of the Governed*, *supra* note 126, at 457 ("We the People of the United States have a legal right to alter our Government—to change our Constitution—via a majoritarian and populist mechanism akin to a national referendum, even though that mechanism is not explicitly specified in Article V.").

²⁵⁵ Recall that fully 72 percent of the American population currently resides in the 18 states that today receive disproportionately little representation in the Senate relative to their shares of the nation's population. See *supra* Table 5; note 196 and accompanying text.

²⁵⁶ Amar has stated only that he "believe[s] that Congress would be constitutionally obliged to convene a proposing convention if a bare majority of American voters so petitioned Congress." *Philadelphia Revisited*, *supra* note 126, at 1065; *Consent of the Governed*, *supra* note 126, at 459. He has also stated that "an amendment or new Constitution could be lawfully ratified by a simple majority of the American electorate." *Id.* Critically, Amar does not specify how representation at the proposing convention will be apportioned, whether a supermajority of the convention delegates is necessary to send a proposed amendment to the People for ratification, or whether a convention called via popular petition may adjourn without sending any proposed amendment to the People for ratification. Of course, Article V is also silent on these details. See, e.g., JOHN R. VILE, CONTEMPORARY QUESTIONS SURROUNDING THE CONSTITUTIONAL AMENDING PROCESS 66 (1993); Francis H. Heller, *Limiting a Constitutional Convention: The State Precedents*, 3 CARDozo L. REV. 563 (1981) (explaining that because we have never experienced a national convention, there exist "a number of questions with respect to a national constitutional convention that have never been resolved").

Amar further specifies only that he would require "a majority of registered voters, rather than eligible voters" for a successful petition, *Philadelphia Revisited*, *supra* note 126, at 1065 n.81, but "[s]o long as a referendum is properly called by the legislature, the majority necessary for adoption is simply a majority of those voting, rather than a majority of those eligible or registered to vote." *Id.* at 1064 n.78.

²⁵⁷ One plausible point at which the equivalent of such majoritarian congressional consent might be necessary is when the convention delegates decide whether to send a proposed amendment to the People for ratification, since Amar never specifies how representation at the petitioned conventions is to be apportioned. See *supra* note 256.

²⁵⁸ See *supra* Table 5.

²⁵⁹ See, e.g., David R. Dow, *The Plain Meaning of Article V*, in RESPONDING TO IMPERFECTION: THE THEORY AND PRACTICE OF CONSTITUTIONAL AMENDMENT 117 (S. Levinson ed., 1995); David R. Dow, *When Words Mean What We Believe They Say: The Case of Article V*, 76 IOWA L. REV. 1 (1990); Henry Paul Monaghan, *We the People[s], Original Understanding, and Constitutional Amendment*, 96 COLUM. L. REV. 121 (1996); John R. Vile, *Legally Amending the United States Constitution: The Exclusivity of Article V's Mechanisms*, 21 CUMB. L. REV. 271 (1991).

V. HOW DID WE GET INTO THIS PREDICAMENT?

Today the Framers' design holds us captive. They gave us a structure of congressional representation that is significantly imperfect for resolving important issues of modern governance. And they made it impossible to change the central imperfection of this structure through the Constitution's formal amendment procedures. How and why did the Framers go wrong?

The Framers' crucial mistake was *not* Article V's additional requirement that "no State, without its Consent, shall be deprived of its equal Suffrage in the Senate."²⁶⁰ Since the Framing, the ratio of large to small states has *always* been such that one would not expect the original structure of congressional representation to be changed even under the general amendment procedures of Article V.²⁶¹ And one surely would not have expected nor wanted the Framers to make the structure of congressional representation *easier* to amend than other provisions of the Constitution.

In hindsight it appears that the critical error was the structure of congressional representation itself. But here, too, we must be careful. Union formation logically demanded a structure of representation that would ensure both large and small states protection against systematic oppression by the other.²⁶² Yet we have seen that the Framers' allocation of representation results today in systematic wealth redistribution from large states to small ones²⁶³ and affords the large

²⁶⁰ U.S. CONST. art. V. At least one recent commentator, however, has argued that this was in fact the Framers crucial mistake. *See* LAZARE, *supra* note 198, at 48-49, 285-310.

²⁶¹ *See supra* Table 5.

²⁶² *See, e.g.*, THORNTON ANDERSON, CREATING THE CONSTITUTION: THE CONVENTION OF 1787 AND THE FIRST CONGRESS 44-68 (1993); M.E. BRADFORD, ORIGINAL INTENTIONS ON THE MAKING AND RATIFICATION OF THE UNITED STATES CONSTITUTION 9 (1993); MAX FARRAND, THE FRAMING OF THE CONSTITUTION OF THE UNITED STATES 57, 104-07 (1913) [hereinafter FRAMING]; JACK N. RAKOVE, ORIGINAL MEANINGS: POLITICS AND IDEAS IN THE MAKING OF THE CONSTITUTION 57-93 (1996); Edmund Randolph, Virginia Resolutions (May 29, 1787), *in* 1 THE RECORDS OF THE FEDERAL CONVENTION OF 1787, at 20-21 (Max Farrand ed., 1911) [hereinafter RECORDS]; Roger Sherman, Remarks in Debate (June 11, 1787), *in* RECORDS, *supra*, at 193, 201. Implicit in this concern, of course, is the desirability of some degree of continued sovereignty for the states. *See generally* ANDERSON, *supra*, at 54-58; RAKOVE, *supra*, at 70 ("With the Convention verging toward a deadlock, the supporters of the equal-state vote grow impervious to appeals for justice, however eloquent. Either states were corporate units deserving an equal voice in national government or they were not. On this issue there was little left to say."); Letter from Alexander Hamilton to James Dane (Sept. 3, 1780), *in* 2 THE PAPERS OF ALEXANDER HAMILTON 401, 407-08 (Harold C. Syrett ed., 1961) ("The confederation in my opinion should give Congress complete sovereignty; except as to that part of internal police, which relates to the rights of property and life among individuals and to raising money by internal taxes. It is necessary, that every thing, belonging to this, should be regulated by the state legislatures.").

²⁶³ *See supra* part II.A.

states disproportionately little power to block federal homogenizing legislation that they consider welfare-reducing.²⁶⁴ Why did the five large states among the original thirteen agree to this allocation of representation?²⁶⁵

The historical record, of course, can tell us *the reasons* the various states and their delegates to the Constitutional Convention *explicitly gave* for consenting to the allocation of representation set out in Article I.²⁶⁶ The public choice theorist, however, seeks something different. She seeks to determine, irrespective of such explicit statements of reasons, whether the consent ultimately given by the various states can be explained within the confines of interest group theory's rational actor model.²⁶⁷

From the perspective of interest group theory, several different stories seem plausible.²⁶⁸ First, it is possible that the five large states rationally considered the benefits of Union membership—even with the allocation of representation set out in Article I—to exceed its costs. (Indeed, it is likely that the benefits of Union membership for the large

²⁶⁴ See *supra* part II.C.

²⁶⁵ At the time of the Framing, states that received more than five Representatives in the House were underrepresented in the Senate. See *supra* Table 5. The five, large states were New York (6), Maryland (6), Pennsylvania (8), Massachusetts (8), and Virginia (10). U.S. CONST. art. I, § 2, cl. 3.

²⁶⁶ See *supra* note 262.

²⁶⁷ For descriptions of this model, see, e.g., BUCHANAN & TULLOCK, *supra* note 26, at 31-39; FARBER & FRICKEY, *supra* note 155, at 12-37 (1991); DONALD P. GREEN & IAN SHAPIRO, PATHOLOGIES OF RATIONAL CHOICE THEORY: A CRITIQUE OF APPLICATIONS IN POLITICAL SCIENCE 13-17 (1994); Daniel A. Farber, *Positive Theory as Normative Critique*, 68 S. CAL. L. REV. 1565, 1569-73 (1995). For a nuanced discussion of the respects in which rational choice theorists disagree about "rationality," see GREEN & SHAPIRO, *supra*, at 17-19. For an equally nuanced discussion of rational choice conceptions of "explanation," see *id.* at 20-30.

²⁶⁸ Professor Suzanna Sherry has suggested that the large states agreed "to such a crippling and ridiculous situation [b]ecause, at bottom, they trusted each other and the likely Senators from each state to represent the interests of the nation rather than of the individual states." Sherry, *supra* note 198, at 215. This explanation is best viewed as an *alternative* to an explanation from interest group theory. As such, it is quite at odds with Sherry's interest group theory account of the small states' behavior:

[T]he circumstances of the 1787 Constitutional Convention reinforced the beliefs of the small states that they were entitled to equal representation, and made the ultimate compromise a foregone conclusion. Even before the Convention began, the state delegations agreed that each state would have a single vote during the proceedings, regardless of its population. Moreover, when even that rule did not preclude a deadlock over whether to allocate representation by state or by population, the Convention sent the matter to a Committee of Eleven which consisted of one delegate from each of the states present at the Convention. More ominous still, the Committee consisted of many of the most able and vocal delegates from the small states and none of the most uncompromising firebrands from the large states. The compromise—or concession, depending on one's point of view—was inevitable.

Id. at 214-15 (footnote omitted). The question implicitly posed by this portion of Sherry's account is an analogue of the one which we began: Why did the large states agree to this apportionment of representation at the Convention itself?

states exceed its costs even today.) One might surmise that even the large states (and their residents) would rationally have expected the costs of Union formation, including the allocation of congressional representation set out in Article I, to be exceeded by the various benefits already mentioned, including better national defense at lower per capita cost, the availability of higher quality goods at lower prices ensured by the prohibition against discriminatory tariffs imposed by other states, protection against oppression by other states' governments when one travels, and a common currency.²⁶⁹ Although this thesis is, in theory, empirically testable, the myriad costs and benefits are not precisely quantifiable in any meaningful (or uncontroversial) way. Thus, we likely will never be able to test the thesis empirically nor, therefore, determine whether it is true. Of course, one could argue that the fact that the five original large states agreed to join the Union under terms which included Article I means that the benefits of doing so *must have* exceeded the costs; otherwise, the five large states presumably would not have joined the Union. But, quite obviously, such an argument is tautological and without any explanatory power.

A second possibility is that the large states considered Article I's apportionment of representation to be a reasonable midpoint between equal representation of the states and representation solely in proportion to population.²⁷⁰ After all, the large states had earlier in the Articles of Confederation agreed to a unicameral legislature with equal representation of the states, a scheme that is substantially more disadvantageous than that set out in Article I.²⁷¹ Nonetheless, the Constitution's apportionment of representation disadvantages the large states. And these states' consent to the arrangement cannot therefore be

²⁶⁹ See *supra* notes 247-50 and accompanying text.

²⁷⁰ Much of the historical record suggests, however, that the large states agreed to this apportionment of representation quite grudgingly and out of a fear that the Union could not otherwise be preserved. See, e.g., RAKOVE, *supra* note 262, at 58 ("Had delegates from the large states not grudgingly accepted [the equal representation of the states in the Senate], the Convention might have broken apart—and once disbanded, the last best hope for preserving the Union might have evaporated as well."); *id.* at 69 ("[The] deadlock itself offered a sufficient rationale for compromise [on the apportionment of representation in Congress], regardless of the weight of argument."); RECORDS, *supra* note 262, at 96-97 (explaining that the small states would have withdrawn from the Constitutional Convention if states had not been provided an equal vote in the Senate). *But see id.* at 100-01 (stating that the small states were wary of the Connecticut Compromise because it conceded too much, but that a "spirit of compromise" strengthened during the Convention).

²⁷¹ See U.S. ARTICLES OF CONFEDERATION art. V. ("In determining questions in the United States in Congress assembled, each State shall have one vote."); *see also* CHARLES PINCKNEY, SPEECH BEFORE THE NEW JERSEY ASSEMBLY (Mar. 13, 1786), reprinted in 8 LETTERS OF MEMBERS OF THE CONSTITUTIONAL CONGRESS 321, 327 (Edmund C. Burnett ed., 1936) (stating that the large states agreed to equal representation of the states in the Articles of Confederation because an immediate agreement was necessary in order to fight the Revolution).

explained without reference to some additional factor, such as the cost-benefit analysis discussed above.²⁷²

The most plausible story, we believe, focuses on the two significant respects in which the Framers' Constitution is different from our own. In a world in which the Spending Clause is intended and expected to authorize the expenditure of federal money only for the "general Welfare of the United States," and this phrase is interpreted as a justiciable constraint, the enactment of special (or expropriative) spending legislation will be of little concern.²⁷³ And in a world in which the Commerce Clause is expected and intended to authorize Congress to regulate a small and quite clear category of interstate activities,²⁷⁴ the

²⁷² See *supra* notes 247-50 and accompanying text.

²⁷³ U.S. CONST. art. I, § 8, cl. 1; *see also* Engdahl, *supra* note 47, at 26-35. The Supreme Court did not interpret the "general Welfare" clause until 1936 when it decided *United States v. Butler*, 297 U.S. 1 (1936). *See TRIBE, supra* note 45, § 5-10, at 321. Well into the 19th century, however, this clause was understood to constrain severely Congress's ability to spend. Three examples bear particular mention.

Thomas Jefferson contended in his annual address to Congress on December 2, 1806, that a constitutional amendment would be necessary if a federal revenue surplus were used to fund internal improvements and education "because the objects now recommended [—public education, roads, rivers, canals, and other objects of public improvement—] are not among those enumerated in the Constitution, and to which it permits the public moneys to be applied." Thomas Jefferson, Annual Message to Congress (Dec. 2, 1806), in 16 ANNALS OF CONG. 11, 15 (1806). Although Congress passed, and Jefferson ultimately signed, a bill appropriating funds to pay for construction of the Cumberland Road, it should be noted that this improvement was not internal to a single state but was projected to extend from Cumberland, Maryland, across West Virginia to the Ohio River. *See* Act of Mar. 29, 1806, ch. 19, § 1, 2 Stat. 357, 358 (1806).

Two decades later, President Jackson vetoed the Maysville Road Bill of 1830 on the ground that the proposed road ran wholly within the state of Kentucky and therefore would be of merely local benefit rather than for the "general Welfare" as he believed the Spending Clause required. *See ANDREW JACKSON, VETO OF THE MAYSVILLE ROAD BILL (1830), reprinted in 2 A COMPILATION OF THE MESSAGES AND PAPERS OF THE PRESIDENTS 483-92* (James D. Richardson ed., 1896).

In December of the previous year, Jackson observed publicly that the federal fisc would soon show a surplus:

On account of the doubtful constitutionality of national improvements, [Jackson] considered that "the most safe, just, and federal disposition which could be made of the surplus revenue would be its apportionment among the several States, according to the ratio of their representation; and that should the measure not be found warranted by the Constitution, it would be expedient to propose to the States an amendment authorizing it."

EDWARD G. BOURNE, *THE HISTORY OF THE SURPLUS REVENUE OF 1837*, at 8 (1885) (emphasis added) (footnote omitted). In 1836, Congress passed and President Jackson signed a bill that purported to "deposit" the surplus revenue with the states, subject to repayment upon demand by the federal government. It was commonly understood that the bill provided for the "temporary deposit" rather than for the "distribution" of the surplus in order to avoid a veto by Jackson, who believed the latter to exceed Congress's powers under the Constitution. *Id.* at 20, 22; *see also* Harold Faber, *Once Upon a Time a Budget Surplus*, N.Y. TIMES, Dec. 31, 1995, at E3.

One powerful example of how the constraint afforded by the Spending Clause today differs from that evident in the early 1800s is the seemingly constitutional expenditure of federal funds to build and maintain "interstate" Highway 1 on the island of Oahu, Hawaii.

²⁷⁴ *See, e.g.*, *United States v. DeWitt*, 76 U.S. (9 Wall.) 41, 43-44 (1870) (invalidating federal legislation prohibiting the sale of naptha and certain illuminating oils on the ground that the "express grant of power to regulate commerce among the States has always been understood ... as a virtual

enactment of welfare-reducing homogenizing legislation will similarly be of scant concern. This arguably was the original understanding—the Framers' world. And, in this context, the large states would have little reason to mind the advantage that Article I's apportionment of representation formally gave the small states.

Would the large states in 1937, say, have supported a formal amendment to Article I, Section 8, Clause 3 of the Constitution authorizing Congress to regulate any activity with a "substantial economic effect" on interstate commerce?²⁷⁵ Would the large states in that same year have supported a formal amendment to Article I, Section 8, Clause 1 authorizing Congress to spend federal funds except when its "choice [of objective] is clearly wrong, a display of arbitrary power [rather than] an exercise of judgment"?²⁷⁶ It is difficult to know. What is the right answer if a state wants to permit Congress to impose minimum wage and maximum hour requirements on private industry,²⁷⁷ but simultaneously wants to prohibit Congress from imposing many other types of homogenizing legislation on the states? What is the right answer if a state wants to permit Congress to spend federal funds on behalf of the unemployed or aged,²⁷⁸ but simultaneously wants to minimize the amount of pork-barrel legislation that Congress can enact? Faced in 1937 with the choice between a federal government of *too limited* power and a federal government of *too plenary* power, it might well have been rational for the large states to take the bitter with the sweet and choose the latter. We would again need to quantify the unquantifiable in order to test this hypothesis empirically, so we likely shall never know the answer.

denial of any power to interfere with the internal trade and business of the separate States"); *The Trade-Mark Cases*, 100 U.S. 82, 96-99 (1879) (invalidating federal legislation establishing a trademark registration scheme on the ground that if a statute "is designed to govern the commerce wholly between citizens of the same state, it is obviously the exercise of a power not confided to Congress"); TRIBE, *supra* note 45, § 5-4, at 306-10 (citing specific examples of the Court's early willingness to restrict congressional power under the Commerce Clause, culminating in *NLRB v. Jones & Laughlin Steel Corp.*, 301 U.S. 1 (1937)).

²⁷⁵ Cf. *Jones & Laughlin Steel*, 301 U.S. at 41 (holding that Congress could regulate labor relations at any manufacturing plant operated by an integrated manufacturing and interstate sales concern because a work stoppage at any such plant "would have a most serious effect upon interstate commerce"); TRIBE, *supra* note 45, § 5-4, at 309-10 (tracing development of "substantial economic effect" test); Robert L. Stern, *The Commerce Clause and the National Economy, 1933-1946*, 59 HARV. L. REV. 645, 883-947 (1946) (same).

²⁷⁶ Cf. *Helvering v. Davis*, 301 U.S. 619, 640 (1937).

²⁷⁷ Cf. *United States v. Darby*, 312 U.S. 100 (1941) (upholding federal wage and hour legislation as a valid exercise of the commerce power).

²⁷⁸ See, e.g., *Steward Mach. Co. v. Davis*, 301 U.S. 548 (1937) (unemployment compensation); *Helvering v. Davis*, 301 U.S. 619 (1937) (old age benefits).

It is significant, however, that if the precise amendments to the Constitution set out above had been proposed in 1937, and if the fourteen then-existing large states had sought to block their adoption, they had sufficient numbers to do so.²⁷⁹ But, of course, these "amendments" to Article I, Section 8 were adopted by the Supreme Court, outside of the procedures specified in Article V.²⁸⁰ (Indeed, the history of how the New Deal Supreme Court came to reinterpret the Spending and Commerce Clauses might suggest two other defects in the Framers' design: a failure in Article III, Section 1, to specify precisely the number of Justices to sit on the United States Supreme Court, and a failure in Article II, Section 2, Clause 2, to give the House any say in the approval of appointments to the Court.²⁸¹) Although the large states were sufficiently great in number in 1937 to *block* the adoption of any proposed amendment to Article 1, Section 8 or any other provision of the Constitution, taken alone they have *never* had sufficient numbers even to propose, let alone adopt, any formal amendment.²⁸²

Ultimately, then, the critical flaw in the Framers' scheme appears to derive from their failure to appreciate fully the extent to which judicial review could and would enable constitutional provisions such as the Commerce and Spending Clauses to evolve as societal conditions and norms changed.²⁸³ Meanwhile, the vastly more determinate provisions specifying the structure of congressional representation would be frozen in time. The Framers could not anticipate that the structure of congressional representation which, together with the Spending and Commerce Clauses, so neatly resolved the central difficulty of Union formation would many years later create rather than solve some important problems of governance.

²⁷⁹ These 14 large states constituted 29% of the then-existing 48 states, one more than the 13 necessary to prevent ratification pursuant to Article V. *See U.S. CONST. art. V* (requiring ratification by three-fourths of the states); *supra* Table 5.

²⁸⁰ *See BRUCE ACKERMAN, WE THE PEOPLE: FOUNDATIONS* (1991) (justifying and explaining the operation of a legitimate process of constitutional change outside of Article V); Bruce A. Ackerman, *The Storrs Lectures: Discovering the Constitution*, 93 YALE L.J. 1013 (1984) (same).

²⁸¹ *See, e.g.*, Michael Ariens, *A Thrice-Told Tale, or Felix the Cat*, 107 HARV. L. REV. 620 (1994) (suggesting that Roosevelt's threat to increase the size of the Court led to a change in the Court's treatment of New Deal legislation); William E. Leuchtenburg, *FDR's Court-Packing Plan: A Second Life, A Second Death*, 1985 DUKE L.J. 673; William E. Leuchtenburg, *The Origins of Franklin D. Roosevelt's "Court-Packing" Plan*, 1966 SUP. CT. REV. 347; Alpheus T. Mason, *Harlan Fiske Stone and FDR's Court Plan*, 61 YALE L.J. 791 (1952) (elaborating on the history of the Court-packing plan and its effect on the Court).

²⁸² *See supra* Table 5.

²⁸³ *See, e.g.*, TRIBE, *supra* note 45, §§ 5-4 to 5-6, at 305-17 (detailing evolution of the Court's interpretation of the Commerce Clause); Engdahl, *supra* note 47, at 26-49 (detailing evolution of the Court's interpretation of the Spending Clause).

CONCLUSION

In recent years, events that we once thought impossible have come to seem inevitable: the fall of the Berlin Wall, the dissolution of the Soviet Union, the end of apartheid in South Africa. Perhaps, then, Senator Daniel Patrick Moynihan was evidencing wisdom rather than wishful thinking when he recently proclaimed that “[s]omewhere in the next century we are going to have to face the question of apportionment in the United States Senate.”²⁸⁴ As we have seen, however, it is one thing to understand the various problems of governance that the apportionment of the Senate currently creates, and quite another to solve them within the confines of our Constitution. We are not as confident as Senator Moynihan that the structure of congressional representation will be altered in the next 100 years—unless there is a revolution of the sort that ultimately gave rise to the Constitution of 1787.

Nonetheless, this Article has at least two important, and timely, practical implications.²⁸⁵ First, the various disadvantages that accrue to residents of large states because of the existing apportionment of representation in the Senate are strikingly exacerbated by the fact that the Senate requires a three-fifths vote of the full membership to end debate (“cloture”) while the House does not.²⁸⁶ Consider California and Rhode Island once again. As Table 6 reveals, California, with 29.7 times the population of Rhode Island,²⁸⁷ has only 7.4 times as much power in Congress when both chambers operate under a simple majority rule.²⁸⁸ When the Senate operates under a three-fifths cloture rule, however, California’s power in Congress, astonishingly, declines to only 1.7 times that of Rhode Island.²⁸⁹ Although it would clearly be to the

²⁸⁴ Moynihan, *supra* note 198, at A18.

²⁸⁵ One relatively unimportant practical implication is that we are now especially unlikely ever to be confirmed by the Senate, pursuant to Article II, Section 2, Clause 2, for any federal office.

²⁸⁶ See *supra* note 28. Compare S. DOC. NO. 101-28 (1988) (Senate Rule XII requiring a three-fifths vote to restrict an individual speaker’s debate time to one hour) with H.R. DOC. NO. 99-279 (1987) (House Rule XIV, § 2, restricting all debate to one hour per speaker in the general course of business).

²⁸⁷ See *supra* note 20 and accompanying text.

²⁸⁸ See *supra* note 23 and accompanying text.

²⁸⁹ See *infra* Table 6.

TABLE 6

**Shapley-Shubik Power Indices of the States:
Simple Majority vs. Cloture**

State	Reps	S-S Index for Congress Simple Majority	S-S Index for Congress Senate Cloture	S-S Index for Both Houses Cloture
CA	52	.081	.031	.085
NY	31	.049	.027	.048
TX	30	.047	.027	.047
FL	23	.038	.024	.037
PA	21	.035	.024	.035
IL	20	.034	.024	.034
OH	19	.033	.023	.032
MI	16	.029	.022	.028
NJ	13	.025	.021	.024
NC	12	.024	.021	.023
GA; VA	11	.023	.021	.022
MA; IN	10	.021	.020	.021
MO; WI; TN; WA	9	.020	.020	.020
MD; MN	8	.019	.020	.019
LA; AL	7	.018	.020	.018
KY; AZ; SC; CO; CT; OK	6	.016	.019	.016
OR; IA; MS	5	.015	.019	.015
KS; AR	4	.014	.019	.014
WV; UT; NE; NM	3	.013	.018	.013
ME; NV; NH; HI; ID; RI	2	.011	.018	.012
MT; SD; DE; ND; VT; AK; WY	1	.010	.018	.011

advantage of the residents of the existing eighteen large states for their Senators to seek to repeal the Senate's supermajority cloture rule, it is equally clear that these Senators cannot do so alone.

There is another option, however. The Representatives of the eighteen large states constitute seventy-two percent (315 of 435) of the total membership of the House.²⁹⁰ Were these Representatives to adopt a House Rule that required a three-fifths vote of the full membership to end debate, they would greatly increase the large-states' power in Congress as a whole. As Table 6 shows, with a three-fifths cloture rule in *both* chambers, California's power in Congress increases to 7.1 times that of Rhode Island—*more than four times as much* power as California has relative to Rhode Island today with a three-fifths cloture rule only in the Senate. Given this analysis, the House Rule proposed by the Republican majority and adopted in January 1995, which requires a three-fifths vote for the enactment of laws that increase income taxes, takes on new meaning.²⁹¹ The large states—Republican and Democrat alike—should view the new House Rule as a small but significant first step in the direction of a more equitable allocation of power in the Congress.

As soon as new democracies emerge around the world, American law professors are regularly called upon to help frame these nations' constitutions.²⁹² Although other nations can surely profit from using our Constitution as a model for their own, the text of that document does not reflect all of the important lessons of American politics learned during the past 200 years. From this Article alone one could generate a

²⁹⁰ See *supra* Table 6.

²⁹¹ See H.R. 104-6 (1995) (enacted):

Limitations on Tax Increases: (a) ... No bill or joint resolution, amendment, or conference report carrying a Federal income tax rate increase shall be considered as passed or agreed to unless so determined by a vote of not less than three-fifths of the Members voting. (b) ... It shall not be in order to consider any bill, joint resolution, amendment, or conference report carrying a retroactive federal income tax rate increase.

See also Ackerman et al., *supra* note 126 (arguing that this three-fifths decision rule is unconstitutional). But see John O. McGinnis & Michael B. Rappaport, *The Constitutionality of Legislative Supermajority Requirements: A Defense*, 105 YALE L.J. 483 (1995) (rebutting the argument that this supermajority decision rule is unconstitutional); Skaggs v. Carle, 898 F. Supp. 1 (D.D.C. 1995) (dismissing on separation-of-powers grounds the claim that House Rule 21(5), requiring a two-thirds majority for passage of income tax increases, is unconstitutional).

²⁹² This appears to be a tradition of long standing. The late Columbia University law professor Walter Gellhorn, for example, helped write the Japanese Constitution after World War II. See Robert Thomas, Jr., *Walter Gellhorn, Law Scholar and Professor, Dies at 89*, N.Y. TIMES, Dec. 11, 1995, at D10; see also Symposium, *Approaching Democracy: A New Legal Order for Eastern Europe*, 58 U. CHI. L. REV. 439 (1991) (discussion by American legal academics of constitutional reform in eastern Europe).

list of advice to emerging democracies that might enable them to profit from some of the mistakes that we now understand the Framers to have made.

* * * * *

SOME THINGS TO KEEP IN MIND WHEN WRITING A FEDERAL CONSTITUTION

When writing a federal Constitution for sovereign states with firm geographical boundaries²⁹³ keep in mind that:

- one cannot predict the migration patterns of a nation's population over time;²⁹⁴
- one can formally acknowledge the sovereignty of pre-existing states simply by drawing federal legislative districts completely within each state's borders, i.e., by not drawing any federal legislative districts that cross state lines;
- whether one chooses to have a unicameral or bicameral legislature, each state should be afforded representation solely in proportion to its share of the nation's population and a supermajority rule should be used for all legislative decisions;²⁹⁵
- a Constitution cannot ensure that the federal legislature will not enact "pork," but it can allocate representation within the

²⁹³ Cf. U.S. CONST. art. IV, § 3, cl. 1 ("[N]o new State shall be formed or erected within the Jurisdiction of any other State; nor any State be formed by the Junction of two or more States, or Parts of States, without the consent of the Legislatures of the States concerned as well as of the Congress.").

²⁹⁴ See ROSEMARIE ZAGARRI, THE POLITICS OF SIZE: REPRESENTATION IN THE UNITED STATES, 1776-1850, at 64-65 (1987) (footnotes omitted):

Delegates to the Convention, and Americans generally, made a crucial assumption about the relationship between space and population. The delegates believed that the more territory a state possessed, the larger its population could grow. It is important to acknowledge that this position represented an assumption rather than a fact. The rise of modern agriculture, technology, and architecture has invalidated this view, as is evidenced by the appearance of very populous cities that occupy relatively small areas, such as Manhattan. ... The delegates were convinced that the smaller states were consigned to a future with fewer people and less wealth than the larger states.

... Delegates to the Convention defined state size in terms of the actual or anticipated population that their territories could support. ... The southernmost states—North Carolina, South Carolina, and Georgia—all had extensive unsettled lands and expected to be the great beneficiaries of future population moves. ...

Citizens from [those states "whose territory was confined and whose population was at the time large in proportion to their territory"] believed that since they had relatively small areas, their populations would never grow to be much larger than they currently were.

²⁹⁵ If there are to be two houses in the federal legislature, the same supermajority rule should be employed in both houses. See *supra* notes 175-76 and accompanying text.

legislature in order to increase the likelihood that such pork will, over time, be distributed to the states in proportion to their shares of the nation's population;

- a Constitution cannot prevent the federal legislature from enacting welfare-reducing homogenizing legislation, but it can provide each state a power in proportion to its share of the nation's population to block any legislation that it considers unattractive;

- the precise number of justices to sit on the highest court of the land should be specified.²⁹⁶

²⁹⁶ Cf. U.S. CONST. art. III, § 1 ("The judicial Power of the United States shall be vested in one supreme Court, and in such inferior Courts as the Congress may from time to time ordain and establish . . .").

APPENDIX ONE

Calculating Shapley-Shubik Indices for the States in Congress

One can think of Congress as a two-dimensional *weighted voting game* $[q; w_1, w_2, \dots, w_n]$. The *quota* of votes (q) and the votes cast by the i th voter (w_i) are ordered pairs. The quota must be satisfied in both dimensions to determine a winning coalition. Note that in their original paper¹ Shapley and Shubik calculate exactly the Shapley-Shubik values for the weighted voting game if individual House and Senate members vote independently in Congress:

$$[(218,51);(0,1),(0,1),\dots,(1,0)]$$

A more difficult problem computationally is to determine the Shapley-Shubik values if state delegations vote together as blocks.² The two-dimensional weighted voting game of obtaining a simple majority of both houses of Congress becomes the following:

$$[(218,51);(52,2),(31,2),(30,2),\dots,(1,2)]$$

In order to calculate the Shapley-Shubik value exactly one must consider all possible orderings of the fifty states.

$$\frac{\sum_{s_1 \in \{1..50\}} \sum_{s_2 \in \{1..50\} \setminus \{s_1\}} \dots \sum_{s_{50} \in \{1..50\} \setminus \bigcup_{i=1}^{49} \{s_i\}} f_n(s_1, s_2, \dots, s_{50})}{50!}$$

where

$$f_n(s_1, s_2, \dots, s_{50}) = \begin{cases} 1 & \text{if state } n \text{ is the swing state} \\ 0 & \text{otherwise} \end{cases}$$

¹ L.S. Shapley & Martin Shubik, *A Method for Evaluating the Distribution of Power in a Committee System*, 48 AM. POL. SCI. REV. 787 (1954); see also 2 HANDBOOK OF GAME THEORY WITH ECONOMIC APPLICATIONS 1128-30 (Robert J. Aumann & Sergiu Hart eds., 1994).

² Eliminating the assumption of state delegations voting as a block makes the computational task trivial, but the main conclusions of the analysis survive. Each member of the Senate has a Shapley-Shubik value of 0.005 and each member of the House has a Shapley-Shubik value of 0.0011. The concentration of extra representation per capita is calculated by dividing the sum of representatives' power by the population represented.

This large computational problem cannot be completed using the brute force method of finding the swing state in every permutation of the states—there are simply too many permutations ($50! = 3 \times 10^{64}$) to be able to complete the calculation.

We, therefore, approximate the Shapley-Shubik value by drawing random permutations of states and determining the swing state. In a two-dimensional weighted voting game, it is likely that the quota will be fulfilled first in one dimension, then the other. The swing state is the state that swings the second house after the first house has been swung (or, less likely, that swings both houses together). Fulfilling the quota in one dimension only (e.g., swing one house, but not the other) is not sufficient to be the swing state. We keep a tally of which state is the swing state in each iteration and after the desired number of iterations each state's percentage of the total number of swing votes is calculated.

The procedure was coded in C using Microsoft Visual C++ 1.52. The program is included in Appendix 2. We completed one million permutations in about three minutes on a 120 MHz Pentium computer. An internal check on the accuracy of the calculation is that two voters with the same voting strength should have the same Shapley-Shubik values. More precision can be obtained through more iterations or a better random number generator.

The program set out in Appendix 2 will also approximate Shapley-Shubik values for the three-dimensional weighted voting game including both houses of Congress and the President. The calculation is similar if the President and Vice President are added as potential voters and are counted as another block that may affect the outcome. (We assume that the President and Vice President will vote the same way on any bill, and that the Vice President's vote is relevant only in the rare case of a tie in the Senate.) Here, a winning coalition requires either (1) the President and Vice President and a majority of the House and fifty Senators, or (2) a two-thirds majority of both houses. Thus the quota is a set of two values rather than a single value.

APPENDIX TWO

**Computer Program for Calculating Shapley-Shubik Indices
for the States in Congress**

```
#include <stdio.h>
#define CA 1
#define WY 50
#define PRES 51

int a[53];
void random_permutation50(), random_permutation51();

main ()
{
    /* initialization */

    unsigned long counter;
    int i, j, ct[53];

    /* initialize all the states representation in the house
    ct[STATE][1]=reps */
    /* initialize all the states representation in the senate
    ct[STATE][2]=sens */
    ct[CA][1] = 52; ct[CA][2] = 2; //California
    ct[2][1] = 31; ct[2][2] = 2; //NY
    ct[3][1] = 30; ct[3][2] = 2; //TX
    ct[4][1] = 23; ct[4][2] = 2; //FL
    ct[5][1] = 21; ct[5][2] = 2; //
    ct[6][1] = 20; ct[6][2] = 2; //
    ct[7][1] = 19; ct[7][2] = 2; //
    ct[8][1] = 16; ct[8][2] = 2; //
    ct[9][1] = 13; ct[9][2] = 2; //
    ct[10][1] = 12; ct[10][2] = 2; //
    ct[11][1] = 11; ct[11][2] = 2; //
    ct[12][1] = 11; ct[12][2] = 2; //
    ct[13][1] = 10; ct[13][2] = 2; //
    ct[14][1] = 10; ct[14][2] = 2; //
    ct[15][1] = 9; ct[15][2] = 2; //
    ct[16][1] = 9; ct[16][2] = 2; //
    ct[17][1] = 9; ct[17][2] = 2; //
    ct[18][1] = 9; ct[18][2] = 2; //
    ct[19][1] = 8; ct[19][2] = 2; //
    ct[20][1] = 8; ct[20][2] = 2; //
    ct[21][1] = 7; ct[21][2] = 2; //
```

```

ct[22][1] = 7; ct[22][2] = 2; //
ct[23][1] = 6; ct[23][2] = 2; //
ct[24][1] = 6; ct[24][2] = 2; //
ct[25][1] = 6; ct[25][2] = 2; //
ct[26][1] = 6; ct[26][2] = 2; //
ct[27][1] = 6; ct[27][2] = 2; //
ct[28][1] = 6; ct[28][2] = 2; //
ct[29][1] = 5; ct[29][2] = 2; //
ct[30][1] = 5; ct[30][2] = 2; //
ct[31][1] = 5; ct[31][2] = 2; //
ct[32][1] = 4; ct[32][2] = 2; //
ct[33][1] = 4; ct[33][2] = 2; //
ct[34][1] = 3; ct[34][2] = 2; //
ct[35][1] = 3; ct[35][2] = 2; //
ct[36][1] = 3; ct[36][2] = 2; //
ct[37][1] = 3; ct[37][2] = 2; //
ct[38][1] = 2; ct[38][2] = 2; //
ct[39][1] = 2; ct[39][2] = 2; //
ct[40][1] = 2; ct[40][2] = 2; //
ct[41][1] = 2; ct[41][2] = 2; //
ct[42][1] = 2; ct[42][2] = 2; //
ct[43][1] = 2; ct[43][2] = 2; //
ct[44][1] = 1; ct[44][2] = 2; //
ct[45][1] = 1; ct[45][2] = 2; //
ct[46][1] = 1; ct[46][2] = 2; //
ct[47][1] = 1; ct[47][2] = 2; //
ct[48][1] = 1; ct[48][2] = 2; //
ct[49][1] = 1; ct[49][2] = 2; //
ct[WY][1] = 1; ct[WY][2] = 2; //Wyoming

/* initialize the president's power */

for(i = CA; i<= WY; i++) {
    ct[i][3] = 0;
    pivot[i] = 0;
    a[i] = i;
}
ct[PRES][1] = 0;
ct[PRES][2] = 0;
ct[PRES][3] = 1;
pivot[PRES] = 0;
a[PRES] = PRES;
/*
// test 218—power only in the house

for(counter = 1; counter <1000000; counter++) {
    a = random_permutation();
}

```

```

house = 0;
for ( i = 1; i < 51; i++) {
    house += ct[a[i]][1];
    if (house > 217) {
        pivot[a[i]]++;
        i = 55;
    } //end if
} //next state in coalition
} //next iteration

// test 218, 50, 1—power to pass house and senate

for(counter = 1; counter <1000000; counter++) {
    a = random_permutation50();
    house = 0;
    senate = 0;
    for ( i = 1; i < 51; i++) {
        house += ct[a[i]][1];
        senate += ct[a[i]][2];
        if (house > 217 && senate > 49) {
            pivot[a[i]]++;
            i = 55;
        } //end if
    } //next state in coalition
} //next counter

// test 290, 68, 0—power to pass 2/3 override

for(counter = 1; counter <1000000; counter++) {
    random_permutation(50);
    house = 0;
    senate = 0;
    for ( i = 1; i < 51; i++) {
        house += ct[a[i]][1];
        senate += ct[a[i]][2];
        if (house > 289 && senate > 67) {
            pivot[a[i]]++;
            i = 55;
        } //end if
    } //next state in coalition
} //next iteration

// test 218, 60, 1—power to pass house and close debate in Senate

for(counter = 1; counter <1000000; counter++) {
    a = random_permutation(50);
    house = 0;
}

```

```

senate = 0;
for ( i = 1; i < 51; i++) {
    house += ct[a[i]][1];
    senate += ct[a[i]][2];
    if (house > 217 && senate > 59) {
        pivot[a[i]]++;
        i = 55;
    } //end if
} //next state in coalition
} //next iteration
*/
// test 290, 68, 0 or 218, 50, 1—power to pass H & S & P or H & S

for(counter = 1; counter <1000000; counter++) {
    a = random_permutation51();
    house = 0;
    senate = 0;
    pres = 0;
    for ( i = 1; i < 51; i++) {
        house += ct[a[i]][1];
        senate += ct[a[i]][2];
        pres += ct[a[i]][3];
        if (house > 217 && senate > 49 && pres > 0 ||
            house > 289 && senate > 67) {
            pivot[a[i]]++;
            i = 55;
        } //end if
    } //next state in coalition
} //next iteration

for(i = CA; i <= PRES; i++)
{
    printf("The coalition building power for player %d is %f.", i,
           (float)((double)pivot[i]/(double)counter))
}
}

void random_permutation50(void) //acts on int a[50]
{
    int i, j, temp;

    for(i = 1; i < 50; i++) {
        j = i + 1 + (rand() % (50 - i));
        temp = a[i];
        a[i] = a[j];
        a[j] = temp;
    }
}

```

{

```
void random_permutation51(void) //acts on int a[51]
{
    for(i = 1; i <51; i++) {
        j = i + 1 + (rand() % (51 - i));
        temp = a[i];
        a[i] = a[j];
        a[j] = temp;
    }
}
```

APPENDIX THREE

Regression Analysis: Is the Per Capita Shapley-Shubik Index a Statistically Significant Explanator of the Per Capita Balance of Payments Between the States and the Federal Government?

We estimate the following linear regression model:

$$\text{Per Capita Balance of Payments} = \beta_0 + \beta_1 (\text{Poverty Rate}) + \beta_2 (\text{Per Capita Shapley-Shubik Index}) + e$$

where e is a normally distributed error term.

If necessary, we would have imposed the following restrictions on the regression: $\beta_0 < 0$, the intercept is less than zero; and $\beta_1 > 0$, a higher Poverty Rate comes with a higher Balance of Payments. It was not necessary to impose either of these conditions.

Our Null Hypothesis, $H_0: \beta_2 = 0$, is that the Per Capita Shapley-Shubik Index is not a statistically significant explanator of the Per Capita Balance of Payments. The Alternative Hypothesis, $H_1: \beta_2 > 0$, is that the Per Capita Shapley-Shubik Index is statistically significant in increasing the per Capita Balance of Payments.

Our analysis of the data for FY 1995¹ yields the following results:

- We reject the Null Hypothesis at the 5% level.
- The p value of the one-sided t test is 0.0134.
- The adjusted R^2 of the regression is 0.147.

Although our results suggest that the Per Capita Shapley-Shubik Index is a statistically significant predictor of a given state's Per Capita Balance of Payments with the federal government, they also suggest that less than fifteen percent of the total variation in the states' balance of payments is explained by our two regressors (i.e., Per Capita Shapley-Shubik Index and Poverty Rate).

Further statistical examinations of these data might therefore be revealing. For example, one could include more years of Balance of Payments data in the analysis. Or, one could add other explanators to the regression, such as natural resources or the percentage of the very wealthy who live in a state. One could also include dummy variables for particularly powerful committee chairs and party leaders. Finally, one could nest more specifications of the Shapley-Shubik Index. Unfortunately, a more elaborate regression analysis is beyond the scope of this Appendix.

¹ For the Balance of Payments and Poverty Rate figures for each state, we used the data presented in the FY 1995 STUDY, *supra* note 58. Because the District of Columbia was not relevant to our analysis, we adjusted the Balance of Payments data to reflect this fact. (Contact the authors for a more detailed explanation of how this adjustment was made.) In addition, the Balance of Payments data does not include cost of living adjustments. See *supra* note 61.

