“The Apportionment Act of 1842: Principle or Interest?”

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In recent years, a range of political observers have called for an increase in the size of the U.S. House (see for example, Sabato, 2008; Thirty-Thousand.org; Flynn, 2012). With the House of Representative fixed at 435 members since 1910, the average population of a House district has more than tripled from 212,000 to about 730,000 people today. The argument made by proponents of this view is that House districts are so large that representatives have lost touch with their constituents.

With this debate in mind, it may be instructive to examine the only time in U.S. history that the size of the House was actually reduced. The Apportionment Act of 1842 reduced the size of the House from 240 to 223 and banned at-large elections of House members (the latter provision was ignored by several states, which viewed the provision as unconstitutional). The discussion on the floor of the House and Senate on the Act provides one of the most extended debates about the nature of representation and the constitutionality of districting procedures.

The decision to reduce the size of the House runs counter to prevailing theories of congressional behavior: why would reelection-minded members voluntarily eliminate a dozen districts? It also seems to contradict the Whig ideology of legislative-centered politics. Why would a party that feared executive power and saw Congress as the true voice of the people reduce the size of the House? (Whigs controlled the House, the Senate, and the presidency in 1842).

As far as we have been able to determine, there is only one study that focuses exclusively on the decision to reduce the size of the House (Shields, 1985) and another that provides a balanced account of both the apportionment debate and the elimination of at-large elections for House members (Quitt, 2008). While these articles provide an excellent discussion of the floor debates and speculate about the various coalitions, there is no systematic statistical analysis of
the dozens of roll call votes on this act. Shields sees the coalitions as motivated by sectional interests and different views of representation (delegate versus trustee) and personal concerns: “With partisan and regional differences clouded by local circumstance, and no major constitutional issues involved, Whigs were free to speak their personal concerns” (Shields, 363). She also notes, counter to our expectations, Whigs argued for a smaller House because the larger institution was subject to mob rule and had become too much like the House of Commons.

Martin Quitt provides an excellent summary of the arguments presented for a larger or smaller House, but then declines to speculate about the reasons for the final decision: “Why the House acquiesced without further debate is uncertain. . . . Whatever the reasons, the vision of a less turbulent House triumphed” (Quitt, 636-37). In her excellent book *The Politics of Size: Representation in the United States, 1776-1850*, Rosemarie Zagarri also provides a brief analysis of the 1842 Act, arguing that large states dominated the process, imposing their will on the smaller states (1987, 139-40).

We provide an alternative view that is rooted in the electoral interests of members: while recognizing the importance of sectional interests and the nature of representation, we expect that those who reside in states that were on the reapportionment “bubble” should be more likely to vote against the reduction compared to members from states that were less likely to lose seats. This “bubble” behavior should also be reflected in members’ desire to minimize the “aggregate fraction” for their state (the number of “remainder” constituents who are left over after dividing a state’s population by the proposed district size). The multiple roll calls on different-sized districts should allow for relatively fine-grained tests of this hypothesis. Two additional considerations also come into play: 1) the division between small states and large states that

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1 In subsequent versions of the paper we also will examine the votes on at-large districting where parties that receive a larger share of votes than seats would be more likely to oppose the move to single-member districts (because they would be more likely to win all of the at-large seats).
produced the “great compromise” of the two-chamber Congress was still quite evident in the debates over apportionment (Zagarri, 1987, 129-31, 134-40) and 2) the unexpected role of the Senate in imposing the smaller number of districts on the House. Indeed, one would think that reapportionment should be the exclusive domain of the House, given that the Senate is not affected by changes in population. Why would the House have allowed the Senate to overrule its preferences for a moderately larger number of districts?

This study of the 1842 Apportionment Act will shed light on the historical generalizability of electorally rooted theories of congressional behavior. The 1842 Act provides a difficult test of the electoral theories, given the competing explanations of Whig ideology, sectional interests (rooted primarily in slavery), tensions between big state and small states, and debates about the proper nature of congressional representation.

Reapportioning House districts

Every ten years following the U.S. Census, Congress reapportions the House districts according to changes in the population. After the first census in 1790, the political complexity of the task became readily evident (Zagarri, 1987, 134-40). Congress had to decide whether to increase the size of House districts, which was originally set to 30,000 people, whether to set a target number of districts or target the ratio of constituents per member. Then there was the tricky issue of the “fractional remainders.” For example, if a state had 119,000 people and the ratio was 30,000, under the Jefferson method, which rounded down the number of districts, the state would have three representatives and a remainder of 29,000. Members were keenly aware

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2 Since Wesberry v. Sanders, 376 U.S. 1 (1964), Congress is required to reapportion House districts because of the one-person, one-vote standard applied to House districts by the Supreme Court. Before 1964, the House reapportioned House districts every ten years except in 1920 when rural and urban members of Congress deadlocked over how to reapportion districts in a House that was now fixed at 435 members.

3 For purposes of apportionment, slaves counted for 3/5 of a person according to Article 1, Section 2 of the Constitution.
of how their states were affected by every proposed ratio, which led to protracted debates with multiple roll calls. Logic would dictate that small states preferred a smaller House because they would have proportionately more power, relative to the large states, the fewer the number of representatives.

Based on the simple math, it would seem that the large states should have been able to impose their will on the smaller states. However, the Senate had to sign off on reapportionment, so it could protect smaller states from any egregious allocation of seats. Thus in the first several decades, larger states drove the process, but with relatively incremental changes toward the larger House they favored. The first reapportionments gradually increased the number of people per district from 30,000 to 33,000 in 1790, 37,000 in 1800, 40,000 in 1810, 45,000 in 1820, and 47,700 in 1830 while raising the number of districts from 105 in 1790 to 240 in 1830. Had the large states attempted to stick with the original 30,000 people per district, the House would have ballooned to 401 members by 1830.

Following the 1840 census, it appeared that the House was going to follow its familiar pattern. After an extensive debate outlining a variety of arguments in favor of a larger or small House (which we will review below), there were 27 voice votes and two teller votes rejecting ratios starting at 141,000 (which would have reduced the size of the House from 240 to 114) down to 60,700. They finally accepted a ratio of 60,500 on a teller vote of 82-60 (Congressional Globe, April 21, 1842, 437). Given the increase in population of almost one-third since 1830, this ratio would have produced a relatively modest increase in the size of the House of 3.3% (to 250 seats).

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4 Teller votes record support and opposition, but not the identities of how each member voted. So for most of the votes on the various ratios (which were either voice votes or teller votes) we will not be able to test the competing explanations for the reduction in the size of the House. However, there are several key roll calls in the House and multiple roll calls in the Senate that we will examine.
If the House would have stopped there, it is quite likely that the Senate would have signed off on the incremental change. As the defender of small states’ interests, the upper chamber should have been pleased with the smallest increase in the size of the House since the Founding (both in absolute and relative terms). However, the House did not stop there. It is impossible to know what precipitated the move, but there seemed to be growing discontent among the small states that they were being unfairly treated. For example, Rep. Charles Atherton (D-NH) said,

> It would require but very few words to show that great injustice would be done by it [the 60,500 ratio] to many of the smaller States, and particularly to the New England States. Mr A. then stated the amount of the heavy fractions that would be left unrepresented in each of the New England states (204,850 in the whole;) while New York, which would have more Representatives than all of New England combined, would have but a trifling fraction” [8,919] (Congressional Globe, April 25, 1842, 443).

Rep. George Briggs (W-MA) proposed a ratio of 50,391, which would ensure that no state would lose a district, compared to the previous reapportionment. This seemed to mollify the various factions and passed on a teller vote by a 90-59 margin (Congressional Globe, April 25, 1842, 445). It is quite remarkable how little debate there was in the House to increase its size from 250 seats to 319. It appears that they grew weary of the dozens of votes and settled for ratio the seemed to do the least damage to any state’s interests.

Then the Senate went to work. Some senators made arguments similar to those raised in the House about the inefficiency of a large body and the danger of “mob rule.” Others expressed some concern about losing some institutional clout to the lower chamber. This concern was rebutted by Senator James Buchanan,

> I do not believe that the efficiency or moral influence of the Senate can ever be materially impaired, or its independence endangered, by any increase, however great, in the number of the House of Representatives. On the contrary, it is my opinion that, in proportion as you increase the House beyond the number which
can legislate with order, deliberation, and efficiency, in the same proportion will you increase the relative influence and character of the Senate throughout the country. I do not therefore concur with those senators who dread that a numerous House might be destructive either to the independence or influence of this body. I entertain no such jealousies” (Appendix to the Congressional Globe, May 26, 1842, 410).

The main objection seemed to be to the principle of expanding the size of the House so that no state would lose a seat. Several senators pointed out that the size of the House would explode in coming years if this standard were maintained. Thomas Hart Benton (D-MO) made the strongest arguments for the inappropriateness of the Senate questioning the action of the House. He said,

The House has discussed all these points – the advantages and disadvantages of large and small bodies – the good and evil of all ratios, from 50,000 to 100,000 – and after ample debate, has decided in favor of an ample body. All of the high ratios now put before us have been passed upon by the House, they have all been rejected with a view to increase the present number of the body; and now we take up these rejected ratios and press for their adoption with a view to counteract the policy of the House, and to diminish instead of increase the number of the body. All of this Mr. B. thought to be uncalled for an objectionable.

He concluded that the vote to overturn the wishes of the House “. . . was something like assuming a guardianship over the House – taking care of it – and saving it from itself” (Congressional Globe, May 27, 1842, 538). Despite his argument, after more debate over the next two weeks, the Senate voted 30-14 to increase the ratio established in the House (50,176) to 70,680 (Congressional Globe, June 15, 1842, 630).

When the Senate bill was returned to the House, John Quincy Adams (W-MA) vigorously defended the prerogatives of the House. The Globe reports “Mr. Adams said he could not believe that the House would be dragooned into an approval of extraordinary propositions from the Senate” (Congressional Globe, June 13, 1842, 620). The House defeated a motion to accept the Senate ratio by a 75-97 teller vote and then started an extended debate on
the appropriateness of the Senate imposing its will on the House and additional arguments about the value of a larger or smaller body. Rep. Browne “said that he would not deny the power of the Senate to differ with the House upon any subject which it should send to them. . . . But he would submit to the House whether there were not subjects upon which, out of common courtesy at least, the Senate should defer to the expressed opinions and wishes of the House; and more especially on the question then under consideration. On subjects relating to the constitution of this body, we (said Mr. B.,) are the immediate Representatives of the people, and recently elected and sent here for the purpose of reflecting back their will; and I would submit to the gentlemen whether we are at least supposed to understand more directly the wants and wishes of the people, than the members of the Senate” (*Congressional Globe*, June 13, 1842, 622).

Despite these strong arguments defending the interests of the House and criticizing the Senate’s encroaching on their turf, the House capitulated three days later. Some members called for a conference committee to work out the differences, but that never happened. Instead Rep. Garrett Davis (W-KY) called of a reconsideration of the vote “by which the House had refused to recede from its disagreement with the Senate’s amendment increasing the ratio of representation” (*Congressional Globe*, June 16, 1842, 643). This convoluted motion carried by a 101-97 roll call, but then the House abruptly adjourned before a final vote could be taken. Much confusion reigned the next day, but after several more procedural votes, the Senate ratio was passed on a 113-103 roll call and the Senate’s amendment on fractional representation passed 111 to 102 (*Congressional Globe*, June 17, 1842, 649). Thus in four days, support for the Senate ratio went from 75 to 113 while opposition increased only increased from 97 to 103. Did a large number of House members switch their votes, or did the proponent of a smaller House do a better job of rounding up votes than the opponents?
Explanations for reducing the size of the House

Before discussing the variables we will use in our analysis, there are several explanations for the reduction in the size of the House that came up in debates, but cannot be systematically measured. First is the debate over the nature of representation. This debate goes back to the founding era when Antifederalists argued that effective representation had to happen in small areas and that legislators must “know and be known by the citizens” (“A Farmer,” quoted in Zagarri, 1987, 90). This personal representation meant that Antifederalists were even skeptical of the 30,000 people per district of the first Congress. They were also concerned that Congress would only be representative of the upper class and that constituents would have a difficult time monitoring their representatives, given the size of the districts. This “delegate” version of representation was countered by Federalists who were more likely to embrace a “trustee” version of representation rooted in a notion of the extended republic. They were unconcerned about the size of districts and emphasized that common interests, rather than local interests, were the basis for representation. “A Freeman” argued that Americans would “give up local attachments and . . . cement together as one great people, pursuing one general interest” (quoted in Zagarri, 1987, 95).

While these competing visions of representation are clearly related to debates about the size of the House (both during the Founding period and in the first decades of the republic’s history), they do not map directly onto party positions in the 1842 reapportionment debate. For example, Richard Davis (D-NY) said, “The House ought to be a living, acting emanation from the people, and should be composed of materials of the same sort with them. He would gladly see its numbers doubled” (Congressional Globe, 437). While John Quincy Adams (W-MA), this delegate notion the representatives should be of the people, “What, he asked, was pure
Democracy? It was government, so far as practicable, to the people themselves in person.

Representation was an expedient resorted to, for the purpose of attaining the substance of that which was, of itself, impracticable; and the greater the number of Representatives, the nearer was the approach to Democracy” (Congressional Globe, June 13, 1842, 620). John Mason (D-MD) staked out the middle ground, arguing “The House should be just large enough to preserve the representation principle, and not too large to transact business, or to allow every member to be heard when he desires” (Congressional Globe, April 21, 1842, 436). So while the nature of representation clearly played a rhetorical role in the debates, it isn’t clear that it would have had a systematic impact on the outcome on the votes even if we were able to have a measure of members’ positions. Other concerns that came up in debates but cannot be measured systematically include the additional financial burden of a larger House and the inability to hear debates with more members milling around.

**Whig ideology**  Traditional Whig ideology favored legislative power and feared executive power. Logically, this should produce support for a larger House and concern that a smaller body could be dominated by the president. Indeed, many members made this argument, but they were mostly Democrats. For example, Sen. Thomas Hart Benton (D-MO) argued,

> The smaller the body, the more accessible to the influences of seduction and intrigue. An artful man, even without patronage, may secure a clique in a small body which may lead or frustrate important measures: a designing President may gain a majority in a small body by the seduction of patronage, and then give what laws he pleases to the country. The security against these dangers is a numerous body – a body too large to be managed by intrigue, or to be gained over by patronage” (Congressional Globe, May 27, 1842 pp. 402-403).

John Mason (D-MD agreed, “And how much easier would it be for the Executive to influence and corrupt a small majority on this floor than a large one! The protection and liberty of the
people required that this body should be far beyond the reach of executive influence; and as its number was diminished, its safety from Executive encroachment and influence was lessened.” Mason was also concerned that a small body would undermine the representative principle “the great principle upon which the people relied for their own protection and for the protection of their institutions” (Congressional Globe, April 21, 1842, 436).

In contrast the “New Whig” ideology focused on efficiency in passing legislation and in encouraging the election of a more elite membership. Quitt explains, “Their great victory of 1840, producing their first majority in each house, brought only pockets of ‘new-school Whig’ consciousness to Congress, where party leaders wanted to make the House a smaller, less democratic body that attracted more men like themselves” (2008, 631). Thus, while there was no dominant party view, many Whigs were driven more by their elitist tendencies rather than their concerns about executive power. They worried openly about the “mob mentality” that would come with a larger body and longed for a smaller institution that would facilitate meaningful discussion and debate. Rep. Joseph Underwood (W-KY), who proposed a ratio of 141,000, which would have cut the size of the House by more than half, “depreciated any large increase in members, as tending toward a mob government, by confusion, crowing like cocks, braying like asses, shuffling with feet, coughing, and other similar expedients now pursued in the house of Commons in England. If this was what the gentlemen really desired, then let them take the lowest average that had been proposed” (Congressional Globe, April 21, 1842, 436). Richard Thompson (IN-W) suggested 100,000 ratio, saying, “He thought it better to have a legislature consisting of a relatively small number of well-informed businessmen than a much large number of those destitute of business habits and fond of debating” (Congressional Globe, April 21, 1842, 436).
Thus, our expectation is the Democrats should favor a larger chamber and Whigs should favor a smaller House.

**Large state/small state**  As we note above, in the first decades of our nation’s history, large states dominated the process of reapportionment. As Zagarri explains, quoting a member of Congress who was assessing the early history of reapportionment, “The work has been usually accomplished by a combination of the large States, who could best afford to bear the loss of the fractions, hitting upon some ratio that would leave them with small fractions, and then, with the aid of such small States as happened to have small fractions also under the proposed ratio, voting it through without much regard to the number of the House, and to the injustice done to the small states” (Zagarri, 1987, 139-40).

This dynamic seems to have initially played out in the House. An initial modest increase in the size of the House appeared to be produced by exactly that type of coalition with several large states and a few small states. While there were no roll calls, so it is impossible to say for sure, floor debates reflected great dissatisfaction from the small states. Rep. Samuel Bowne (D-NY) took to the floor to counter the accusations of the large-state cabal:

Mr. Bowne rose not to enter into the discussion, but merely to notice and repel the accusation brought forward by the gentleman from Indiana (Mr. White) of something like concert and confederation among the Representatives from the large States to reject ratios operating favorably to the smaller States. He denied every thing like it; there was no caucus, other consultation for any such purpose, so far as he or any one of the New York delegation, to his knowledge, was concerned (*Congressional Globe*, April 25, 1842, 445).

Rep. Fillmore concurred,

If there had been any such caucus, it was without his knowledge, and, what was more, he had never heard of it. [Several voices, “Nor I—nor I.”] He had voted on all the number, and invariably for the highest; and regretted that the
House had not consented to fix on the ratio of 100,000 which would have reduced the House to a convenient body for the transaction of business (ibid).

But Rep. White (IN) stuck to his guns,

The gentleman from New York [Mr. Fillmore] seemed to have taken exception to a remark made by him (Mr. W.) that the ratio of 60,500 was the result of a caucus among the members of the large States. He had asserted that, and was not prepared to retract it. There was probably a difference of understanding, between the gentleman and himself, of the term *caucus*. In New York the idea was of a secret meeting, of a certain time, of a dark room and closed doors. He intended by the word to convey the idea of a mere meeting together for the purpose of a common understanding as to measures to be adopted. He had seen the members from the large States conversing together on the subject, and to all intents and purposes, this ratio was the result of a caucus held in this House (ibid).

Rep. Charles Brown (D-PA) was dismissive of the entire discussion, saying “he had no sympathy with either the small or large States. If the State was small, it would be protected at the other end of the Capitol, where she had as many representatives as the large ones. He had no sympathy for Rhode Island, while she had two representatives in the other branch, nor for New York, while she had forty representatives here” (*Congressional Globe*, April 21, 1842, 436).

Thus, our expectation is that smaller states would have been opposed to the initial ratio of 60,500, but probably supportive of the smaller ratio of 50,391 given that it protected all states from losing any members. The Senate ratio of 70,680, which was the final figure, is expected to have a variable impact, depending on the aggregate fraction for a given state.

**Slave state/free state**  As sectional tensions continued to brew over slavery, it is not a surprise that the issue would spill over into the reapportionment debate. Rep. John Mason (D-MD) articulated something close to the balance rule that was in place for the Senate during this time,

There are (continued Mr. M) in my opinion three great objects to be accomplished by this bill. The first, and the most important one, is, that the fractions, whether they may be large or small, should fall equally on the various interests of the
country, and more particularly, they should fall with equality upon the free and the slave states. Some gentlemen have believed that the great object to be accomplished is that the aggregate fraction should be as small as possible. This is not so desirable as that the fractions should be borne equally by the free and the slave states.” He then presented detailed tables showing that 62,000 was the best number for equalizing the aggregate fraction between slave and free states (Congressional Globe, April 21, 1842, 436).

Thus, we include a control variable for whether the state was a free state or a slave state in our analysis of the aggregate fractions. Also, slave states should prefer a smaller House in order to limit the larger influence of the more populous North.

**Electoral concerns/ bubble states** Finally, the concern about being on the representation bubble appeared to drive the calculations of every state. Nearly every part of the debate included a representative or senator sticking up for the interests of his state. For example Rep. Brown (D-PA) said he would support any ratio between 60,000 and 70,000. “There were some propositions favorable to his State, and others less so; and as he was one of her Representatives, he should vote for that which was the more favorable to the State which he represented.” (Congressional Globe, April 21, 1842, 436). Rep Mason (D-MD), after proposing his ideal ratio of 62,000 for balancing the aggregate ratio between free and small states admitted, with some embarrassment and defensiveness,

Maryland, it is true, had a very small fraction under this ratio [a 124 fraction compared to an average fraction for all states of 30,013!]. This, Mr. M. said, he regretted, because his motive might be questioned; for, while he was desirous of protecting the right of his own state, he was more desirous of advancing the general good—as he honestly believed the effects of this ratio would be to produce general good and advance every interest (Congressional Globe, April 21, 1842, 436).

He argued that large states would have bigger fractions, but this was fair given that they could be spread across more districts. After whipping through a couple dozen votes on various ratios, the
Senate agreed on a ratio proposed by Sen. Barrow of 71,257 by a 25-21 vote. But the senator from New Hampshire objected because they would get another seat with 406 more people, so Mr. Walker moved to reconsider, which was agreed to by a voice vote. He suggested a ratio of 71,143, but Michigan objected saying they would have an “oppressive fraction” of 70,755, so needed a smaller ratio. So they tabled the motion by a 24-22 vote and ended up giving up for the day (Congressional Globe, June 2, 1842, 546).

In the analysis of votes on the House size, we include a control for the size of the aggregate fraction for each state. States that have a larger aggregate fraction for a given ratio will be more likely to oppose that ratio.

The Data

The nature of the Census makes our assumption of electorally motivated behavior more realistic. The 1840 Census reported the number of House districts for every ratio from 55,000 (275 members) to 70,000 (217 members) in 500-person increments. Nothing was left to the imagination: any member could readily see the effects of every proposal as the Census listed the aggregate fraction and the number of districts for each state for each ratio. Given the range of proposals and the vehemence with which members defended their states’ interests it is clear that they frequently consulted these tables and created their more fine-grained analyses.

While the Census is useful for our argument, the idiosyncrasies of the Congressional Globe and the regularity of voice votes and teller votes make it impossible to create a definitive explanation of the 1842 apportionment vote. First, the index for the Globe is woefully incomplete, requiring a page-by-page reading of the record to capture the full scope of the debate (more than half of the entries for the apportionment debate were not in the index). Second, and
more critically, the reporter for the *Globe* recorded much of the debate as verbatim dialogue (or at least what appears to be), but also summarized some discussion. For example, one critical juncture was when the Senate returns the apportionment bill to the House, having increased the ratio from 50,391 to 70,680. The House first rejects the Senate version by two teller votes. But then the *Globe* reporter records, “An irregular discussion ensued on the form of proceeding, and Mr. W.C. Johnson moved that the House adhere to its disagreement,” but with no further explanation of the nature of the “irregular discussion.” At another critical juncture, shortly before the House inexplicably agreed to the Senate ratio, the *Globe* reports, “At this stage, considerable conversation took place upon points of order, touching the effects of a refusal by the House to reconsider the vote taken on yesterday; in which conversational debate Messrs. Wise, Thompson of Indiana, Hopkins, W.C. Johnson, Cooper of Pennsylvania, the Speaker, took part” (*Congressional Globe*, June 16, 1842, 643). Thus critical parts of the congressional debates will never be known.

**Descriptive Data**

As a simple first-cut examination of how the above-mentioned factors (party, state size, legality of slavery, and state-specific electoral concerns), we turn to descriptive statistics on the different ratios proposed by House and Senate members. These are displayed in Table 1:

[TABLE 1 ABOUT HERE]

The differences in means and medians appear to operate as expected. Whigs, apparently with elitist concerns in mind, preferred reducing the size of the House when compared with their Democratic counterparts, and thus offered proposals of marginally higher ratio values. House and Senate members representing slave states, likely interested in reducing the North’s relative
advantage in the House due to its larger population, proposed higher ratio values than members from free states.\(^5\) Contrary to our expectations, larger states tended to propose higher ratio values in both chambers, indicating a preference for a smaller House.

Next, to examine members’ concern for the status of their own states under competing proposals, it is necessary to create a measure of the size of the “waste” in population created for each state under the proposals offered (the size of the aggregate fraction). Because the Jefferson method of apportionment—dividing a state’s population by the enacted ratio, and rounding down to determine how many representatives a state would have—any remainder left over after dividing would be considered a “waste.” Accordingly, members ought to have largely proposed ratios that minimized the waste from their own state. We measure this both in absolute and relative terms. For a given ratio, the absolute measurement simply counts the remainder of persons left over for each state after dividing its population by the particular ratio value. For example, if a ratio value of 60,000 were proposed, a state with 360,100 would have an absolute measure of 100, since those extra 100 persons were “left over” for that state under a ratio of 60,000. The relative measure subtracts a state’s aforementioned absolute measure by the average remainder of all states. These are multiplied by -1 for ease of interpretation: higher values represent better outcomes for states, negative values indicate higher levels of wasted persons for a state. Plots of the relative measure by state for every possible ratio between 40,000 and 100,000 (where the bulk of the House and Senate ratio proposals fell) are included in the appendix.

We expect that legislators, interested in maximizing the relative influence of their state, should offer proposals that either match or are close to ratio values that minimize the number of

\(^5\) As of the 1840 census, the combined free population plus three-fifths of the slave population put the total population of slaveholding states counting toward representation at 6,176,869, compared with 9,731,463 for non-slaveholding states.
“wasted” persons for their home state relative to the rest of the country. Accordingly, for ratios that members propose, this “waste” measure should disproportionately take on values at or just below zero for their own state in the case of the absolute measure, and highly positive values in the case of the relative measure. Figure 2 plots the absolute and relative “waste” measures of ratios that members proposed.

[FIGURE 2 ABOUT HERE]

Clearly, Representatives and Senators by and large were acting in the electoral interests of their home states when making proposals; the bulk of the proposals immensely benefitted the state of the proposer, when measuring in either absolute or relative terms. In a number of cases, strategically-minded members would make a proposal that came close to minimizing (but did not fully minimize) the remainder in their own state, while fully minimizing the waste in another, in a likely effort to gain allies. Senator Buchanan (D-PA) proposed a ratio of 70,680 – a value that minimized the remainder for Virginia (only 2 “wasted” persons), while not being far from the ratio value of 71,833 that would have minimized the remainder for Pennsylvania. There were certainly some outliers, particularly in the House.

As shown in the appendix, each state had a series of ratio values that would have minimized their number of wasted persons relative to the rest of the states (represented by the various peaks in the measure). A related way to examine how well members’ proposals reflected the electoral interest of their home states is calculate how far each proposed ratio was from its proposer’s nearest “peak” value that minimizes their state’s relative waste. Accordingly, we subtract a member’s ratio proposal from the nearest proposed ratio that minimizes a state’s relative number of wasted persons. By and large, these values should be located at zero, or just below zero; as shown in the figures in the appendix, proposing a ratio just over a state’s local
“peak” value is harmful rather than helpful. Accordingly, the distribution of these values should be centered at or just left of zero.

[FIGURE 3 ABOUT HERE]

As expected, most ratio proposals made in both chambers were either located at or just below a value that would minimize the relative waste for the proposer’s home state. Zero is in fact the modal category in each chamber; 15 proposals in the House and seven in the Senate were located precisely at a relative “peak” for a proposer’s state.

The evidence presented thus far suggests that individual members were highly attuned to the electoral needs of their states, and most proposals made reflected an interest in increasing the relative influence of the proposer’s home state. Knowing this, it is possible to make a preliminary explanation for the location of the final competing ratio proposals in the House (50,179) and the Senate (70,680). These were likely proposals that minimized the remainder for a large number of states and thus were able to attract the most support within the chambers. For every possible ratio value between 40,000 and 100,000, we plot the average remainder across all states.

[FIGURE 4 ABOUT HERE]

The results here make quite clear that the House and Senate settled on ratio proposals that would minimize the average remainder across states. Increasing the ratio by just a few in either case would have sent the average remainder value “over the cliff,” dramatically increasing the number of wasted persons. Yet why did the Senate and (initially, at least) the House insist on their chambers’ respective ratios, if both minimized the aggregate remainder to a similar degree? Here, preferences regarding the House’s size likely enter the equation. Moreover, looking beyond average remainders in the aggregate, we can instead explore how these “wasted” persons
were distributed across states. Given the Senate’s traditional emphasis on the interests of the individual states, we might expect the Senate ratio of 70,680 to work to the benefit of a greater number of states when compared with the House’s proposal of 50,179. Figure 5 plots the distribution of wasted persons, both in absolute and relative terms, for the House and Senate proposals.

The Senate’s proposal of a ratio of 70,680 appeared to concentrate most of the “waste” on a select few states, while allowing the rest of the states to enjoy a relative benefit; by contrast, the House’s final proposal of 50,179, while no state faced remainders as large as those that resulted from the Senate proposal. The House proposed to distribute the remainders more evenly across states, though it apparently worked to the detriment of a greater number of states than the Senate proposal.

**Multivariate analysis**

After the House’s initial ratio proposal, the Senate on May 27th and 30th took a series of votes on proposal to change the ratio. After considering a broad range of values, the Senate ultimately settled on a ratio of 70,680 in a vote of 28 to 18, a significant increase in the ratio and consequent decrease in the size of the House. A few weeks later, the House took a series of votes refusing to agree to the Senate’s higher ratio. Soon after, following the House’s counter-proposal to reduce the ratio to 50,179, the Senate again voted to propose a ratio of 70,680 by a slightly-larger margin of 30 to 14. A set of confusing votes ensued – including one to “reconsider [the House’s] refusal to recede from its disagreement to the Senate ratio,” which succeeded by a vote of 101 to 97. Ultimately, the House changed course and agreed to the
Senate’s higher ratio. We select a few of those key votes to analyze here to help determine the individual-level factors that led to the adoption of the higher Senate-proposed ratio.

As previously mentioned, the Senate cast two separate roll-call votes to establish a ratio of 70,680. The first occurred in the context of an open amending process where many alternatives were being considered. The second occurred when the Senate was directly faced with a choice between its previously-chosen ratio of 70,680 and the House alternative of 50,179. We analyze these votes by estimating two logistic regressions, where the unit of analysis is an individual Senator, and the dependent variable is whether the Senator voted yes or no on the ratio; a yes vote indicates agreement with the 70,680 figure. In addition to individual-level independent variables included for each member (party, state size, free vs. slave state), we also include the variable for relative “wasted” persons for each Senator’s home state to capture how electorally beneficial (or detrimental) the proposal appeared to be. Because Senators on the second vote were faced with a choice between ratios of 70,680 and 50,179, we take the difference in each Senator’s relative “waste” value for the two ratios to better capture which alternative was most beneficial. The results are displayed in Table 2:

[TABLE 2 ABOUT HERE]

Interestingly, none of the included variables appear to significantly impact patterns of Senate voting in either instance. The coefficient on the slave state variable is not quite significant (p < 0.053), but all in all, none of the individual-level covariates seem terribly important in explaining the outcome of these votes.

Next, we examine a series of House roll-call votes. Because much of the House’s voting was done via voice or teller votes, there are many instances where decisions were made without a record of individuals’ actions. However, we were able to identify three roll-call votes that were
direct votes on setting the ratio to 50,179. The first two constituted a refusal of the House to agree to the Senate's higher ratio, implicitly indicating support for a smaller ratio of 50,179, by votes of 95-114 and 106-107 respectively. The House later reversed its position, voting instead by a margin of 113 to 104 to withdraw from its disagreement and accept the Senate ratio (along with a smaller House). Similar to the Senate votes, in each case a “yes” vote indicates agreement with the Senate’s 70,680 ratio proposal. As before, we include variables for members’ party, state size, free vs. slave, and the relative benefit of the 50,179 and 70,680 ratio for each member.

By contrast with the Senate models, the House models suggest the importance of party and the legal status of slavery. Whigs and slave-state members were more likely than Democrats and free-state members to vote for the Senate ratio over the House ratio. On the third vote – where the House finally gave in to the Senate – it appears that state size became an important factor as well, with smaller states more likely to vote in favor of the Senate ratio. It is sensible for most of the coefficients to remain the same in the third model despite the different outcome (accepting rather than rejecting the Senate ratio) given that most members did not change their votes on the matter. Despite all the evidence presented initially regarding the importance of state electoral concerns on the ratio proposals members made, there is little evidence thus far to suggest that these same concerns motivated members’ patterns of voting.

Lastly, we turn to an analysis of House members who changed their votes between key votes two and three – House members who proved pivotal in reducing the chamber’s size. Only a handful of members switched their votes between key votes two and three; fourteen switched from opposing the Senate-proposed ratio to supporting it; ten switched from supporting the Senate ratio to opposing it. Members fall into four categories: those who switched from
opposing the Senate ratio to supporting it; those who switched from supporting the ratio to opposing it; those who remained consistent across votes; and those who missed one vote or the other. Our analysis excludes members who missed one or both of the House’s final two key votes, and restricts attention to those who voted on both measures.

Because our dependent variable is categorical with three possible categories, we estimate a multilevel logistic regression to analyze switching behavior. The unit of analysis in the final model is a House member; the dependent variable takes on a value of -1 if the member switched from supporting to opposing the Senate ratio, a value of 0 if the member remained consistent in support or opposition, and 1 if a member switched from opposing the Senate ratio to supporting it. Besides variables for party, state size, and free/slave, we also include a variable to capture how well each proposal served a member’s home state: the Benefit variable simply subtracts the relative “waste” the Senate’s 70,680 ratio produces for a member’s state, minus the relative “waste” from the House’s proposal of 50,179. This aims to capture how much better off a member’s state would be under the two ratios; higher values should make members more likely to switch to the Senate ratio, and vice versa.

There are limits, of course, to what this model of House member switching can tell us, given the relatively small number of observations that fall into the switching categories of interest; by and large, most members stayed consistent across the two votes. None of the included variables – party, state size, slave state, or relative waste – appear to explain switching from supporting to opposing the Senate ratio. By contrast, a state’s relative benefit appears to explain switching from opposition to support of the Senate ratio, suggesting that electoral motives did apply to some degree. Electoral concerns might ultimately help to explain why the
House chose to reduce its size for the only time in U.S. history, although it is not immediately apparent why these switchers chose to change positions so late in the process.

**Next steps**

In subsequent analysis we will examine the series of votes in the Senate on different ratios to try to better assess the impact of electorally motivated calculations by senators. We also will examine the “mobilization effect” in addition to switching behavior to try to explain why the House capitulated to the Senate. Finally, we will also examine the separate process of moving from at-large to district-based elections for the House. At one point in the debate, the two issues were joined, but later were separated because an already complicated set of political calculations became even more difficult.

John Aldrich argues, “The greatest methodological problem facing the historically oriented is that of missing data (often massively so) and systematic bias in what happens to survive as the available record” (2001, 19). We face that problem with the incomplete record of the procedural debates in the *Congressional Globe* and the frequency of voice and teller votes at critical junctures in the House. Thus, the motivations of members of Congress concerning this important historical event can never been entirely known. However, with more careful detective work and additional analysis, we should be able to provide a better understanding of why the House reduced its size.

Our preliminary conclusions support the view that electoral calculations were at the core of most of the behavior as members tried to protect their states’ interests. The debates in 1842 also provide one of the most detailed and thoughtful discussions about the nature of
congressional representation ever conducted on the floors of the House and Senate. Proponents of increasing the size of the House today would be well served by revisiting those debates.
Figure 1

Figure 2: Effect of Members’ Proposals on the Remainder in their Home States
Figure 3: Distance Between Members’ Proposals and the Nearest “Peak” Value for their Home State
Figure 4: Average No. “Wasted Persons” Across States for all Possible Ratio Values (between 40,000 and 100,000)
Figure 5: How the Main Competing House and Senate Proposals Distributed “Wasted Persons” Across States

Total Wasted Persons (Senate Proposal)

Total Wasted Persons (House Proposal)

Distribution of Relative Benefit (Senate Proposal)

Distribution of Relative Benefit (House Proposal)
### Table 1: Descriptive Statistics, House and Senate Ratio Proposals

<table>
<thead>
<tr>
<th>Category</th>
<th>House</th>
<th>Senate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
</tr>
<tr>
<td>Slave</td>
<td>68384.02</td>
<td>62139.5</td>
</tr>
<tr>
<td>Free</td>
<td>59943.93</td>
<td>59203</td>
</tr>
<tr>
<td>State Pop. Above Median</td>
<td>65619.75</td>
<td>60700</td>
</tr>
<tr>
<td>State Pop. Below Median</td>
<td>60337.18</td>
<td>57000</td>
</tr>
<tr>
<td>Whig</td>
<td>65845.95</td>
<td>60700</td>
</tr>
<tr>
<td>Democrat</td>
<td>62687.85</td>
<td>60000</td>
</tr>
<tr>
<td>Overall Chamber</td>
<td>64266.9</td>
<td>60600</td>
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### Table 2: Logistic Regression Models, Senate Key Votes

<table>
<thead>
<tr>
<th>Category</th>
<th>Senate Vote No. 1</th>
<th>Senate Vote No. 2</th>
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</thead>
<tbody>
<tr>
<td><strong>Dependent variable:</strong></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Whig</td>
<td>0.273</td>
<td>0.929</td>
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<tr>
<td></td>
<td>(0.667)</td>
<td>(0.706)</td>
</tr>
<tr>
<td>State Population Above Median</td>
<td>0.212</td>
<td>0.223</td>
</tr>
<tr>
<td></td>
<td>(0.709)</td>
<td>(0.832)</td>
</tr>
<tr>
<td>Slave State</td>
<td>1.303*</td>
<td>0.990</td>
</tr>
<tr>
<td></td>
<td>(0.674)</td>
<td>(0.724)</td>
</tr>
<tr>
<td>Relative Benefit from Ratio Proposal</td>
<td>0.00002</td>
<td>−0.00000</td>
</tr>
<tr>
<td></td>
<td>(0.00002)</td>
<td>(0.00002)</td>
</tr>
<tr>
<td>Constant</td>
<td>−0.374</td>
<td>−0.224</td>
</tr>
<tr>
<td></td>
<td>(0.689)</td>
<td>(0.732)</td>
</tr>
</tbody>
</table>

| Observations                           | 46                | 44                |
| Log Likelihood                         | −27.670           | −25.689           |
| Akaike Inf. Crit.                      | 65.339            | 61.379            |

*Note:* *p<0.1; **p<0.05; ***p<0.01
Table 3: Logistic Regression Models, House Key Votes

<table>
<thead>
<tr>
<th></th>
<th>House Vote 1</th>
<th>House Vote 2</th>
<th>House Vote 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Whig</td>
<td>0.918***</td>
<td>0.849***</td>
<td>0.749**</td>
</tr>
<tr>
<td></td>
<td>(0.300)</td>
<td>(0.296)</td>
<td>(0.296)</td>
</tr>
<tr>
<td>State Population</td>
<td>−0.189</td>
<td>−0.393</td>
<td>−0.817**</td>
</tr>
<tr>
<td>Above Median</td>
<td>(0.362)</td>
<td>(0.376)</td>
<td>(0.394)</td>
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<tr>
<td>Slave State</td>
<td>0.758**</td>
<td>0.887***</td>
<td>0.919***</td>
</tr>
<tr>
<td></td>
<td>(0.300)</td>
<td>(0.299)</td>
<td>(0.300)</td>
</tr>
<tr>
<td>Relative Benefit</td>
<td>−0.00000</td>
<td>−0.00001</td>
<td>0.00001</td>
</tr>
<tr>
<td>from Ratio Proposal</td>
<td>(0.00001)</td>
<td>(0.00001)</td>
<td>(0.00001)</td>
</tr>
<tr>
<td>Constant</td>
<td>−0.890**</td>
<td>−0.585</td>
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<tr>
<td></td>
<td>(0.384)</td>
<td>(0.395)</td>
<td>(0.401)</td>
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<tr>
<td>Observations</td>
<td>209</td>
<td>213</td>
<td>217</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>−136.577</td>
<td>−138.794</td>
<td>−137.611</td>
</tr>
<tr>
<td>Akaike Inf. Crit.</td>
<td>283.154</td>
<td>287.589</td>
<td>285.223</td>
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</tbody>
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*Note:* *p<0.1; **p<0.05; ***p<0.01
Table 4: Multinomial Logistic Regression, House Switching Behavior

<table>
<thead>
<tr>
<th></th>
<th>Switch: Yes to No</th>
<th>Switch: No to Yes</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
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<tr>
<td>Whig</td>
<td>-0.363</td>
<td>-0.488</td>
</tr>
<tr>
<td></td>
<td>(0.654)</td>
<td>(0.588)</td>
</tr>
<tr>
<td>State Population Above Median</td>
<td>0.594</td>
<td>-0.723</td>
</tr>
<tr>
<td></td>
<td>(1.095)</td>
<td>(0.771)</td>
</tr>
<tr>
<td>Slave State</td>
<td>0.097</td>
<td>-0.216</td>
</tr>
<tr>
<td></td>
<td>(0.670)</td>
<td>(0.613)</td>
</tr>
<tr>
<td>Relative Benefit</td>
<td>0.000005</td>
<td>0.00004**</td>
</tr>
<tr>
<td></td>
<td>(0.00002)</td>
<td>(0.00002)</td>
</tr>
<tr>
<td>Constant</td>
<td>3.559***</td>
<td>2.379***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Akaike Inf. Crit.</td>
<td>185.221</td>
<td></td>
</tr>
</tbody>
</table>

*Note:*  
*p<0.1; **p<0.05; ***p<0.01*
Appendix: Relative Measure for States Under Different Ratio Values
Appendix (cont.)
Appendix (cont.)

Vermont

Virginia
Bibliography

Aldrich, John, “Does Historical Political Research Pose and Specific Methodological Concerns?”  


