

The Power of the South: A Multidimensional Analysis of the Philadelphia Convention

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Abstract

Despite a widely held belief that southerners succeeded at the Constitutional Convention when they were extreme, we argue that the South largely succeeded when their interests were more mainstream and failed when their interests were more extreme. We explain this as their relationship to the floor pivots (typically a central position on a roll call) and proceed by first estimating a two dimensional map of delegate preferences at the Constitutional Convention, using a new dataset and optimal classification. We then use regression analysis to show that states were more likely to be on the winning side of an issue if they were in a pivotal position or near the pivotal position in this map. Armed with this relationship, we suggest that states from the Deep South were more likely to be pivotal on issues that combined sectional issues with issues related to the power of the national government. Such appeals encouraged a few northern states to support their proposals and helps to explain why a number of key roll calls went in favor of southern interests. Such an analysis contrasts with the traditional account of northern concessions with southern extremists.

1 Introduction

With a clear minority of state votes, what southern delegates achieved at the Constitutional Convention is quite surprising. The Constitution included clauses prohibiting a ban on the slave trade until 1808, it guaranteed fugitive slaves would be returned to their masters, and it prevented export tariffs which the South advocated.¹ It also increased the representation of the South in the U.S. House of Representatives by counting Blacks as 3/5ths of Whites in the apportionment. The latter agitated northerners and lead extreme New England Federalists, such as Timothy Pickering and William Plummer, to later propose New England's secession from the union (McDonald 2000, 61).

Despite the widely accepted view that southern states were more successful at the Constitutional Convention than their position warranted, southern delegates were no more successful at getting their motions passed than northern delegates and no more likely to be on the winning side of a vote.² Delegates from five states presented 79% of the recorded motions. Those included the three largest states of Massachusetts, Pennsylvania, and Virginia, as well as South Carolina and Connecticut. Among those states, South Carolina was clearly the least successful, getting only 42% of its motions passed while the other four had at least 52% of their motions passed. So was the South truly successful at the Constitutional Convention as the traditional narrative suggests? If so, why did it succeed and why did it fail?

This paper attempts to answer those question by estimating a two dimensional map of the relative preferences of the 55 delegates at the Constitutional Convention using a new dataset of delegate votes (Dougherty and Heckelman 2012). The dimensions recovered appear to reflect delegate preferences for the power of the national government and preferences related to sectional issues. We use this information to determine which delegates were pivotal for

¹In per capita figures, southern exports were roughly twice the size of northern exports, giving the South a strong interest in prohibiting taxes on exports.

²Treating Maryland southward as the South, the South had 44% of its motions passed compared to 52% for the North across all 793 roll calls from the Convention (the difference just misses the .05 level of significance). Furthermore, the South was on the winning side of an issue on 81% of the same votes, while the North was on the winning side on 82% of the votes.

each vote. By pivotal, we loosely mean someone or something which can determine the outcome of a close vote by changing their vote. Our theory is that Southern successes, in fact the successes of all states, are partly related to the pivotal voters. To establish that relationship, we run three regressions relating the probability of getting a motion passed to the projected distance between the proposer and the pivots, the probability of a state being on the winning side of a vote to the state's projected distance from the pivots, and the probability of a state being on the winning side to the state being pivotal. We then explore the angles of the votes that each state was most likely to pivot and find that states from the Deep South needed a large amount of variation over localist-nationalist issues to become pivotal. States from the Upper South, like Maryland and Virginia, pivoted with more sectional differences in their votes. We then show how this might explain why the South succeeded on issues related to international trade when it continually failed to improve its position on the 3/5ths compromise.

Our results are preliminary, but they suggest insights into why the Constitution looks the way it does and why the South succeeded on some issues when it failed on others. A number of pro-Southern clauses in the Constitution may have resulted from southerner delegates occupying pivotal positions, or positions near the middle of the spectrum, not from being holdouts near an extreme. This offers an explanation for the successes of the South that differs from the traditional account of notherners conceding to the will of an extreme.

2 The South in Congress and the Grand Convention

Regional divisions between the North and the South, slowly formed in Congress between 1779 and 1787 (Jillson and Wilson 1994). The North and South differed over issues related to the debt, the issuance of additional requisitions, and international trade. These tensions came to a head in 1786 when John Jay, the Secretary of Foreign Affairs, asked Congress to clarify its instructions about a Treaty he was negotiating with Spain. Spain had blockaded

American ships from the mouth of the Mississippi River, which harmed southern trade. At the same time, northern states wanted Jay to negotiate a commercial agreement with Spain that advanced their interests. Congress received a letter from Jay asking whether it would forgo navigation of the Mississippi for a period of twenty-five to thirty years so that he could close the commercial deal with Spain. Southern delegates were outraged. After a bitter debate, Congress repealed Jay's earlier instructions to protect the Mississippi River in a vote of seven states to five, opening up an avenue to surrender southern interests in favor of northern interests. All seven northern states voted in favor of the proposal and all five southern states, Maryland Southward, voted against.³ The vote illustrated a division on sectional issues that the South seemed poised to lose if decisions were made by a majority of states. It also showed how deadlocked Congress could become if sectional issues required the assent of nine of the states.⁴

Jillson and Wilson's (1994) multidimensional scaling of these votes shows just how polarized Congress had become. Sectional issues had become so dominant in 1786 and 1787 that Congress divided itself into two disjoint clusters, a northern cluster and a southern one, on the primary dimension of voting. The trajectory of the votes related to the Jay Treaty went straight across that dimension, leaving southern states at the mercy of the North.

Both the Congress of the Confederation and the Constitutional Convention conducted business by voting in state blocs. The size of each state delegation varied depending upon the number of delegates each state appointed. However, each state had only one vote. When an issue was raised, the position of each state was determined by a majority of its delegates.

³Delaware was the only state that did not attend.

⁴Legislation under the Articles of Confederation was divided into two types, each with a unique voting threshold. Major issues required the approval of nine of the thirteen states and covered decisions to engage in war; grant letters of marque or reprisal; enter treaties or alliances; borrow, appropriate, or coin money or regulate the value thereof; ascertain expenses; emit bills of credit; agree upon the number of naval vessels, land forces, or sea forces to be raised; and appoint a commander in chief of the armed forces (Article IX). All other issues were considered minor and required the approval of seven states. To name a few, minor issues included administrative tasks like paying military officers, managing military logistics, regulating post offices, and issuing instructions to ambassadors. The vote on August 29 was considered a minor issue because it was a resolution about the instructions given to Jay, not the approval of the treaty Jay was negotiating with Spain.

In the event of a tie, the state's vote was recorded as divided. Unlike bloc voting in the Congress of the Confederation, a motion passed at the Constitutional Convention if more states voted yea than nay. In the Congress of the Confederation, minor issues passed with the assent of a majority of states (seven) and major issues passed with the assent of three-fourths of the states (nine).

It should be no surprise that southern states, particularly states from the Deep South, did not get their way on sectional issues. Southern states did not constitute a majority of the state votes in Congress nor the Constitutional Convention, and by voting in state blocs they seemed destined to fail. What is more surprising is at the same time that the South was failing in Congress, it seemed to be succeeding at the Constitutional Convention.

The dominant explanation for the difference seems to be that the North compromised with the South to keep the South committed to the development of a new constitution (Riker 1987; Kaminski 1995; Beeman 2009). The nineteenth century abolitionist William Lloyd Garrison described these alliances as "unholy" because they led to the protection of the slave trade and prevented the nation from abolishing slavery. William Riker (1987), a prominent political scientist, agreed that Northerners made concessions like these but argued they did it to assure the document would be successfully ratified by a supermajority of states.

Although this may explain a number of key votes, like the alleged vote trade between the delegates from South Carolina and Connecticut over the requirement of a two-thirds majority to pass navigation acts in exchange for a protection of the slave trade (McGuire 2007), we argue that Northerners conceding to the South is not the whole story. Different delegates represented the states at the Constitutional Convention than in the Congress of the Confederation and these delegates had different objectives. When the South was at the extreme of a sectional vote it typically lost at the Constitutional Convention. When it won sectional issues, it was more mainstream. We illustrate this point using a two dimensional spatial voting model. Like Jillson and Wilson (1994), we find one of the major issues of conflict at the Convention was sectional. The Deep South typically lost votes which varied

solely on this dimension. It won when it appealed to preferences over the scope and power of the new federal government, causing votes to vary on both dimensions. The South's ability to tie its interests with the push to strengthen the national government may be why it succeeded at the Convention while it failed in Congress.

3 A Spatial Map of the Convention

To illustrate our argument, we first estimate a two dimensional map of delegate preferences using a 55 by 398 matrix of votes (Dougherty and Heckelman 2012) and optimal classification (Poole 2000). The vote matrix includes 4,102 yea or nay positions across all substantive roll calls at the Convention, where the position of at least one delegate could be inferred on both sides of the issue.⁵ Forty-nine of these roll calls were unnumbered in the journal. To the best of our knowledge, this paper is the first to use this information for a multiple dimensional analysis of the Convention or a full-scale study of pivotal voters.

Because delegates wanted to maintain secrecy at the Constitutional Convention, in order to promote more candid discussions, the convention journal and Madison's notes recorded the vote of the state blocs, but rarely recorded the votes of individual delegates. This practice has hampered the ability of scholars to analyze the voting behavior of delegates at the Convention (Gibson 2007). In order to distinguish among individual delegates, the position of each delegate on individual roll calls have to be inferred.

Dougherty and Heckelman (2012) infer delegate votes in three steps using a process similar to McDonald's (1958). First, by the rules of the Convention, the position of each state (yea, nay, or divided) was determined by a simple majority of the state's delegates. Hence, if there were only two delegates attending from a state and the state voted yea (nay), both delegates were coded yea (nay). Second, they inferred additional delegate votes using statements made by the delegates in the notes of James Madison, Robert Yates, Rufus

⁵Vote 168 was dropped from our estimates because we required delegates to have a minimum of ten votes to be included. James McClurg (VA), the sole dissenter on vote 168 had only six.

King, and others (collected in Farrand 1966). Statements from personal manuscripts and speeches published in Farrand’s (1966) volume 3 or the supplement (Hutson 1987b) were also used if they could be tied to a particular roll call on a particular day. For example, Luther Martin (MD) was coded as voting no on vote 368, a motion to prevent the federal government from interfering with the slave trade until 1808, because he explicitly said he voted against the clause in a letter to his general assembly and made statements consistent with that during the Convention’s debates (Farrand 1966, 2:364, 3:211-12). Third, after the positions of the delegates were recovered, attendance records were re-consulted to determine whether additional delegate votes could be inferred from the state’s vote and the fact that each state’s vote was determined by a majority of its delegates. For example, Maryland was recorded as a yea on vote 387. Because John Mercer was absent and Luther Martin was coded as nay, the three remaining Massachusetts delegates, Daniel Carroll, Daniel of St. Thomas Jenifer, and James McHenry, must have voted yea in order for a majority of the Maryland delegation to vote yea. See Heckelman and Dougherty (2013) and Dougherty et al. (2012) for a more thorough description of their data recovery project.

We estimate delegate preferences using this data and optimal classification (Poole 2000). Optimal classification is a software that assumes each delegate has a most preferred point in the space, called an ideal point, and they prefer alternatives closer to their ideal point more than alternatives farther away. It unfolds binary data using a non-parametric procedure which first estimates an optimal cut line for each vote, then optimally classifies voters in the regions formed by the cut lines for all votes.⁶ The process is then iterated until the number of classification errors are minimized – i.e. the number of times an ideal point for a delegate voting yea (resp. nay) on the nay side (resp. yea side) of a cut line is minimized. The resultant scaling depicts those who voted similarly more closely together than those who

⁶A cut line demarcates the space between individual who prefer the status quo and individuals who prefer the proposal on any pairwise vote. With Euclidean preferences, the type assumed here, the cut line is perpendicular to a line connecting the proposal and the status quo and it intersects such a line at its midpoint.

voted more dissimilarly. Unlike ADA or ACU scores, there is nothing in the procedure that defines the recovered dimensions *ex ante*. Instead, the substantive content of each dimension has to be interpreted *ex post*. This allows the researcher to “learn” what the voting pattern implies rather than forcing a scale on the dimensions and testing whether it fits.

To prevent those with only a few votes from affecting the location of the cut lines, we excluded delegates with 10 or fewer inferred votes from the optimal classification routine. Of the 55 delegates at the Convention, 42 had enough inferred votes to be included in the analysis. Among them, five had between 12 and 20 inferred votes and five others had more than 200 inferred votes.

Because there are many missing observations in the roll call matrix, a skree plot of the double-centered agreement score matrix does not help us determine the appropriate number of dimensions (Poole 2005, 151). Instead, we have to consider other measures of model fit such as the aggregate proportional reduction in error (APRE). See Rosenthal and Voeten (2004) for a similar problem. *Ex ante*, APRE scores must increase with each additional dimension (similar to an R^2 increasing with each additional independent variable). Hence, one would not select the appropriate number of dimensions based on a maximization of the APRE. Instead, a researcher would select the appropriate number of dimensions based on improvements in the APRE. A one dimensional scaling has an APRE of .551, a two dimensional scaling has an APRE of .758, and three dimension scaling has an APRE of .892. Because the APRE of the scaling improved by 38% going from one to two dimensions, but only by 18% going to three dimensions, we decided that two dimensions adequately scales the votes. Two dimensions correctly classifies 92.6% of the 4,102 choices. That is, the model correctly puts a person on the yea (resp. nay) side of the cut line if he is inferred to have voted yea (resp. nay) on the roll call in 3,798 of the 4,102 yea or nay choices. Three dimensions correctly classifies only 96.7% of the votes. Using the votes recorded for state delegations alone, Pope and Treier (2012) reached a similar conclusion. They argued that

the Convention could be scaled with two or three dimensions but thought it best if they proceeded with two.⁷

The estimated locations of the 42 delegates are depicted with solid markers in Figure 1. The location of delegates from the Southern states are depicted by gray triangles while delegates from Northern states are depicted by blue circles. One of the insights provided by the scaling is a glimpse of the major underlying issues at the Convention. Scholars have hypothesized a variety of dimensions for voting at the Constitutional Convention: issues related to apportionment, localism-nationalism, and separation of powers (Pope and Treier 2012). Any combination of these dimensions, or another, could be recovered.

The first dimension in our scaling appears to be localism–nationalism, which reflects the classic dichotomy between those who wanted a stronger national government and those who wanted to protect the sovereignty of states. Heckelman and Dougherty find localism-nationalism to be the primary dimension of conflict in their single dimensional scaling of the same votes. Our first dimension is correlated with theirs at .936, suggesting that localism-nationalism might be the most accurate description. Delegates who were known for their localist stances at the Constitutional Convention, such as Elbridge Gerry, John Lansing, Luther Martin, and Robert Yates, are on the left side of the figures, while some of the Convention’s most ardent nationalists, Alexander Hamilton, James Madison, George Read, and James Wilson are on the right. Because other issues may correlate with this dimension, such as differences between the small states and large states over the method of apportionment, the label should not be interpreted as solely measuring various preferences for centralization.

The second dimension appears to show variation among the delegates over sectional issues, with the North at the top of the figure and the South at the bottom. The pattern is easily discernable from the gray triangles for the South and the blue circles for the North. With the exception of Elbridge Gerry, at the lower middle of the figure, and some overlap of

⁷Keep in mind that higher dimensional votes are not lost in the scaling, They are simply scaled along with the other votes on the number of dimensions chosen.

Northern and Southern delegates at the center of the figure, the distinction between Northern and Southern delegates is quite clean. Deep South delegates such as John Rutledge and Charles Cotesworth Pinckney are near the bottom of the figure, while Gouverneur Morris and James Wilson, who openly confronted the South on issues of slavery, are shown near the top of the figure. Although few “empirical studies” have identified sectional differences as one of the major dimensions of conflict at the Convention,⁸ sectional differences have been stressed by historians (Kaminski 1995; Beeman 2009) and they appear to have been the major dimension of conflict in the Congress of the Confederation in 1786 and 1787 (Henderson 1974; Jillson and Wilson 1994).

Such a scaling quantifies the relative distances between delegates and allows us to address more fine-grained questions about the Convention. While it is well known that Luther Martin and James Madison held very different views, our scaling quantifies the extent of their disagreement. For example, the distance between Martin and Madison is more than twice the distance between Martin and his co-delegate Daniel of St. Thomas Jenifer. The scaling also helps us locate lesser known delegates like John Blair and William Davie, who appear in the center of the figure.

To get the 13 excluded delegates back into the figure, we predicted a location for the excluded 13 using Seemingly Unrelated Regression with the delegate coordinates from each dimension as one of the two dependent variables. The independent variables for the first dimension included the number of previous years a delegate had in (1) executive service, (2) legislative service, (3) and judicial service (Heckelman and Dougherty 2013), (4) whether the delegate was an Anti-Federalist (Riker 1987), (5) whether the delegate had professional banking experience (Garraty and Carnes 1999), (6) the percentage of monetary requisitions paid by a delegate’s state (Dougherty 2001, 95), (7) and the number of slaves within a his

⁸For an important exception see Jillson and Anderson (1977)

state (United States 1989).⁹ Each of these variables were significant at the .05 level. With the exception of bankers and state slave holdings, Heckelman and Dougherty (2013) used these variables to predict whether a delegate was a localist or a nationalist and found them significant.¹⁰

The independent variables used for the second dimension included (1) whether the delegate came from the South (Maryland southward), (2) whether the delegate was a merchant (Garraty and Carnes 1999), (3) whether the delegate was a member of the clergy (Garraty and Carnes 1999; Wright and MacGregor 1987), (4) whether the delegate was an Anti-Federalist (Riker 1987), (5) the percentage of monetary requisitions paid by a delegate's state (Dougherty 2001, 95), (6) and the number of slaves within a delegate's state (United States 1989). Each of these variables were significant at the .05 level and, with the exception of our anti-federalist variable, each reflect a Southern interest or a demographic typically associated with the South.¹¹

The locations of the thirteen delegate predictions from the SUR are depicted by hollow shapes in Figure 1 – with hollow blue circles for northern delegates and hollow gray triangles for the southern delegates. Delegates like George Clymer (PA) and Robert Morris (PA), who are known for more nationalistic stances, appear toward the right of the figure, while delegates like William Pierce (GA) are correctly placed among delegates from the deep South. A Bayesian IRT model produced similar results.¹²

⁹We use the state boundaries that existed at the time of the Convention. Hence, Maine is included with Massachusetts, Kentucky is included with Virginia, and Tennessee (also known as the Southwest Territory) is included with North Carolina.

¹⁰The R-squared for the first dimension was .584 and an *F*-test suggests the variables were jointly significant.

¹¹The R-squared for the second dimension was .659 and an *F*-test suggests the variables were jointly significant. Furthermore, a Breusch-Pagan test does not reject the hypothesis that the errors of the two equations are independent.

¹²Our Bayesian IRT model includes the same covariates in the prior for all 55 delegates. The respective dimensions of our Bayesian and oc estimates were correlated at at least .88. We are currently improving the Bayesian model which is why we do not use those estimates here.

4 Pivotal Politics

We now use this scaling to predict which delegates will be pivotal on which roll calls and its relationship to a state's success. For those who are not familiar with spatial voting models, it is easiest to think of a pivotal delegate as someone who's vote is necessary for a specific motion to pass. Meaning, the vote would pass if the floor pivots voted in favor of it and it would fail if they voted against it. For example, the median voter theorem shows that if there are an odd number of voters voting on a single dimension with single peaked preferences, then the alternative at the ideal point of the median voter cannot be defeated using pair-wise majority rule (Black 1948; Hinich and Munger 1997). A corollary suggests that if utility is also symmetric (i.e. voters prefer alternatives closer to their ideal point), which we assume, then alternatives closer to the median voter will defeat alternatives farther away. The median voter theorem and its corollary apply to even sized populations as well. The only difference is that the alternatives in "the median" position are now defined as a range between the two most central voters. In this framework the delegate(s) in the median position are considered pivotal. They can determine the outcome of any pairwise vote between a proposal and a status quo because alternatives closer to their ideal points should win. This use of the term pivotal is very common in the spatial voting literature (Krehbiel 1998; Stewart 2001) and it is the one used here.¹³

4.1 Calculating the Pivots

Because our map is multidimensional, there should be different pivots for different votes. To see how the pivots are calculated in a two dimensional model with bloc voting and variable attendance, consider vote 110. This vote provided equal representation in the second branch of the national legislature (i.e. the Senate). The trajectory of the vote, indicated by its

¹³The treatment differs from the definition of pivotal used by power indexes, such as the Shapley and Shubik (1954) power index. In those indexes a voter can be pivotal only if there is a tie and all voters involved in a tie vote are equally pivotal.

normal vector, was roughly -16 degrees, which is somewhat parallel to the first dimension. The solid line in Figure 2.a depicts this vector. If the location of the status quo and proposal were known, this vector would intersect both locations, which is why it can be accurately described as the “trajectory” of the vote. After the normal vector is fixed, delegate ideal points can be projected onto the vector to show how the model predicts each delegate will vote on the roll call. These projections are illustrated by the dashed arrows in Figure 2.a. In a sense, projecting the delegates onto this vector is similar to reducing n-dimensional voting to single dimensional voting for each particular roll call, which is allowable as long as the angle of the normal vector is allowed to vary by roll call.

We then determine the median(s) member of each state using the projection line (i.e. the normal vector). To make this easier to see, we eliminated all the delegates except those from New York and South Carolina in Figure 2.b. For this particular projection it is clear that Robert Yates is in between his two co-delegates John Lansing and Alexander Hamilton, making Yates the median member of the New York delegation and the pivotal voter from his state. Because Connecticut, Delaware, and Maryland have an odd number of members in attendance, their medians can be found similarly. South Carolina, in contrast, has an even number of members. In this case, Charles Cotesworth Pinckney and John Rutledge are both considered pivotal for their state on this trajectory because they are the two delegates in the middle. Alternatives between Charles Cotesworth Pinckney and John Rutledge inclusive cannot be defeated by a majority of the South Carolina delegation on this trajectory. Alternatives outside [CC Pinckney, Rutledge] can be defeated by a majority of the South Carolina delegation on this trajectory as long as both pivots favor the proposal. Because the remaining states had an even number of members in attendance, the location of the pivots from the remaining states can be filled in similarly.

To find the floor pivots, the median voter theorem is reapplied using state pivots as the voting entities. This is depicted in Figure 2.c with the projected locations of the state pivots marked on a flat line to make them easier to see. With eleven states in attendance,

five of the state pivots should be on the left of the pivotal state and five should be on its right. In our case New York, Maryland, New Jersey, North Carolina and Connecticut are to the left and Pennsylvania, Virginia, Delaware, Georgia, and South Carolina are to the right. The state in the middle, Massachusetts, is pivotal, with Caleb Strong and Rufus King as the pivotal delegates for the floor. As long as we remain on this trajectory with delegates voting the preferences depicted in Figure 3, spatial voting theory would tell us that the alternatives between Strong and King inclusive cannot be defeated on the floor.¹⁴ Furthermore, any alternative that is closer to both Strong and King on the normal vector will defeat an alternative farther away on that vector.¹⁵ The calculation of floor pivots becomes more complicated if states near the center overlap, making it quite possible, indeed likely, that the two floor pivots will come from different states.¹⁶

As an aside, it is interesting to note that vote 110 seems to have nicely captured the small state coalition on the left and the large state coalition on the right, in addition to localist-nationalist preferences. This is most easily seen in Figure 2c. The only state that is “out of position” in this case is Delaware, which appears with the large states on the right. Because the trajectory of vote 110 is very close to the first dimension, roughly the same distribution of states would exist on a vote perfectly parallel to the first dimension. Put differently, the first dimension may be accurately described as a localist-nationalist dimension but it also appears to capture the small-state vs large-state divide that others have treated as a separate dimension (Pope and Treier 2012).

¹⁴More generally, there must exist a trajectory in which a point can be defeated unless the ideal points are radially symmetric around a central point (McKelvey 1976; Plott 1967). Ours is not. Hence, it is important to note that the points between Strong and King inclusive, cannot be defeated on this trajectory, but there must exist other trajectories where those points can be defeated.

¹⁵Experimental evidence of subjects voting on separable dimensions supports this notion (McKelvey and Ordeshook 1984). With an open proposal process, groups quickly converge to the median of the trajectory they are allowed to vote upon.

¹⁶The algorithm we use to identify the left and right pivot for the floor simplifies to 1) treating even sized delegations as having a left and a right pivot, 2) treating a single state median from an odd sized delegation as two pivots (one for the left and one for the right), 3) ordering state pivots from smallest to largest, and 4) identifying the delegates in the $(2n + 2) / 2$ and $2n/2$ positions, where n is the number of states attending and $2n$ is the number of pivotal positions across states.

4.2 Regression Analysis: Pivoting and Success

We now try to relate state and delegate success with their distance from the floor pivots. If the spatial voting model had no errors, we would expect delegates to have more of their motions passed if they were closer to the pivots than if they were farther away. Those who were closer to the floor pivots would be more likely to propose something consistent with their preferences that also appealed to the the floor pivots. Furthermore, we should expect states which were closer to the floor pivots, in terms of projected distance, to be more likely to end up on the winning side of the issue than states farther away. And we would expect pivotal states to be on the winning side more often than states that did not pivot. To test these claims, we consider three straight-forward logit regressions, each of which treats roll calls as the unit of analysis.

The first regresses a dichotomous dependent variable of whether the roll call passed on the projected distance between the delegate who motioned the roll call and the closest floor pivot as well as five control variables. If our hypothesis is correct, motioners closer to the floor pivots should be more likely to make a proposal that succeeds than motioners farther away, and this effect should be independent of hailing from the South. Although many roll calls did not have an official motion, 286 of the 398 roll calls in our study were formally motioned, 62 of which were motioned by two individuals. Madison's notes do not indicate which of the two motioners were primary, so we treated both delegates equally and used the average projected distance between each of the motioners and the closest floor pivot as our independent variable. Seconds were not used here.

The results of our analysis with Huber-White robust standard errors are reported as Model A in Table 1. Here *yrs congress* is the number of years a motioner spent in Congress prior to the Constitutional Convention. For two delegates, it is the greater number of years. Presumably, more experience would give delegates greater familiarity with bloc voting and help them create more successful proposals at the Convention than less experience. Although the coefficient is positive, as expected, it is not significant.

College is a dummy for whether one or both of the motioners went to college. Everything else equal, those with college educations might be more capable of creating successful proposals than those without. The coefficient for this variable is positive, as expected, and just misses the .05 level of significance, suggesting that college experience among the proposers may have helped them craft better proposals.

Debate length indicates the length of the debate, coded as the total number of delegates who spoke on the issue between the time the issue was raised and the moment the vote was taken and a new motion raised. We expected more controversial issues to require longer debate and the coefficient to be negative. Although the coefficient is negative, it is not significant. On the margin, longer debate appears to have had little or no effect on whether a motion succeeded.

Temperature is the average daily temperature measured by a Swiss-born meteorologist thirteen miles northwest of Philadelphia (Hutson 1987b, 325-337). Populizers of the Convention have repeatedly described the summer of 1787 as oppressively hot, when in fact the average temperature was 71 degrees with a maximum daily temperature of 85 degrees. Although one might think that hotter days would hurry the delegates along and increase the probability of passing motions, we find temperature to have the opposite effect. Everything else equal, hotter temperatures made it more difficult to pass motions.

Southerner indicates whether the motioner(s) came from the South. For cases with two motioners, it is coded 1 only if both motioners came from the South. There were 130 cases where the sole motioner or both motioners came from the South. We include this variable to separate out any effects related to residing in the South, including cultural advantages or particular interests. Interestingly, southerner is not significant suggesting that coming from the South did not help a motion succeed independent of the distance between the motioner(s) and the floor pivots.

However, the distance from the pivots certainly did. *Distance*, the variable of primary interest, is negative and significant at the .05 level. For each roll call, this variable is measured

as the projected distance between a delegate who motioned and the closest pivot.¹⁷ For cases with two motioners, the distance is the average of the two distances. Everything else equal, our theory suggests that motioners who were closer to the floor pivot should be more likely to get their proposal passed than motioners farther away. Holding other variables at their means (or medians for dichotomous variables), the probability of passage increases by 8.3 percentage points if the motioner moves 0.1 unit closer to the pivots. Considering the greatest possible distance between a floor pivot and a delegate is .8 units, this is a fairly strong effect. For example, on vote 110 a motioner in Mifflin’s (SC) position would be 13.8% more likely to get his motion passed than a motioner in Rutledge’s (SC) position. These findings suggest that the relative position of Mifflin’s preferences would make him more successful at motioning than Rutledge on this trajectory.

Our second and third specifications are reported in Table 2. For these specifications, we expand the dataset into a panel of 398 roll calls and 12 states. In both cases, the dependent variable is dichotomous measure of whether a state was on the winning side of a vote. It is coded 1 if the vote recorded for the state was yea and the measure passed or if the vote recorded for the state was nay and the measure failed; 0 otherwise. Because states occasionally did not attend and some state votes could not be ascertained,¹⁸ the number of observations is less than 4,776 ($= 398 \times 12$).

Model *B* contains the variables *debate length* and *temperature*, which we saw previously. It also contains a variable measuring the absolute angle of the trajectory of the vote, measured in degrees, and dummy variables for eleven of the twelve states attending the convention (New Hampshire excluded). We include the state dummies to determine which states were

¹⁷Delegates who were between the two pivots on the projection line were coded as having zero distance to the pivots. Similar results were attained without this coding.

¹⁸Dougherty and Heckelman (2012) code a state vote as “could not be ascertained” whenever the journal and Madison’s notes contradict each other in an irreconcilable way or the information is missing.

more effective at being on the winning side.¹⁹ With the exception of the state dummy variables, none of the control variables are significant. The negative, and often significant, signs on the state dummy variables indicate that on the margin many states were less likely to be on the winning side compared New Hampshire. Interestingly, the states that were least likely to be on the winning side were four of the five states from the small state coalition: Connecticut, New York, Delaware, and Maryland. The effect of some of these variables on the probability of winning is quite substantial. For example, with all other variables held at their means (or medians for dichotomous variables), a discrete change from New Hampshire as the voting state to New York as the voting state decreases the probability of winning by 15 percentage points.

Of course, the variable of interest here is *distance*. This variable measures the shortest “projected” distance between each of a state’s pivots and each of the floor pivots on a roll call. Because the identity of the state pivots and floor pivots can vary both by trajectory and attendance, there can be considerable variation within the same state. The negative and significant sign on the coefficient suggests that the closer a state was to a floor pivot, the more likely it would be on the winning side of an issue, though the effect is not large. With all other variables held at their means (or medians for dichotomous variables) moving from the maximum observed distance (.917) to the minimum observed distance (0) would decrease the probability of being on the winning side by only 8.5 percentage points.

Model *C* is similar to model *B* with two important changes. Rather than including an independent variable for the distance between a state and the floor pivots, we include a dummy variable indicating whether the state was a pivot. We also include the absolute value of the vote margin, that is the difference between the state yeas and nays. The latter controls for the fact that a state is more likely to be on the winning side of lopsided votes than on close votes. Not surprisingly, the effect of the absolute margin is positive and

¹⁹A random effects model produces the same sign and significance for the coefficients. We obtain stronger results if we eliminate cases where one of the state pivots voted yea and the other voted nay. With perfect spatial voting, such cases should not pass regardless of state distances.

significant, suggesting that a state is more likely to be on the winning side with a larger vote margin. More importantly, we find that the dummy for being a pivotal state is positive and significant, consistent with our theory that being a pivotal increases a state's chances of being on the winning side. With other variables held as their means (and medians respectively), a discrete change from a state not pivoting to the state pivoting increases the probability of it winning by 5.6 percentage points.

Combined, these results establish a relationship between pivoting and success. Motions are more likely to be successful when motioners are closer to the floor pivots, states are more likely to be on the winning side when they are closer to the floor pivots, and a pivoting helps a state attain its desired outcome on any given vote. Such relationships should help us understand why the South was successful on some motions but not on others.

4.3 Graphical Analysis: Pivoting Angles

The next step in our argument is to identify the angles of the votes where each state is most likely to pivot (see Figure 3). Our attention is on the South, but we have included a graph of five of the Northern states as a comparison. Because attendance varies, we should not expect any specific angle to be dominated by one state. Instead, we should use the figure to see angles on which a state is most likely to pivot. The kernel density plots in the figure reflect the absolute angles of the votes in our dataset. Larger values represent more vertical trajectories across the North-South dimension. Smaller values represent more horizontal trajectories across the Localist-Nationalist dimension. To prevent the figure from becoming overcrowded, Frame *A* contains the densities for the five Southern states and Frame *B* contains the densities for five of the Northern states. New Hampshire and New York are excluded because they missed large parts of the Convention, making their densities spike. Those spikes distort the figure and make the densities of the other states difficult to see.

Starting with the Northern states first, two of the three largest states, Massachusetts and Pennsylvania, were most likely to pivot on trajectories between say 10 and 30 degrees.

Steeper or flatter angles often moved them out of the pivotal position. Delaware was most likely to pivot on trajectories that contained a good mix of both dimensions and New Jersey, whose delegates pivoted on only 3% of the roll calls, was most likely to pivot on trajectories along the North-South dimension.

Georgia, who had only two delegates in attendance for many roll calls, pivoted on 14% of the votes and was the most effective for angles between roughly roughly 5 and 25 degrees. South Carolina, which pivoted less often, was also effective with more horizontal angles. The remaining Deep South state, North Carolina, pivoted only 4% of the roll calls. Such angles represent votes with a large appeal to localist-nationalist preferences. They are not the type of votes that contain purely sectional divides. Maryland and Virginia, which pivoted only slightly more often combined than Georgia did alone, were more adept at steeper angles. This suggests that, unlike other southern states, the Deep South typically needed a large amount of localism-nationalism in an issue to be in a position to pivot a vote and effect its outcome. These conditions were most favorable between the report of the Committee of Detail (vote 230) and the vote on the runaway slave clause (vote 400). The Convention considered most of its votes related to import and export taxes during this period. Votes on the 3/5ths compromise came during an earlier period when the South was less often pivotal.

5 Case Studies: the 3/5ths clause and tariffs

Although some readers may think that the 3/5ths Compromise was invented late in the Convention, as a means of overcoming some impasse, it was initially created by the Committee of the Whole on June 11, twelve days after the Convention began voting. When the idea was first raised, the Convention was trying to outline an “equitable ratio” of apportionment for the legislature. John Rutledge and Pierce Butler of South Carolina proposed apportioning the legislature according to the quota of contribution from each state. Perhaps cognizant of how much support their proposal could gain and wanting to establish a different starting

point, James Wilson (PA) quickly interrupted with another idea. In vote 39, he proposed that the equitable ratio should be “the whole number of white & other free Citizens & inhabitants of every age sex & condition including those bound to servitude for a term of years and *three-fifths of all other persons not comprehended in the foregoing description* except Indians not paying taxes, in each State” (emphasis added, Farrand 1966, 1: 201). His proposal passed nine states to two, with only New Jersey and Delaware in opposition. Wilson may have chosen $3/5$ ths as the initial ratio because he knew it would appeal to the Deep South, whose delegates had just proposed something different, and because it was familiar. In 1783, a majority of state delegations in Congress agreed to apportion requisitions according to the population of each state “in proportion to the whole number of free inhabitants and $3/5$ ths of all other inhabitants except Indians not taxed” (United States 1910, 24: 215). That proposal was part of the 1783 amendment to the Articles of Confederation, which was never ratified. Nevertheless, it gave the Constitutional Convention an initial ratio to work from. Madison agreed that they should fix a standard and suggested the details should be then worked out by a committee (Farrand 1966, 1: 206). Vote 39 was on a mixed trajectory of 63 degrees, reflecting both a sectional division in the vote and an appeal to the large states who wanted to make population the “equitable ratio of apportionment.” Without the part of the proposal which apportioned the legislature based on population, the proposal would have been sectional and unlikely to succeed. Southern delegates would try to improve their position from this mark, and northern delegates would try to curb it back, but ultimately their attempts to expand or contract the $3/5$ ths clause failed.

The $3/5$ ths clause was not revisited until July 11, when on vote 132 Charles Cotesworth Pinckney and Pierce Butler, co-delegates from South Carolina, proposed to strike out three-fifths clause and replace it with an apportionment that treated Blacks equal to Whites. This did not mean that they were ready to give Blacks the same rights as Whites. It meant that they wanted Blacks to be count as $5/5$ ths in the apportionment rather than $3/5$ ths. The floor pivots on that vote were Alexander Martin (NC) and James Wilson (PA), delegates

who disagreed on the issue. According to spatial voting theory, such a split vote should make the status quo prevail. As it turns out, both northern and southern delegates spoke against the proposal and the vote failed three states to seven.

Four votes later, the Convention tried to formally agree that 3/5ths of Blacks should be included in the apportionment. This motion failed four states to six, with Rufus King (MA) and Thomas Mifflin (PA) as the floor pivots. Clearly, the Convention was willing to let the 3/5ths clause on the table to keep other ideas off, but they were not ready to concede the 3/5ths ratio, at least not yet. Virginia, North Carolina, Georgia, and Connecticut voted in favor of 3/5ths.²⁰ King, one of the pivots, opposed the motion because “the admission of [Blacks] along with Whites at all, would excite great discontents among the States having no slaves” (Farrand 1966, 1: 586). Mifflin, made no statement on the issue, but his co-delegate, Gouverneur Morris (PA), thought the 3/5ths compromise would encourage the slave trade and “was compelled to declare himself reduced to the dilemma of doing injustice to the Southern States or to human nature, and he must therefore do it to the former” (Farrand 1966, 1: 588).

Nine votes later, Charles Pinckney tried to improve the representation of the South by proposing to rate Blacks as equal to Whites once again. King and Mifflin maintained their position as floor pivots and again the motion failed, this time two states to eight. South Carolina and Georgia were the only states which favored the measure. Without supporters in the pivotal positions, Pinckney’s motion was destined to fail, but it seemed that support for expanding the power of the South had eroded even further. Elbridge Gerry (MA) thought “3/5 of them was to say the least the full proportion that could be admitted.” (Farrand 1966, 1: 580). George Mason (VA) said “he could not agree to the motion, notwithstanding it was favorable to Virga. Because he thought it unjust” (Farrand 1966, 1: 581). Without a principle to base the exception upon, even southern delegates would not give in to the demands of the Deep South.

²⁰South Carolina appears to have opposed the measure in hope of improving the ratio.

Ironically, the Convention's experience with the 3/5ths clause was not one where delegates were openly cajoled into bending to the South. Southern interests were advanced when the first proposal was made by Wilson in vote 39. This moved the status quo to a location that was difficult to revise. The remaining attempts to strengthen the clause were thwarted partly because delegates from Northern states, who opposed expanding Southern power, were in the pivotal positions. Eventually, the Convention accepted the 3/5ths ratio in a form that was almost identical to its initial proposal. On July 12 the Convention agreed that representation ought to be proportioned according to direct taxation and "a census be taken within two years from the first meeting of the Legislature of the U. States, and once within the term of every years afterwards of all the inhabitants of the U.S. in the manner and according to the ratio recommended by Congress in their Resolution of April 18, 1783" (Farrand 1966, 1: 595). That settled the issue until Gouverneur Morris proposed a movement, roughly one month later, in the other direction. He wanted to curb the apportionment of the South and to make the 3/5ths clause temporary by putting the word "free" before the word "inhabitants" in the clause that allowed the legislature to regulate the number of representatives according to the number of inhabitants. This would effectively undo the 3/5ths Compromise (Farrand 1966, 2: 221-3). The absolute trajectory of this vote was at -54 degrees, partly reflecting the sectional division within the proposal. With the pivotal states of Delaware and Pennsylvania voting no, it should be no surprise that that the Convention rejected the proposal and once again stuck with the idea that was initially made by Wilson. For this reason, the story of the 3/5ths compromise is not one of gradually succumbing to the will of the South. It is one of initially proposing something that appealed to both the South and the large states, then finding little room to change it.

If the 3/5ths clause highlights a number of attempts where the Deep South tried to get their proposals passed and failed, then votes on export taxes should mark cases where the Deep South succeeded. The Convention first addressed export taxes when it considered Article VII of the Report of the Committee of Detail on August 16. Section 1 gave Congress

the power to lay and collect duties, imposts, and excises. George Mason thought it was necessary to jointly consider these powers with the prohibition on export taxes laid out in section 4 and “hoped the Northn. States did not mean to deny the Southern this security” (Farrand, 1966, 2: 181-183, 305). The Convention did not combine the power to collect import duties with the prohibition of export duties as Mason had suggested. Instead, they postponed discussion and addressed section 4 separately on August 21 (Farrand, 1966, 2: 359-63). After a brief discussion, George Clymer (PA) proposed that taxes on exports should be allowed for the purpose of regulation, not for revenue. His proposal failed three states to eight.

James Madison (VA) then proposed (on vote 335) that export taxes should be allowed if two-thirds of each house gave their consent (Farrand 1966. 2: 363). Although the issue was dear to the deep South, the proposal was largely about differences on the powers of the national government, putting this vote on a 23 degree trajectory with William Few (GA) and John Rutledge (SC) as the floor pivots. Although Madison, a southerner, thought the exception was an improvement, delegates from the Deep South did not agree. Few said nothing about the proposal, but clearly voted against it.²¹ Rutledge did not make any statements either, but his co-delegate Pierce Butler “was strenuously opposed to a power over exports; as unjust and alarming to the staple States” (Farrand, 1966, 2: 360). In a narrow six to five vote, the measure was struck down with all the southern states, and Connecticut, voting against it. The vote tally might suggest a sectional divide but the appeal to the strength of the federal government, illustrated by the angle of the vote, shows something different.

The next vote was to agree that “no tax or duty shall be laid by the Legislature on articles exported from any State” as initially proposed in the the report of the Committee of Detail. The proposal was on a steeper angle of 47 degrees, but William Few (GA) and

²¹We know Few voted no because only two delegates from Georgia attended vote 335 (Few and Abraham Baldwin) and Georgia’s vote was recorded as a no. The vote would have been divided if Few and Baldwin were in disagreement

John Rutledge (SC) remained the floor pivots. At this point Elbridge Gerry (MA) stood up and proclaimed he “was strenuously opposed to the power over exports. ... We have given [the general government] more power already than we know how will be exercised – It will enable the Genl Govt to oppress the States, as much as Ireland is oppressed by Great Britain” (Farrand 1966, 2: 362). This was not an argument about sectional imbalance. It was an argument about the excessive power of the federal government. Gerry saw the localist-nationalist component of the issue, which might explain why Massachusetts switched sides and the voted with Connecticut and the southern states in a seven to four vote. On this vote, delegates from the Deep South, such as William Few and John Rutledge were not at the extreme. They were in the center of the trajectory of the vote.

Tariffs and export taxes were not addressed again until vote 393 when Madison moved to transfer a clause prohibiting state import duties from Article XIII to Article XII of the report of the Committee of Detail (Farrand, 2: 441). The move would make the prohibition absolute, rather than allow the national legislature to license such an act. The vote varied largely along localist-nationalist lines, with trajectory of -12 degrees. On this trajectory, William Few (GA) and Thomas Mifflin (PA) were the pivots. Both of their states voted no and Few clearly voted no, along with Massachusetts, Connecticut, Maryland, Virginia, and South Carolina. The motion failed four states to seven. The trajectory of the vote suggests that the major issue was over the power of the federal government, not the interests of the staple states versus the interests of the non-staple states. Other votes over import duties proceeded similarly. They illustrate that the Deep South, needed a large amount of localist-nationalists appeal in order to pivot.

6 Conclusion

William Lloyd Garrison thought that the North had entered into an unholy alliance with the South at the Constitutional Convention. In 1844, he publicly burnt a copy of the

Constitution and condemned it as a “covenant with death” and “an agreement with Hell.” William Riker (1987) agreed that the Convention made concessions with the South to assure the document would be ratified by a supermajority of states. Both saw compromising with an extreme.

Although northern delegates occasionally compromised with the South, it is not clear that compromising with an extreme is the most accurate characterization of southern successes. Delegates from the Deep South were fairly extreme on purely sectional votes that varied along the second dimension, but they were more mainstream on trajectories that combined localist-nationalist issues with sectional issues. Whenever they became pivotal, they were flanked by northerners on each side. For Deep South states, like South Carolina and Georgia, this was most likely to occur when they appealed to preferences for a stronger national government, which may explain why they managed to get their way on some clauses, like those related to international trade, but suffered a number of defeats on other clauses, like motions to increase southern apportionment beyond the provisions of the 3/5ths compromise. Southern delegates often found themselves on the winning side, not because of their keen brinkmanship or their willingness to barter with the North, but because their moderate preferences on some trajectories made them pivotal or near a pivotal position.

Although characterizing Southern delegates as centrists may seem odd, Southerners have been centrists during other periods of American history. A disproportionate number of moderate Senators were from the South in the first three Congresses.²² and Southerners were centrists on some issues at the Constitutional Convention. They may have gained influence in U.S. politics, not because they were extremists forming unholy alliances, but because on important occasions they were mainstream.

²²Despite representing only 38 – 40% of the states in the first Senates, DW-NOMINATE scores suggest that Southerners controlled 40% of the seats in the center quintile in the First Senate, 60% in the Second Senate, and 67% in the Third Senate, <<http://voteview.com/dwnominate.asp>>.

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Figure 1: Delegates at the Constitutional Convention

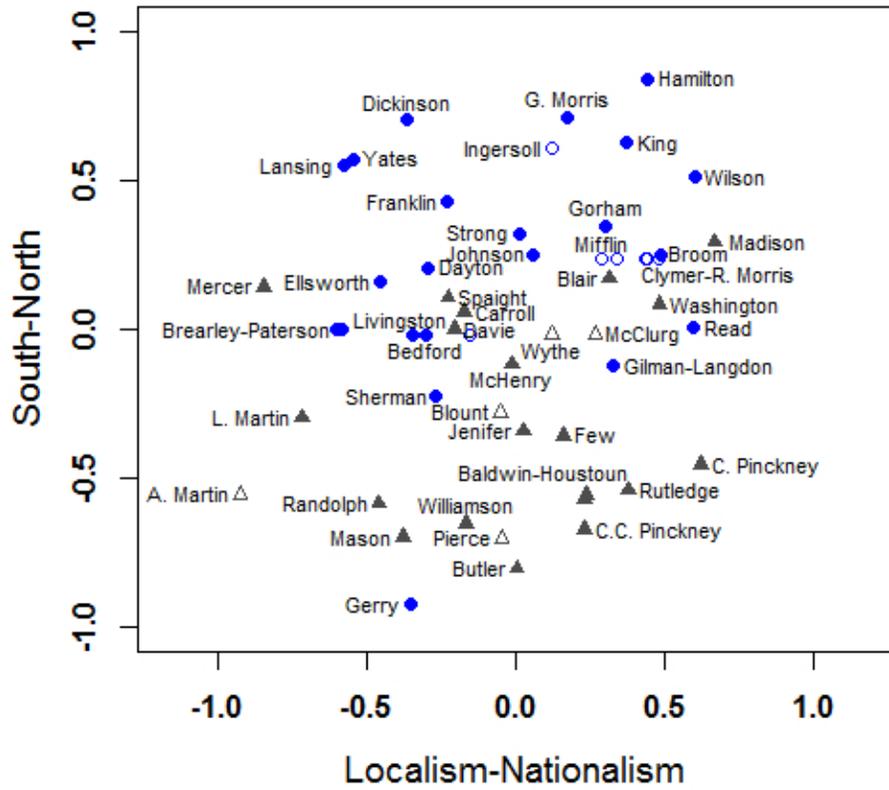


Figure 2: Projections for Vote 110

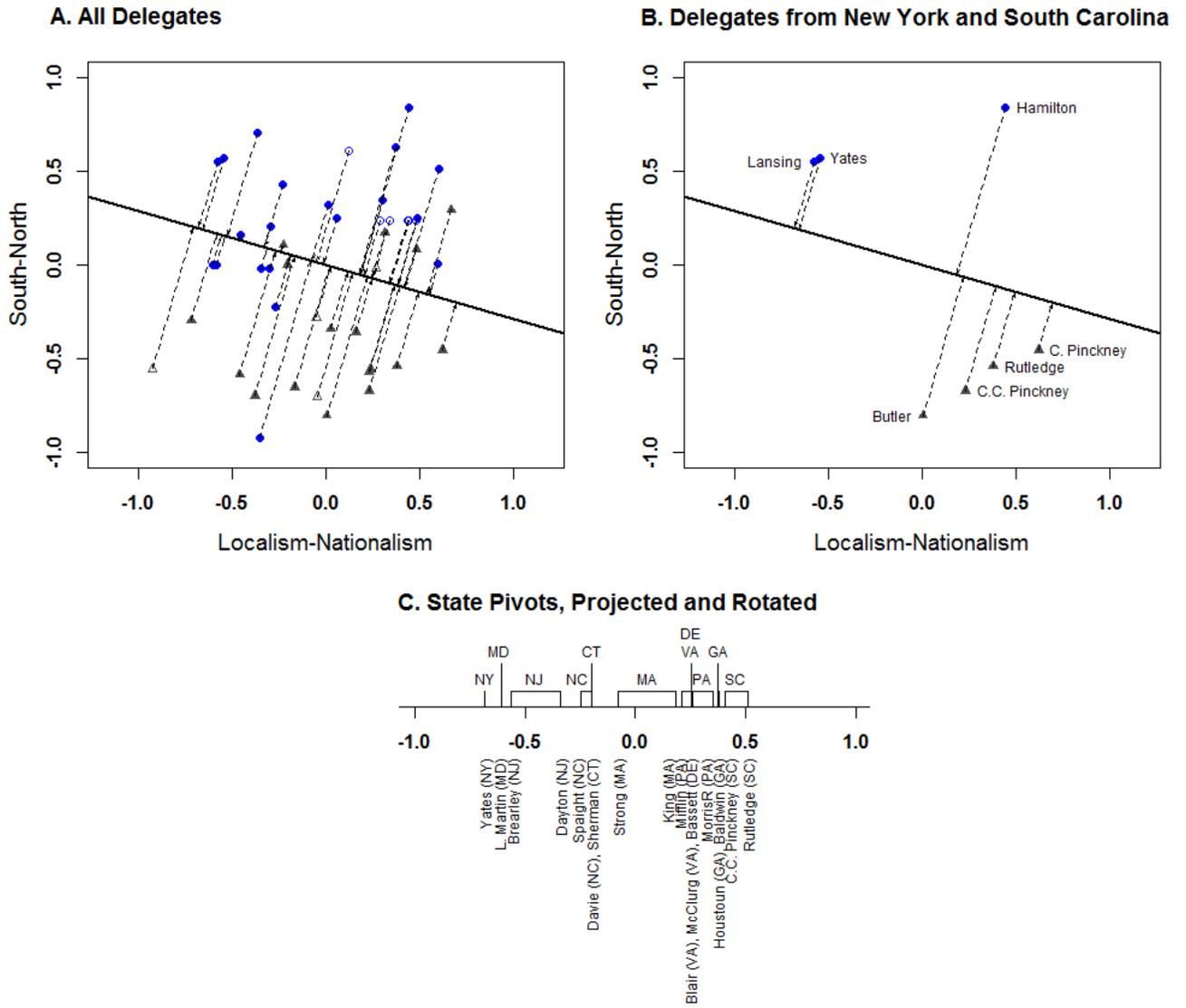
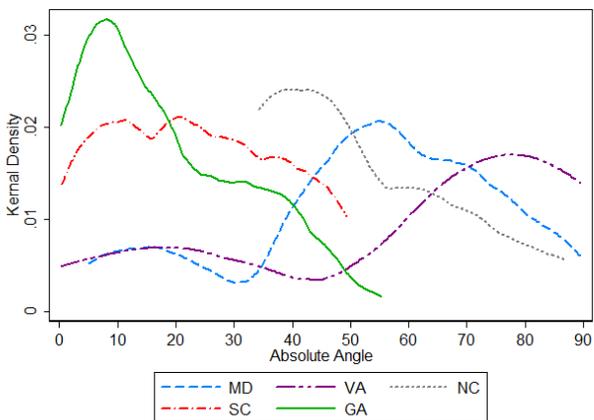


Figure 3: Kernel Density Plots of State Pivots on the Angle of the Vote

A. Five Southern States



B. Five Northern States

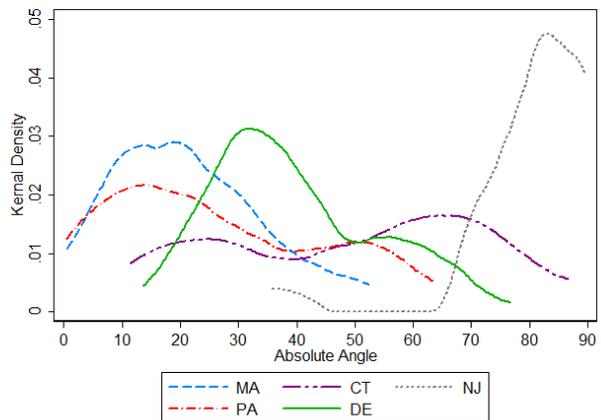


Table 1: The Probability of Passage and the Distance of the Motioner

Variable	Model A
distance	-2.042* (0.807)
yrs congress	0.010 (0.051)
college	0.600† (0.328)
debate length	-0.002 (0.019)
temperature	-0.041* (0.018)
southerner	0.074 (0.266)
Intercept	2.425† (1.328)
N	283
Log-likelihood	-184.597
Significance levels :	† : 10% * : 5% ** : 1%

Table 2: The Probability that a State is on the Winning Side of a Vote

Variable	Model B	Model C
distance	-0.556** (0.210)	
state is pivot		0.484** (0.124)
debate length	0.004 (0.004)	-0.004 (0.005)
temperature	-0.006 (0.005)	-0.004 (0.006)
angle	0.001 (0.001)	0.000 (0.002)
vote margin		0.309** (0.013)
ma	-0.214 (0.207)	-0.176 (0.220)
ct	-0.507* (0.200)	-0.491* (0.211)
ny	-0.790** (0.288)	-0.806** (0.299)
nj	-0.360† (0.213)	-0.415† (0.220)
pa	-0.439* (0.201)	-0.462* (0.210)
de	-0.613** (0.200)	-0.579** (0.212)
md	-0.768** (0.197)	-0.793** (0.211)
va	-0.443* (0.201)	-0.296 (0.214)
nc	-0.223 (0.207)	-0.098 (0.221)
sc	-0.381† (0.203)	-0.420† (0.217)
ga	-0.419* (0.202)	-0.447* (0.214)
Intercept	1.953** (0.397)	0.338 (0.467)
N	4,008	3,927
Log-likelihood	-2,288.559	-1,928.435
Significance levels :	† : 10%	* : 5% ** : 1%