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Setting the Legislative Agenda: The Dimensional Structure of Bill Cosponsoring and Floor Voting

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The shape of the legislative agenda varies through the legislative process. At the policy debate stage, where legislative proposals are introduced, packaged, and debated, members' bill cosponsoring patterns reveal a multidimensional agenda. At the decision stage on the legislative floor, members' voting patterns reveal a low-dimensional agenda. This article compares the dimensional structures of legislators' bill cosponsoring and floor voting activities during the 103rd and 104th Congresses. The analyses show that bill cosponsoring contains at least three and as many as five distinct dimensions, suggesting that pre-floor legislative activities play an important role in structuring the lines of conflict for floor decisions.

It is an axiom of American politics that the issue agenda shapes political decisions. In complex issue environments, such as the U.S. House of Representatives, decision processes can yield different policy outcomes depending on how the contours of the issue agenda shape political debates. Consider, for example, Baumgartner and Jones' (1993) account of nine policy areas over a 40-year span; the policy outcomes for these issues—long-term periods of stability punctuated by flashes of sweeping policy change—reflect changes in their underlying dynamic issue agendas. This article extends agenda research into legislative organization by focusing on issue dynamics within the legislative process. We propose a theoretical model based on a dynamic legislative agenda process in which issues begin life as high-dimensional ideas that are reduced through the legislative process to low-dimensional floor decisions. We adapt theory and method from several fields to begin building a more comprehensive understanding of agenda dynamics.

The dimensional structure of the issue agenda is central to both theories of legislative institutions and the policy process. First, majority decisions in multi-

dimensional issue agendas are prone to cycling (Arrow 1951), prompting leg-islative scholars to propose various structure-induced equilibrium (SIE) theories describing how legislative rules support stable majority decisions by reducing multidimensional issues to unidimensional floor votes (e.g., Shepsle 1979). Sec-ond, throughout the policy process, multidimensional issue agendas create stra-tegic opportunities for entrepreneurs to structure proposals along favorable dimensions by engineering their referral to agreeable committees (King 1997), holding hearings to emphasize winning issue dimensions (Talbert, Jones, and Baumgartner 1995), or attracting interested allies (Hall 1996). Yet the linkages between agenda dynamics and legislative organization remain underdeveloped. Legislative scholars tend to focus on voting outputs, while agenda scholars fo-cus on the development and manipulation of a single issue at a time. The two research streams are rarely linked. While theoretical and methodological differ-ences partially explain this separation, both fields could benefit from a true "consilience-building" approach (Wilson 1998). This article uses the dimen-sional structure of issues to begin a stream of work linking these fields.

The dimensional structure of the issue agenda is fundamental: If the under-lying issue agenda is truly low-dimensional, there is no "disequilibrium" for SIE theories to maintain and no room for strategic entrepreneurs to shift debate venues for political advantage. While SIE and policy theories rely on the as-sumption that issues are multidimensional, the most thorough study of legisla-tive voting finds that only one or two dimensions account for about 90% of Congressional voting decisions (Poole and Rosenthal 1997). Yet empirical stud-ies of floor votes under SIE may not accurately reveal the dimensional struc-ture of the underlying issue agenda (Snyder 1992; VanDoren 1990). Thus, studies that explore the dimensional structure of Congress using only floor measures may not reveal the true nature of agenda dynamics. Consequently, empirically identifying whether issue agendas are multidimensional requires moving be-yond floor voting to legislative activities that reveal legislators' preferences prior to the floor vote. Our theoretical and empirical inquiry of the legislative agenda in the U.S. House of Representatives recasts agenda theory to a broader view of how the dimensional structure of the agenda changes through the leg-islative process. By evaluating the full legislative agenda in light of the number of issue dimensions, we link agendas scholarship with research on legislative decision making and the policy process.

To gauge the agenda dynamics in the U.S. House of Representatives, we apply Poole and Rosenthal's (1997) NOMINATE technique to legislators' co-sponsoring decisions and floor votes in the 103rd and 104th Congresses. The results show that cosponsoring contains at least three and as many as five dis-tinct issue dimensions, while floor voting reveals members' decisions aligned along only a single dimension. The floor voting dimension reflects party and ideology, while the various cosponsoring dimensions correspond to political cleavages in American politics. The first cosponsoring dimension is the ex-pected party and ideology measure, in which issues represent the core founda-

tions of each party's ideology, with liberal issues and members on one end and conservative issues and members on the other end. The second cosponsoring dimension covers mostly crime, foreign affairs, and civil rights issues, with a combination of crime control and foreign affairs issues on one end and civil rights issues on the other end. The third cosponsoring dimension covers agriculture and environmental issues, with agriculture promotion and free use of environmental resources on one end and anti-agricultural promotion and pro-environmental resources on the other end. The fourth cosponsoring dimension covers fiscal and economic policy, with "responsible government accountability" on one end and conservative fiscal policy on the other end.

Together, these results suggest that the pre-floor issue agenda has a higher order dimensional structure than that observed in members' decisions on the legislative floor, thus supporting a dynamic view of the dimensional structure of the legislative process. The issue structure underlying legislators' decision making is highly dimensional (as shown in bill cosponsoring). But the dimensional structure of legislators' decisions, *as revealed in floor voting*, appears to be low-dimensional, which we argue is due to the institutional context of the decisions. Fewer institutional constraints and greater uncertainty affect pre-floor decisions, thus producing higher-dimensional cosponsoring decisions. On the floor, more stringent constraints and less uncertainty reduce the number of observed dimensions in members' voting, as predicted by SIE theories. Consequently, future research should investigate how legislative institutions and strategic issue entrepreneurs reshape political agendas from multidimensional legislative proposals to single-dimensional floor decisions.

The following section justifies why studying the dimensional structure of issues provides the linkage between agenda studies and legislative studies. Next, we discuss our theory of policy agenda dynamics, explaining how issues flow from a high-dimensional debate space to a low-dimensional decision space. Third, we discuss the data and methodology used in the test of our model. Fourth, we detail the findings from our empirical test and discuss their implications for future research.

The Importance of Issue Dimensions

A dimension can be viewed as a "standard of measurement for relevant variable properties of alternatives and tastes" (Riker 1986, 143). Dimensions classify alternatives and choices depicted in spatial arrangements. In the classic unidimensional liberal-conservative model, a single axis represents individual choices along a continuum so that voters favor proposals lying closer to their ideal state of affairs. Policy proposals can also have multiple evaluative dimensions that individually or in concert form the basis for legislators' policy decisions.

Consider some simple examples of agendas of varying dimensional structures in a legislative arena. A one-dimensional (liberal-conservative) issue con-

text contains consistent coalitions on each side of all policy proposals, with the coalitions changing only as moderate legislators vote with either the conservative or liberal coalitions, depending on how a particular proposal favors either side. A multidimensional issue contains multiple patterns of coalitions that vary depending on which dimensions are most salient for each issue. In a multidimensional issue context, economic issues may pit a coalition of legislators favoring redistributing wealth against a coalition that favors laissez-faire economic policies. A different pattern surrounds social issues such as abortion that arise in the same issue context, pitting social conservatives (some of whom may favor laissez-faire economics while others favor economic redistribution) against a coalition of social liberals (whose members may also contain both economic liberals and economic conservatives). In the multidimensional issue context, legislators with similar preferences along the same dimension should vote together on issues along that dimension, while they should be dispersed for issues along other dimensions (Hinich and Munger 1995).

The dimensional structure of issue agendas and preferences has profound consequences for theories of legislative organization and policy processes. Multidimensional agendas threaten coherent majority decisions and create opportunities for strategic behavior such as agenda manipulation, logrolling, and killer amendments. A central problem is cycling: if policy proposals have multiple evaluative dimensions, a counter majority can overturn any majority decision so that majority decisions are ultimately (and perpetually) unstable (Arrow 1951). Uni-dimensional (and single peaked) preferences can produce equilibrium majority decisions and avoid the incoherence of majority cycling.

Several scholars have proposed theories positing that legislative institutions overcome cycling problems by reducing the multidimensional structure of political issues down to low-dimensional decisions through legislative logrolling or via manipulation of the legislative agenda (e.g., Shepsle 1979). There remains considerable debate about whether this reduction occurs via gatekeeping committees (Shepsle and Weingast 1981, 1987), parties (Aldrich 1995; Cox and McCubbins 1993; Rohde 1991) or some combination of institutions (Maltzman 1997). Each of these explanations has an important dynamic in common: the legislative agenda as revealed through roll-call voting on the floor will appear to be low dimensional, even if the underlying issue agenda before the floor is multidimensional, due to SIE arrangements such as institutionalized vote trading and logrolling (whether through committees or parties). However, the underlying dynamic of these theories—that the pre-floor issue agenda contains more dimensions than are apparent in floor voting—has not received empirical scrutiny befitting its importance. For instance, scholars looking for a measure of legislator behavior generally use a measure based on roll-call votes (interest group scores, NOMINATE, modified group scores, etc.) to study issues such as constituency representation, committee bias, group influence, or presidential support. Yet these measures may be incomplete and perhaps biased if the dimensional structure of issues is dynamic through the legislative process.

The dimensional structure of issue agendas is a key ingredient of theories explaining the policy process. The strategic behavior, issue manipulation, and agenda dynamics that these theories describe require a multidimensional issue context in which actors can manipulate majority choice by changing the dimension along which decisions are made. Bryan Jones (1994) argues that developing policy within the legislative arena requires aggregating not only preferences, as SIE theories imply, but also *attention* to information, a modification of information theories that focus on increasing access to information (Krehbiel 1991). If preferences and issues are multidimensional, majority decisions can rapidly shift due to changes in *attention* to their specific dimensions (Iyengar 1991; Jones 1994). Jones terms this rapid alteration in attention to preferences "the serial shift" (Jones 1994, 13). Hinich and Munger make a similar argument about issue recycling:

> [The] issues for which prevailing ideologies have clear implications simply change the relative position of candidates in the existing space of politics, while new issues, those for which the existing ideologies afford no guidance, transform both the shape and dimensionality of political space. (Hinich and Munger 1995, 2)

In this context, ideologies bundle together positions along various issue dimensions, although new issues that fit ambiguously in extant ideologies can have profound political importance. Evidence suggests that established positions are routinely recycled into new issues via strategic issue definition by creative lobbyists (McKissick 1995).

An important assumption underlies both the theories of legislative organization and policy processes. Theories in both veins assume that the underlying issue agenda is inherently multidimensional. Indeed, most theories of legislative organization would be largely irrelevant if politics were purely unidimensional because there would be no need for SIE. Likewise, without multiple dimensions, there would be little room for the various strategic behaviors—such as the issue manipulation and serial shifts—that are the focus of agenda research. Note, however, that *observed* decisions on issues, as revealed in roll-call votes, may appear to be unidimensional even while the underlying issue agenda prior to the floor is multidimensional (VanDoren 1990). In fact, SIE arrangements are designed to produce superficially unidimensional decisions on top of multidimensional underlying issue agendas (Snyder 1992). Poole and Rosenthal (1997) describe floor voting as a process in which "nearly everything becomes a straight liberal/conservative" issue arrangement. Empirical analyses of floor votes in some institutional contexts may appear to show low dimensions, even though the underlying issue agenda has more dimensions. According to Snyder, institutions can make for low-dimensional decisions in higher dimensional contexts: "If the underlying policy space has 2–4 dimensions, then a well-chosen one-dimensional scaling correctly classifies 78%–87% of the [floor] votes, which is comparable to the fit achieved in most of the [relevant empirical] studies" (Snyder 1992, 2).

Approaches to uncovering dimensions are numerous, with agenda and policy scholars focusing on interview data or case study approaches, while legislative scholars tend to use "batting average" measures such as ideology scores drawn from members' floor votes. Mapping the dimensional structure of legislative voting has intrigued scholars for some time. Clausen (1967, 1973), for example, identified five policy dimensions in House voting, while MacRae (1965) found six issue scales, although he confined his analysis to Republican House members. More recently, Poole and Rosenthal (1997) suggest roll-call voting contains one or two dimensions, although Heckman and Snyder (1997) argue there are considerably more. This debate surrounding the correct number and content of legislative issue dimensions (or scales) centers on identifying the appropriate theoretical assumptions, empirical approaches and evidence standards for roll-call voting (e.g., Heckman and Snyder 1997; Koford 1991; Poole 1998; Weisberg 1972). While these studies of legislative voting provide interesting measures of members' behavior, their focus on roll-call voting may not reflect the full legislative agenda if SIE theories and Snyder's (1992) analysis have merit—the legislative floor may not reveal the true dimensional structure of the underlying issue agenda. Conversely, agenda scholars have taken a broader view of the policy process and found a rich array of strategic behavior, dynamic serial shifts and so on, but their studies have focused on only a few issues at a time.

While these approaches have relative strengths and weaknesses, methodological incompatibilities have hampered linking the agenda studies with legislative scholarship. Our approach is to apply the broad analytic approach of roll-call voting studies to legislators' decisions prior to floor voting, what Kingdon (1984) calls the "primordial soup" of the pre-floor legislative arena. Therefore, in designing the test for this article, we choose a comparison between standard floor roll-call voting, and behavior clearly in the pre-floor legislative area. Bill cosponsoring is one of the first opportunities for members to take a formal position on an issue and thus provides the most distance between events for comparing member action in pre-floor and floor decisions. The question we investigate is, does the structure of the pre-floor agenda as revealed through cosponsoring decisions show more dimensions than the structure of the floor agenda as revealed through legislators' roll-call votes? Put simply, does pre-floor cosponsoring reveal more dimensions than roll-call voting on the legislative floor?

This question is important because it helps identify the locus of strategic action where policy entrepreneurs maneuver to define their proposals in favorable terms. The various strategies—vote trading, serial shifts, killer amendments, and the like—require multiple issue dimensions for actors to pit the coalitions aligned along one dimension against other, more favorable dimensions and alignments. Once these pre-floor deals have been struck and legislators hold to their bargains, floor voting will indicate a low or single-dimension decision context, with little room for additional maneuvering to upset final decisions. Finally, this question has important consequences for empirical studies of legislative behavior. If the pre-floor issue agenda displays more dimen-

sions than the floor vote decision agenda, then measures of legislators' preferences based on floor voting are at best incomplete and may be biased.

Theory

Theories of public policy describe a process in which ideas first become issues on the legislative arena through bill introductions, pass through committees, and reach the floor for final decision. In each legislative session, thousands of bills are introduced, yet only a select fraction progress through the entire legislative process to become public laws (VanDoren 1990). The pre-floor legislative arena processes and repackages these proposals in a process that varies through committees (Fenno 1973; Hall 1996), caucuses (Webb Hammond 1998), and floor action (Kingdon 1989; Smith 1989). We argue that a dynamic theory of the legislative agenda is necessary to fully understand how issues move from vague ideas to public policy.

The political process consists of multiple decision arenas (Riker 1986, 1990), and the nature of legislators' decisions varies among them in important ways. The debate space is where policy proposals are introduced, discussed, and packaged. Consistent with Kingdon's (1984) primordial soup, legislators anxious to become successful entrepreneurs maneuver within the context of the pre-floor debate agenda to define proposals along the dimensions that maximize their political advantage. Research in numerous subfields supports this proposition, finding that pre-decision *debate* among policy proposals reflects actors strategically looking to define and redefine their proposals (Baumgartner and Jones 1993; Hall 1996; Jones, Baumgartner, and Talbert 1993; King 1997; Kingdon 1984; McKissick 1999; Polsby 1984). Because such strategic behavior can only occur in a multidimensional agenda context, the issues in the pre-floor debate space must be multidimensional.

The debate space is a highly uncertain environment for members' decision making. First, multiple evaluative dimensions make it harder to determine which bill proposals to support (Jones 2001). Unlike floor voting, in the debate space members have fewer cues to guide their decisions. Members must study cosponsoring decisions more closely to identify the bill's political and policy consequences. There are also fewer constraints on members' cosponsoring decisions: with less pressure from party leaders and committee chairs, members are freer to support and oppose bills as they see fit. Second, the debate space is also highly uncertain because the threat of majority cycling increases uncertainty about which outcomes ultimately will be selected in collective choices. Third, strategic behavior further exacerbates uncertainty in the debate space. Consider the case of killer amendments (Wilkerson 1999). A legislator deciding whether to support a killer amendment would need to know not only her own preferences across all alternatives, but also the preferences of the other legislators (and whether they will behave strategically).

Interviews conducted with House members suggest decision procedures are very different between the pre-floor and floor arenas. Floor voting is

often much simpler: members report that on low salience issues, they often rush to the House floor to cast their vote, taking cues from party leaders who would give them, quite literally, "a thumbs-up" or "thumbs-down" vote signal on the House floor. Yet, when discussing the process to sponsor or cosponsor legislation, members used a more complex process involving staff, colleagues, and lobbyists, considering issues related to constituency, ideology, and personal preference (personal interviews 1994). The floor decision is a much simpler decision that reflects a one-dimensional issue framework, while the cosponsoring decisions reflect a more complex multidimensional issue framework.

By the time bill proposals reach the decision space on the legislative floor, the legislative process has transformed the dimensional structure of decision making to a much simpler, low-dimensional arrangement. Legislators make floor votes along a single evaluative dimension. How does the transformation from high- to low-dimensional decision context occur? Various SIE theories of legislative organization suggest that vote trading and logrolling within parties (Aldrich 1995; Cox and McCubbins 1993; Rohde 1991) or across committees (Shepsle and Weingast 1987) realign legislators' floor voting along an (apparent) single dimension. Identifying the precise processes for this transformation lies beyond the scope of this article. The legislative process may select only those bills that align legislators along a single dimension. Conversely, logrolling and vote trading across dimensions may realign multidimensional coalitions along a single dimension. In either case, the lower dimensional structure of floor voting greatly simplifies legislators' decision process. Without complex, multidimensional voting, there is little room for the various strategies that complicate collective decision making. Thus, our agenda theory is consistent with recent research that finds that strategic issue manipulation is rare on the House floor (e.g., Wilkerson 1999).

Thus, we apply Riker's debate and decision spaces (Jones 1994; Riker 1986, 1990) to members' decisions through the legislative process. Our theory predicts that floor decisions will display low- or single-dimensional structures, as Poole and Rosenthal (1997) find, *even when the underlying issues are multidimensional* (see Snyder 1992). In floor voting, SIE arrangements may cover multidimensional issue structures, leaving the impression that a single evaluative dimension dominates legislators' decisions. In the debate arena, institutional arrangements such as party pressures and logrolling are weaker constraints on members' decisions, revealing a multidimensional decision context ripe for the strategic behavior that agenda theorists describe. We posit that bill cosponsoring constitutes an important phase of the debate space and floor voting is the key phase of the decision space. Below, we discuss these key phases of the legislative process in more detail. Our hypothesis is simply:

H1: The dimensional structure of bill cosponsoring is higher than *the dimensional structure of floor voting.*

H0: The structure of bill cosponsoring is equal to or less *than the dimensional structure of floor voting.*

Of the few systematically observable actions of members prior to formal committee action, sponsoring and cosponsoring legislation offer the best indicators of member behavior (Schiller 1995). In fact, as measures of legislators' preferences, cosponsoring legislation is "not significantly different from other more explicitly outcome-based forms of legislative behavior, such as roll-call voting" (Krehbiel 1995). In this context, members choose to cosponsor legislation based on their predictions about the bill's policy consequences (cosponsor if favorable, do not cosponsor if unfavorable) so that legislators add their name to cosponsor lists on bills they would like to see enacted. A retired 24-year veteran of the Senate confirmed that cosponsoring is similar to floor voting as an indicator of a legislator's preferences. "When a colleague asked me to cosponsor their bills, I had to first think what the people back home would think, and if it would help them or was something they weren't interested in (not a negative). Cosponsoring is serious because they had you on record as a supporter" (personal interviews, 2000). Thus, we view cosponsoring as the most reflective observable indicator of legislators' issue preferences in the debate space.

Our analyses compare the number and the content of issue dimensions at two key phases of the policy process. Thus, we evaluate H1 first by comparing the number of dimensions in legislators' floor voting (our measure of the decision phase) and bill cosponsoring (our measure of pre-floor debate). Second, we also compare the content of the dimensions at both stages. Together these analyses investigate whether bill cosponsoring displays a more complex dimensional pattern than the simple left-right party ideology coalitions found in floor voting.

Data

To gauge the dimensional structure of the debate and decision agendas, we analyze legislators' floor votes and bill cosponsoring during the 103rd and 104th Congresses. We choose these congresses because they are the most recent sessions in which party control switched, thus allowing comparisons between Democratic and Republican congresses. Bill cosponsoring provides a first opportunity for members to reveal issue preferences on bills before they reach the floor for final vote. Analyzing these decisions can allow comparisons of the dimensional structure of the decision space (legislative floor) and the debate space (bill cosponsoring).

For each congress, we recorded whether each member cosponsored each proposed bill (scored one, else zero), as reported by the *Legislate* information service. There were 6,632 and 4,900 sponsored bills in the 103rd and 104th Congresses, respectively. Of those sponsored bills, our data set includes the 3,303 bills in the 103rd Congress that had at least one cosponsor, and 3,152

bills in the 104th Congress that had at least one cosponsor. The average number of cosponsors per bill was 16 in the 103rd Congress and 14 in the 104th. Finally, we obtained roll-call voting data from Poole and Rosenthal's NOMINATE data warehouse. For each recorded floor vote, each legislator's "yes" vote is scored one and "no" vote is scored zero. There were 1,094 roll-call votes in the 103rd Congress and 1,321 roll-call votes in the 104th.

Method

To test for the dimensional structure of issues through the legislative process, we use dimensional scaling methods. Dimensional analysis and scaling have an extensive history in the social sciences. Essentially, scaling approaches to data seek to simplify a complex process by identifying a few underlying attributes that represent the overall data structure. Dating to the 1940s, psychologists first developed such methods when working to identify dimensions of intelligence (Thurstone 1947). Anthony Downs (1957) modeled party competition along a dimensional ideological continuum, and later Duncan MacRae (1965) used scaling methods to model members' voting behavior. These studies form the foundation for much work in the 1960s and 1970s exploring the dimensional structure of candidate evaluation, voting in legislatures, and/or the policy process generally. The preferred method was generally Guttman scaling (or some derivative), as demonstrated by Weisberg and Rusk (1970) and Weisberg (1972) in work on models of roll-call analysis, and similar work by Aage Clausen (1967, 1973) on roll-call voting and public policy. Scaling methods have continued their application and development ranging from studies of candidate evaluation and electoral processes (Jacoby 1991, 1995) to legislative behavior (Poole and Rosenthal 1985, 1997).

In choosing the model for the test in this article, our decision was based on two criteria. First, we wanted a method that we could apply to both sets of data in an equal manner (to compare cosponsoring decisions with roll-call voting decisions using the same methodology). Second, we sought out the most often used methodology to scale roll-call voting. Our main concern was to avoid a method that could potentially bias our comparative analysis of cosponsoring and roll-call voting. We apply Poole and Rosenthal's (1997) nominal three-step estimation procedure (NOMINATE) to floor votes and bill cosponsoring data for the 103rd and 104th Congresses. Poole and Rosenthal's NOMINATE is available on their website along with detailed instructions for preparing the data sets for analysis and for interpreting the output. We organized the cosponsoring information according to NOMINATE format and computed the dimensions for each Congress. The task for the floor voting was somewhat simpler since the data are readily available in the proper format. We computed the floor dimensions using the same methods.

NOMINATE is an unfolding method for nominal level data that has proven effective for identifying the dimensional structure of roll-call voting (Poole and

Rosenthal 1997). NOMINATE applies a logit specification to legislators' voting decisions in order to compute dimension scores that gauge each legislator's position along multiple spatial dimensions, thus measuring the number of evaluative dimensions legislators use when making bill cosponsoring decisions and roll-call voting decisions. While there is much debate in the literature over the effectiveness of NOMINATE methodology to uncover the "true" number of dimensions in any choice data, we choose not to enter that debate here.[1] Our use of NOMINATE is for comparative purposes: we compare the structure of cosponsoring decisions to the structure of roll-call voting decisions.

According to Hypothesis 1, the pre-floor debate exhibits a higher dimensional structure than do floor decisions. Therefore, to support the hypothesis, the number of dimensions in the bill cosponsoring should be higher than the number of floor voting dimensions. In their extensive analysis of roll-call voting, Poole and Rosenthal (1997) find that most congresses are one-dimensional, with a minority having a second dimension usually surrounding race and civil rights. In no congress did Poole and Rosenthal find strong evidence for three or more dimensions. A difficulty inherent in interpreting scaling procedure results is that there is no formal statistical test for identifying the number of dimensions. Interpretation is based on several components, usually with multiple sources of comparative information. We follow Poole and Rosenthal's (1997) criteria and use the aggregate proportional reduction in error (APRE) and the content of the dimensions. In the analysis below, each significant dimension improves the fit of the model (i.e., reduces the error as indicated by a high APRE) and has an identifiable substantive meaning. Methods for identifying the content of the dimensions are discussed below.

There also remains the question of *how many* dimensions we need to find in bill cosponsoring to conclude that there are more pre-floor than floor dimensions. As discussed above, Snyder (1992) provides a solid criterion for what constitutes the appropriate difference in the number of dimensions between the pre-floor and floor arenas by analyzing formally how legislative institutions reduce multidimensional issues to low-dimensional floor decisions. In Snyder's analysis, SIE arrangements can produce a single dimension in floor voting even if the underlying issue agenda has two to four dimensions. Consistent with Snyder's analysis, Poole and Rosenthal (1997) find that their first dimension generates 78%–87% classification percentages for floor voting in most congresses. Consequently, we look for whether cosponsoring contains at least three significant issue dimensions.

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[1] Heckman and Snyder (1997) propose an alternative scaling method based on a linear probability model, as opposed to NOMINATE's nonlinear specification. For the purposes of identifying dimension scores, differences between the estimation techniques prove trivial: correlations among Heckman-Snyder coordinates and NOMINATE coordinates generally exceed .9 (Heckman and Snyder 1997). The difference between the two techniques appears to center on what constitutes sufficient evidence for the existence of a significant dimension. This debate is not central to our study since our focus is on the relative number of dimensions in the two decision arenas.

A related question concerns how many dimensions we can expect NOMI-NATE to extract from roll-call and cosponsoring data. NOMINATE has come under criticism for underestimating the number of roll-call dimensions (Heckman and Snyder 1997; Koford 1991), although if these charges are valid, they apply *both to our roll-call and cosponsoring* NOMINATE analyses. In other words, if NOMINATE underestimates the number of roll-call dimensions, it also underestimates the number of bill cosponsoring dimensions.

One potential issue with our selection of cosponsoring data is that our approach may *underestimate* the number of cosponsoring dimensions relative to the number of floor dimensions, thus making our test biased toward the null hypothesis. First, the distribution of legislators' bill cosponsoring decisions is weighted toward not cosponsoring since the majority of proposed bills have a small number of cosponsors.[2] Second, the strong party dimension in roll-call voting may create a bias against detecting higher-dimension cosponsoring. Legislators looking to have their proposals win consideration on the floor may structure their bills so they fit within the first dimension, which aligns members along partisan and ideological lines. Consequently, the observed pattern of bill proposals and cosponsoring may appear to be more unidimensional and partisan, while the true underlying dimensional structure of political issues remains multidimensional. Yet even with these concerns, cosponsoring decisions are one of the few instances available to systematically study pre-floor member behavior. Based on reviews of the literature and our own interviews with members of Congress, cosponsoring decisions are the best available comprehensive source of member behavior prior to floor voting.

These concerns make our empirical test a cautious one for our hypothesis. It may be more difficult to uncover high-dimensional outcomes in cosponsoring data than to uncover high-dimensional outcomes in roll-call data. So our test is likely biased toward finding support for the null hypothesis. Therefore, if we reject the null hypothesis, there may well be a greater difference between the number of pre-floor and floor dimensions than we report here. In the analyses below, we look for whether cosponsoring contains at least three dimensions. Such a finding is consistent with Snyder's (1992) analysis, illustrates the need for SIE in legislative organization, and is a significantly higher number than the unidimensional voting Poole and Rosenthal (1997) identify on the House floor.

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[2] In practice, the small number of cosponsors per bill is likely to make our estimates of the dimensions noisier but should not bias our results. Members cosponsoring different bills with similar policy objectives are likely to cosponsor other bills in common. NOMINATE will scale all these bills along the same dimension, although the measure of them will be less precise. Some members may also focus cosponsoring to specific policy areas, such as the jurisdiction of their committee assignments. Such specialization does not affect our results. If committee jurisdictions reflect the structure of the underlying issue agenda, then cosponsoring decisions will reflect that structure, whether that agenda is low-dimensional or high. Finally, our NOMINATE analyses exclude bills cosponsored by fewer than 2.5% of the House.

Results

Aggregate Proportional Reduction in Error

APRE is that amount that an additional dimension improves the statistical fit of the model (reduces the number of errors). Figure 1 compares the APRE

FIGURE 1

103rd and 104th Houses: APRE Increases with Added Dimensions NOMINATE Results
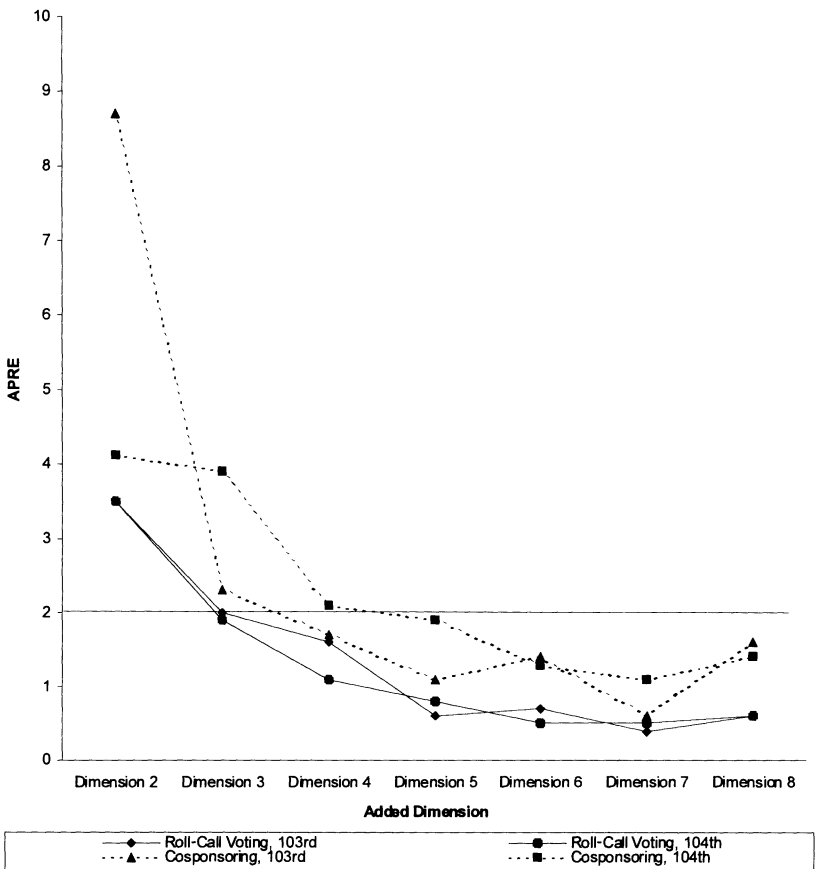
Where

$$APRE = \sum_{j=1}^{n} \{\text{Minority vote - NOMINATE classification errors}\}_j \ / \ \sum_{j=1}^{n} \{\text{Minority vote}\}_j$$

increases for each additional dimension in NOMINATE analyses of roll-call votes and bill cosponsoring for the 103rd and 104th Congresses. Following Poole and Rosenthal's (1997) relatively informal standards, we look for the number of dimensions that increase the APRE by more than 2%, which indicates the point beyond which adding additional dimensions fails to improve the fit of the model. Figure 1 shows the APRE plots for cosponsoring and floor voting.

Figure 1 indicates that in both congresses, bill cosponsoring (dashed lines) contain more dimensions than roll-call voting (solid lines). The APRE increases for the 103rd Congress bill cosponsoring exceeds both the 2% threshold and the roll-call APRE increases through the fourth dimension. The 104th Congress shows a similar, though less pronounced, pattern. The APRE increases for bill cosponsoring clearly exceed the 2% threshold for three dimensions, suggesting that pre-floor issue debates are divided along multiple dimensions. In both congresses, the roll-call APRE increase exceeds 2% only for the second dimension, suggesting a lower dimensional decision structure than the structure of pre-floor legislative issues. Thus, APRE results for the 103rd and 104th Congresses suggest that there are three to four dimensions in bill cosponsoring and one dimension in the floor voting, thus providing support for H1.

The Republican takeover during the 104th Congress may explain the decline in cosponsoring dimensions between the 103rd and 104th Congresses. The newly empowered Republican party leadership held considerable sway over its members' legislative activities. In this context, strong party discipline covered up underlying dimensions such as those apparent in the 103rd Congress. Overall, these NOMINATE results show that the pre-floor debate space has a higher dimensional structure than the decision space on the legislative floor, with four dimensions in the 103rd Congress debate space and three dimensions in the 104th debate space. These results are highly suggestive, but not conclusive. For instance, do these dimensions actually reflect underlying issue cleavages? Do they reflect real policy positions, or do they reflect random noise? To further test our case, we turn next to interpreting the dimensions.

Interpreting the Content of the Cosponsoring Dimensions

Because no single approach can adequately reveal the dimensions' contents, we adopt several interpretive approaches we term "dimension triangulation." Method 1 takes the legislators' scores for each dimension and regresses them on a slate of district demographic variables from the 1990 census and legislators' assignments on relevant committees to investigate why "types" of legislators are present on the polarities of the dimensions.

Table 1 reports the regression analyses of district and committee characteristics on the legislators cosponsoring dimension scores for dimensions one through four in the 104th Congress. The regression coefficients show which district

TABLE 1

The Content of 104th Bill Cosponsoring Dimensions

	Dimensions			
Explanatory Variables	Party, Dimension 1	Law and Order, Dimension 2	Social Issues, Dimension 3	Fiscal Issues, Dimension 4
Rural population	−.002	.000	.004	.003
	(−2.52)	(.237)	(5.89)	(3.76)
Percentage living in poverty	.006	−.009	.004	−.018
	(2.55)	(−2.62)	(1.34)	(−5.93)
Percentage veterans	−2.31	5.97	−.746	1.24
	(−1.47)	(3.06)	(−.453)	(.728)
Mining industry employment	−2.88	−1.75	4.26	2.58
	(−2.88)	(−1.42)	(4.06)	(2.39)
White-collar employment	.991	.088	−1.37	−.796
	(3.48)	(.249)	(−4.59)	(−2.59)
Government employment	.238	.348	1.13	−1.24
	(.744)	(.876)	(3.38)	(−3.58)
Percentage African American	−.147	−.082	.137	.022
	(−1.82)	(−.819)	(1.62)	(.258)
Republican Representative	−.848	.004	−.164	−.183
	(30.0)	(.120)	(−5.53)	−5.89
Foreign Affairs, IR Committee	−.052	.085	.042	−.033
	(−2.13)	(2.81)	(1.65)	(−1.24)
Constant	.086	−.120	.087	.646
	(.731)	(−.822)	(.711)	(5.10)
F-statistic	147.8	5.86	35.7	12.8
Adjusted R^2	.76	.10	.43	.21

Notes: T-values in parentheses. Rural is the percentage living in rural areas. Mining and government are the percentage of total employment working in each industry. White-collar employment is the percentage of total employment working in business and financial industries. Percentage African-American is the percentage of district population classified as African-American. Percentage living in poverty is the percentage of district population with income below the poverty line. Percentage veterans is the percentage of district population classified as military veterans. Foreign affairs, international relations committee is scored 1 if the district's legislators sit on one of these committees, else zero. *Source:* United States Bureau of the Census. 1998. *Congressional Districts in the United States, CD-ROM.* Republican Representative partisanship is scored 1 if Republican, else zero. *Source:* Poole and Rosenthal 1997.

characteristics best predict representatives' positions on each of the four dimensions. Table 1 is not intended to identify perfectly the content of the dimensions; the demographic characteristic independent variables in these analyses are at best only proxies for legislators' ideological positions in cosponsoring.

As such, the F-test for the overall goodness of fit for each regression analysis presents a nice test for determining whether the corresponding dimension reflects random noise or has some underlying orderly pattern. A statistically significant F-test indicates that members' NOMINATE scores on that dimension are not random but are ordered along the members' district characteristics. The F-test results in Table 1 suggest that there are at least four significant issue dimensions in legislators' cosponsoring decisions in the 104 Congress. Even with the admittedly weak demographic variables, the F-statistics for all four dimensions are statistically significant at the .01 level. Table 1 is discussed in more detail in our description of the content of the cosponsoring issue dimensions. The remainder of this section presents the results of the other analyses of the content of these dimensions.

Method 2 sorts legislators from high to low on each dimension, and the highest and lowest scoring representatives were examined for common characteristics (e.g., positions on key issues such as abortion) and activities (e.g., key votes) using political reference books such as CQ's *Politics in America* (Congressional Quarterly 1993, 1995). For example, these analyses showed that the Republicans scoring on one end of the second cosponsoring dimension had all crossed party lines to support the assault weapons ban and waiting periods for gun purchases. Legislators scoring on the high and low end of each dimension are reported in the text below and in Tables 4 through 7.

Finally, method 3 uses each cosponsored bill as the dependent variable in a regression with the legislators' dimension scores as the independent variables to see which dimensions best predict which cosponsoring decisions. To help identify each dimension most clearly, we adopted several strategies. First we looked at each regression in which the coefficient for each dimension was significant. Second, we looked at a subset of regression models in which only the dimension in question was statistically significant. Combining these two strategies allowed us to filter through the thousands of regression models to select those that best indicate the content of each dimension. We then examined bill descriptions from *Legislate* and *Thomas* to identify the issues these bills covered. While each dimension included some bills that were "noise," overall each dimension demonstrated a cluster of bills that easily identified the main content. Examples of bills scoring on each dimension are reported below and in Tables 4 through 7.

To save space, we focus our attention on the 104th Congress where the APRE evidence is weaker for higher dimensional structures. If the analyses show evidence of higher dimensional structures in the 104th Congress where the APRE evidence is weaker, then we can have more confidence that there are higher dimensions in the 103rd Congress. In any case, members' scores for the first four cosponsoring dimensions are highly correlated between the 103rd and 104th Congresses (.76, .32, .70, and .34 [$p. < .01$], for dimensions one through four, respectively), suggesting that the content of the dimensions remains fairly stable over time, even after a change in party control.

The First Dimension Reflects Party and Ideology

In both floor voting and bill cosponsoring, party affiliation dominates the first dimension. The evidence is striking: party correlates very strongly with first dimension scores for floor voting (.90 in the 103rd and .93 in the 104th) and bill cosponsoring (.79 in the 103rd and .85 in the 104th). In the cosponsoring regression analyses reported in Table 1, the "republican legislator" dummy variable strongly predicts legislators' first dimension position (coefficient = −.85, t-value = 30.0). The party dimension also reflects important policy differences between Democrats and Republicans, particularly surrounding economic issues, as Poole and Rosenthal (1997) identify. In both the cosponsoring and floor voting data, the party-first dimension correlations are higher for the 104th Congress than the 103rd, perhaps reflecting the heightened partisanship following the Republican takeover in the 1994 elections.

Table 2 shows the results from methods 2 and 3 of our triangulation process of uncovering the meaning of the dimension. The table identifies several of the highest and lowest scoring bills on the dimension, along with several of the high- and low-scoring members on the dimension. Bills on the liberal end of the first dimension (party/ideology) include a minimum wage increase, campaign finance reform, health insurance, environmental concerns, and naming a federal building after Ronald Brown. Bills on the conservative end of the dimension are a repeal of the National Voter Registration Act of 1993, the elimination of the Department of Education, the elimination of the National Endowment for the Arts, a repeal of the minimum wage, and the award of a Congressional Medal to Ruth and Billy Graham. These bills are easily identified as the core issues for both the liberal Democrats and the conservative Republicans.

The lower portion of Table 2 identifies legislators that represent the highest and lowest scoring members on the first dimension. Clearly, this list presents some of the more partisan and ideologically driven members of Congress. For example, on the liberal end of the dimension, Representative Sidney Yates (D-IL) is a 24-term veteran of the House who is characterized as "a fierce, Truman-era liberal who sometimes takes too liberal a position for his own party" (Congressional Quarterly 1998). Likewise, Maurice Hinchey (D-NY) is a three-term member whose "voting record reads as the diary of a faithful Democrat and reliable supporter of the Clinton administration on nearly every issue" (Congressional Quarterly 1998). On the conservative end of the dimension, Dan Burton (R-IN) is an 8th-term member described as a tenacious partisan with a history of critical assessments of President Clinton. Bob Stump (R-AZ) is an 11th-term member who is known for favoring the conservative Republican position, and is particularly critical of President Clinton's legal defense during his sexual harassment controversy.

Interviews with House members conducted in 1994 confirm the importance of parties in cosponsoring decisions. For example, a member of the Ways and Means Committee described the decision to cosponsor:

TABLE 2

Cosponsoring Dimension 1
Summary of Bills and Members
Party/Ideology

Liberal **Lowest Scoring Bills on Dimension**	Conservative **Highest Scoring Bills on Dimension**
H.R. 3505: A bill to amend the Federal Campaign Act of 1971, and for other purposes.	**H.R. 370**: A bill to repeal the National Voter Registration Act of 1993.
H.R. 2748: A bill to prohibit insurance providers from denying or canceling health insurance coverage, or varying premiums, or conditions on the basis of genetic information.	**H.R 2180**: A bill to repeal the federal charter for the National Education Association.
H.R. 4125: A bill to inform and empower consumers through a voluntary labeling system for wearing apparel and sporting goods without abusive and exploitative child labor.	**H.R. 1883**: A bill to strengthen parental, local, and state control of education in the United States by eliminating the Department of Education and redefining the federal role in education.
H.R. 620: A bill to increase the minimum wage and to deny employers a deduction for payments of excessive compensation.	**H.R. 3481**: A bill to repeal the minimum wage requirement of the Fair Labor Standards Act of 1938.
H.R. 1400: A bill to amend the Clean Water Act to eliminate certain discharges of chlorine compounds into navigable waters.	**H.R. 3095**: A bill to prohibit discrimination in contracting on federally funded projects on the basis of certain labor policies of potential contractors.
H.R. 1507: A bill to amend the Fair Labor Standards Act of 1938 to prohibit discrimination in the payment of wages on account of sex, race, or national origin.	**H.R. 209**: A bill to amend the National Foundation on the Arts and the Humanities Act of 1965 to abolish the National Endowment for the Arts and the National Council on the Arts.
H.R. 3560: A bill to designate the federal building in New York the Ronald H. Brown Federal Building.	**H.R. 2657**: A bill to award a Congressional Medal to Ruth and Billy Graham.

Lowest Scoring Members on Dimension	**Highest Scoring Members on Dimension**
Dellums [CA-9]	Hancock [MO-7]
Evans [IL-17]	Stump [AZ-3]
Hinchey [NY-26]	Johnson, N. [CT-6]
Serrano [NY-16]	Burton [IN-6]
Pelosi [CA-8]	Bartlett [MD-6]
Yates [IL-9]	Christensen [NE-2]
Miller, G. [CA-7]	Cooley [OR-2]
Lewis, John [GA-5]	Chenoweth [ID-1]
Velazquez [NY-12]	Weldon, D. [FL-15]
Olver [MA-1]	Souder [IN-4]

> We get lots of offers to cosponsor, but we usually don't cosponsor their [the opposition party] legislation; it makes the [party] leadership look bad, and it is usually not in the best interest of our constituents (personal interviews 1994).

The quote shows that the member was highly concerned about the party and the party leadership's image (e.g., Cox and McCubbins 1993; Hager and Talbert 2000) and saw cosponsoring as an important arena in which to maintain party discipline.

The strong party dimension on the floor may help explain the strong party dimension in the bill cosponsoring. Legislators looking to have their proposals win consideration on the floor may seek to structure their bills so that they fit within the party dimension. Consequently, the observed pattern of bill proposals and cosponsoring may appear to be more unidimensional and partisan while the true underlying dimensional structure of political issues remains multidimensional. Such strategic behavior would bias our analysis against finding multiple cosponsor dimensions. However, below we identify three additional dimensions in the cosponsoring, suggesting that the underlying issue space contains at least three to four distinct issue dimensions. Such strategic considerations aside, these additional dimensions reflect the *nonpartisan components of legislators' ideology*, as reflected in their bill cosponsoring activity.

The Law and Order/Foreign Affairs and Civil Rights Dimension

The second dimension of bill cosponsoring covers "law and order/foreign affairs" and civil rights issues. The issues on this dimension include crime, gun control, immigration, veteran issues, and foreign affairs, all representing one end of the dimension, while the other end is composed of liberal positions on civil rights issues. In the cosponsoring regression analysis reported in Table 1 for the second dimension, significant coefficients include percentage veterans, foreign affairs committee, and poverty. The F-statistic for the overall fit of the model is also significant, indicating that the dimension is not random noise.

Table 3 shows the results from our dimension identification methods 2 and 3. Bills on the low end of the second cosponsoring dimension include "tough" crime control legislation regarding jury tampering, witness tampering, and witness retaliation. Other bills include veterans' affairs legislation and youth crime legislation. Bills on the opposite end of the dimension address mostly civil rights issues. For instance, H.R. 1341 amends the Public Health Service to provide programs for disadvantaged individuals, including those from minority and ethnic groups. H.R. 1179 is a bill to fund preservation and restoration at historically black colleges and universities. H.R. 616 is a bill to redesign the $1 coin to commemorate Dr. Martin Luther King, Jr.

Table 3 also identifies typical legislators who scored high on each end of the dimension. On the law and order/foreign affairs end of the dimension, H. James Saxton (R-NJ) is known as a pro-defense, foreign affairs-focused member, with

TABLE 3

Cosponsoring Dimension 2
Summary of Bills and Members
Crime/Foreign Affairs/Civil Rights

Crime/Foreign Affairs **Lowest Scoring Bills on Dimension**	Civil Rights/Crime **Highest Scoring Bills on Dimension**
H.R. 1930: A bill to govern relations between the United States and the Palestine Liberation Organization (PLO) to enforce PLO compliance with standards of international conduct.	**H.R. 616**: A bill to require the Secretary of the Treasury to redesign the $1 coin to commemorate Dr. Martin Luther King, Jr.
H.R. 1145: A bill to amend title 18, with respect to jury tampering. **H.R. 1144**: A bill to amend title 18, with respect to witness tampering. **H.R. 1143**: A bill to amend title 18, with respect to witness retaliation.	**H.RES. 243**: A resolution urging the prosecution of ex-Los Angeles Police Detective Mark Fuhrman for perjury, investigation into other possible crimes by Mr. Fuhrman, and adoption of reforms by the Los Angeles Police Department.
H.R. 468: A bill to amend title 38, United States Code, to require the secretary of Veterans Affairs to furnish outpatient medical services for any disability of a former prisoner of war.	**H.R. 1179**: A bill to authorize appropriations for the preservation and restoration of historic buildings at historically black colleges and universities.
H.R. 2013: A bill to provide for the display of the POW/MIA flag at each Department of Veterans Affairs medical center until the president determines that the fullest possible accounting of all Vietnam-era POW/MIAs has been made.	**H.R. 786**: A bill to authorize the establishment of the National African-American Museum within the Smithsonian Institution.
H.R. 3564: A bill to amend the NATO Participation Act of 1994 to expedite the transition to full membership in the North Atlantic Treaty Organization of emerging democracies in Central and Eastern Europe.	**H.R. 1341**: A bill to amend the Public Health Service Act to provide authorizations of appropriations for programs relating to the health of individuals who are from disadvantaged backgrounds, including individuals who are members of racial or ethnic minority groups.
H.R. 2807: A bill to consolidate federal youth prevention and youth development programs and create a new process and structure for providing federal assistance for these programs.	**H.R. 1250**: A bill to promote self-sufficiency and stability among families receiving Aid to Families with Dependent Children by increasing employment opportunities, increase State flexibility in operating a Job Opportunities and Basic Skills Training Program, to improve the interstate enforcement of child support and parentage court orders, and for other purposes.

Lowest Scoring Members on Dimension	**Highest Scoring Members on Dimension**
Smith, C. [NJ-4]	Ford [TN-9]
Saxton [NJ-3]	Tucker [CA-37]
Blute [MA-3]	Waters [CA-35]
English [PA-21]	Clay [MO-1]
Fox [PA-13]	Mfume [MD-7]
Lipinski [IL-3]	Stokes [OH-11]
Stearns [FL-6]	Rush [IL-1]
Zimmer [NJ-12]	Collins, M. [GA-3]
Torkildsen [MA-6]	Doggett [TX-10]
Shays [CT-4]	Kim (CA-41)

a recognized issue of increasing funding for Pentagon projects. William O. Lip-
inski (D-IL) is an 8th-term legislator who strongly favors a flag-burning amend-
ment and legislation recognizing English as the official U.S. language. On the
official language issue, Lipinski notes that "there is nothing radical or racist
about declaring English the official language of the United States" (Congres-
sional Quarterly 1998). The members on the opposite end of the dimension
tend to focus on civil rights and minority affairs. For example, Harold Ford, Jr.
(D-TN) is a first-term legislator known for his defense of affirmative action
and government assistance for the poor. Ford notes, "If Republicans can defend
Clarence Thomas, Democrats can defend affirmative action" (Congressional
Quarterly 1998). Another member on the civil rights end of the dimension is
Illinois Democrat Bobby Rush. A former member of the Black Panthers, Rep-
resentative Rush is known for supporting civil rights issues and promoting
minority-owned businesses.

The Agricultural/Environmental Dimension

The third dimension of bill cosponsoring reflects a cross-party cleavage along
environmental and agricultural issues, with liberal environmental and social
positions on the positive polarity and conservative environmental and pro-
agricultural positions on the negative polarity. In the cosponsoring regression
analysis reported in Table 1 for the third dimension, significant coefficients
include rural population, mining industry employment, white-collar and gov-
ernment employment, and Republican representation. The F-statistic for the over-
all fit of the model is also significant, indicating support for the dimension.

Table 4 reports the results from our dimension identification methods 2 and 3.
Typical bills scoring on this dimension concern various agriculture and en-
vironmental issues. For example, scoring on the pro-agricultural end of the
dimension, H.R. 2189 provides poundage quotas and price support for peanuts.
Other legislation includes conservative environmental legislation such as H.R.
2335, the Solid Waste Disposal Act, and H.R. 2275, which looks to weaken the
Endangered Species Act. Legislation representing the opposite end of the di-
mension has clear pro-environmental and anti-agricultural components. For ex-
ample, H.R. 1235 is a bill to terminate the price support program for honey,
and H.R. 2008 seeks to repeal the price support program for peanuts. H.R.
2421 looks to impact environmental protection by implementing a land use
plan proposed by the Northern Forest Lands Council.

Table 4 also shows typical members from each end of the third dimension.
On the environmental protection end of the dimension, Rep. Christopher Shays
(R-CT) is a typical member. According to *Politics in America*:

> Because of his stands on a number of issues—support for gun control, environmental protec-
> tions and abortion rights in most instances—some conservative Republicans regard Shays as
> insufficiently loyal to party orthodoxy. But Shays maintains that on fiscal policy, he is a
> more consistent conservative than many in his party (Congressional Quarterly 1998).

TABLE 4

Cosponsoring Dimension 3
Summary of Bills and Members
Agriculture and Environmental Issues

Pro Agriculture/Weak Environmental **Lowest Scoring Bills on Dimension**	Pro Environmental/Weak Ag. Support **Highest Scoring Bills on Dimension**
H.R. 2189: A bill to amend the Agricultural Adjustment Act of 1938 and the Agricultural Act of 1949 to provide price support and national poundage quotas for the 1996 through 2000 crops of peanuts.	**H.R. 1235**: A bill to terminate the price support program for honey.
H.R. 1112: A bill to transfer management of the Tishomingo National Wildlife Refuge in Oklahoma to the State of Oklahoma.	**H.R. 2008**: A bill to repeal the quota and price support programs for peanuts.
H.R. 2342: A bill to authorize associations of independent producers of natural gas.	**H.R. 1687**: A bill to terminate the agricultural price support and production adjustment programs for sugar.
H.R. 2335: A bill to amend the Solid Waste Disposal Act exempt from the solid waste designation of all recoverable materials that are contained, collected, and returned to an industrial process.	**H.R. 2421**: A bill to implement the recommendations of the Northern Forest Lands Council.
H.R. 2275: A bill to reauthorize and amend the Endangered Species Act of 1973.	**H.R. 1749**: A bill to amend the Agricultural Trade Act of 1978 to eliminate the market promotion program.
Lowest Scoring Members on Dimension	**Highest Scoring Members on Dimension**
Montgomery [MS-3]	Roukema [NJ-5]
Cramer [AL-5]	Shays [CT-4]
Brewster [OK-3]	Meehan [MA-5]
Bishop [GA-2]	Chabot [OH-1]
Green [TX-29]	Porter [IL-10]
Geren [TX-12]	Armey [TX-26]
Rahall [WV-3]	Franks, B. [NJ-7]
Thurman [FL-5]	Hoke [OH-10]
Hilliard [AL-7]	Lazio [NY-2]
Hall, R. [TX-4]	Fawell [IL-13]

Another member representing the environmental protection side is John Porter (R-IL), who has a reputation as an avid support of environmental protections and gun control. Other members reflect the more anti-agricultural component. Representative Martin Meehan (D-MA) is a 3rd-term member who opposes many federal agricultural programs, such as tobacco subsidies, "The tobacco crop insurance subsidies, these are products of a bygone era that have no interest other than the special interest of the big clout that is supporting them"

(Congressional Quarterly 1998). On the negative end of this dimension lies a large swath of relatively moderate Democrats, such as Representatives Brewster (OK), Cramer (AL), and Montgomery (MS). Their districts are mostly poor, rural, and southern, with heavy reliance on government employment, agriculture, and mining industries. These Democrats cross party lines and vote "conservative" on various social and environmental issues. For example, Rep. Stupak (D-MI) staunchly opposes abortion, and Rep. Rahal (D-WV) favored the Republicans' proposal to relax environmental regulations. Reflecting the social issues in this dimension are bills such as HR 1863, which "prohibits employment discrimination on the basis of sexual orientation," and HR 641, which promotes "the right of any person to provide or to receive nonfraudulent information about the availability of reproductive health care services, including . . . abortion services." These legislators also tend to support federal agricultural programs, such as commodity price supports.

The Fiscal Affairs Dimension

The fourth dimension of bill cosponsoring reflects a combination of fiscal conservatism and government accountability. In the cosponsoring regression analysis reported in Table 1 for the fourth dimension, significant coefficients are rural population, poverty, mining industry, government employment, white-collar employment, and the representatives' partisanship. The F-statistic for the overall fit of the fourth dimension regression model is also significant, indicating support for the dimension.

Table 5 reports the results from our dimension identification methods 2 and 3. Using the bill sorting method we find that typical bills on this dimension deal with fiscal affairs and government accountability. The negative end of the dimension reflects a government accountability issue area where bills address areas of "unfair" tax policy, spending priorities, and addressing unintended policy mandates. For example, scoring on this end of the dimension, H.R. 8 is a bill to amend the Social Security Act to repeal the increase in the tax on social security benefits. H.R. 6 is a bill to amend the Internal Revenue Code to remove the marriage penalty; H.R. 304 is a bill to amend the Clean Air Act to prohibit the EPA from promulgating regulations without state approval; and H.R. 9 is a bill to promote job creation and "economic liberties," decentralize and reduce the federal government in favor of the states, and to improve the accountability of federal officials. Legislation representing the opposite end of the dimension is tightly focused on deficit reduction and balancing the federal budget. For example, H.R. 822 aims to reduce spending by $45 billion a year until the federal budget has been balanced. Another balanced budget bill is H.R. 2530, which targets deficit reduction and a balanced budget by 2002. Other bills on this end of the dimension address spending cuts, such as H.R. 1701, which is a bill to cancel the space station project, and H.R.1755, which is a bill to curb the House mailing franking privileges.

TABLE 5

Cosponsoring Dimension 4
Summary of Bills and Members
Fiscal Policy

Federal Government Accountability **Lowest Scoring Bills on Dimension**	Conservative Fiscal Policy **Highest Scoring Bills on Dimension**
H.R. 8: A bill to amend the Social Security Act to increase the earnings limit, to amend the Internal Revenue Code of 1986 to repeal the increase in the tax on social security benefits, and to provide incentives for the purchase of long term care insurance.	**H.R. 822**: A bill to provide a fair, nonpolitical process that will achieve $45 billion in budget outlay reductions each fiscal year until a balanced budget is reached.
H.R. 9: A bill to create jobs, enhance wages, strengthen property rights, maintain certain economic liberties, decentralize and reduce the power of the federal government with respect to the states, localities, and citizens of the United States, and to increase the accountability of federal officials.	**H.R. 2530**: A bill to provide for deficit reduction and achieve a balanced budget by fiscal year 2002.
H.R. 304: A bill to amend the Clean Air Act to prohibit the EPA from promulgating a federal implementation plan prior to the disapproval of state implementation plan revisions.	**H.R. 1701**: A bill to cancel the Space Station Project.
H.R. 3862: A bill to amend the Endangered Species Act of 1973 to clarify the intent of Congress and ensure that any person having any economic interest that is directly or indirectly harmed by a designation of critical habitat may bring a citizen's suit under that Act.	**H.R. 1222**: A bill to require that travel awards that accrue by reason of official travel of a member, officer, or employee of the House of Representatives be used only with respect to official travel.
H.R. 6: A bill to amend the Internal Revenue Code of 1986 to provide a tax credit for families, to reform the marriage penalty.	**H.R. 1755**: Franked Mail Savings Act.

Lowest Scoring Members on Dimension	**Highest Scoring Members on Dimension**
Hunter [CA-52]	Minge [MN-2]
Baker, B. [CA-10]	Luther [MN-6]
Johnson, S. [TX-30]	Poshard [IL-19]
Mink [HI-2]	Barrett, T. [WI-5]
Dixon [CA-32]	Lincoln [AR-1]
Waters [CA-35]	Danner [MO-6]
Roybal-Allard [CA-33]	Payne, D. [NJ-10]
Meek [FL-17]	McHale [PA-15]
Seastrand [CA-22]	Peterson, C. [MN-7]

The second part of Table 5 shows typical members on both ends of the fiscal policy dimension. On the government accountability end of the dimension is Rep. Patsy Mink (D-HI), known for her opposition to a balanced-budget constitutional amendment, calling it a "straitjacket that would cripple the future of our country" (Congressional Quarterly 1998). Also on the negative end of the dimension, Rep. Carrie Meek (D-FL) is a third-term member known for her efforts to support programs for children and the poor. Meek has criticized proponents of "blind" budget cutting bills, arguing, "they are concerned about management and about how they can use this money to make their coffers strongest. They like to cut dollars, but they do not like to create alternatives" (Congressional Quarterly 1998). The typical member on the positive end of the dimension is quite different. David Minge (D-MN) is a third-term member who focuses on budget cutting and the federal deficit. Labeling himself a "pork-buster," Minge promotes eliminating much "earmark" legislation that funnels pork to a member's district. Another member from the positive end of the dimension is Rep. Pat Danner (D-MO), a third-term member who focuses on balancing the federal budget and imposing congressional term limits. *Politics in America* notes that "Danner's zeal for deficit reduction out-strips that of many Republicans, as evinced by her votes to kill NASA's space station and the superconducting super collider, and her vote to freeze spending on defense."

Thus, using the triangulation methodology, we find the four cosponsoring dimensions are not random collections of issues, but instead reflect a cohesive, multidimensional issue agenda. This evidence is not trivial, but represents a logical pattern of examining considerable information and logically identifying how the dimensions identify specific policy interests. Starting with Poole and Rosenthal's NOMINATE procedure, we produce evidence based on the APRE statistic graphically showing distinctions between floor roll-call dimensional scores and bill cosponsoring dimensional scores. Next, we adopt a three-part triangulation method that first uses the scores from the NOMINATE analysis to predict which dimension scores "fit" with various district characteristics. We also calculate regression models to identify which dimension scores predict members' cosponsoring decisions on each bill. Finally, we sort individual members and bill proposals from high to low scores on each dimension and read their histories to determine if they share common issue areas.

Conclusion

All in all, the analyses of roll-call votes and bill cosponsoring in the 103rd and 104th Congresses show that the number of pre-floor issue dimensions exceeds the number of dimensions found on the legislative floor. There are at least three and as many as five dimensions in legislative cosponsoring in the 103rd and 104th Congresses. Consistent with Poole and Rosenthal (1997), we find evidence for one dimension on floor voting. To summarize the cosponsoring issue agenda, the first dimension reflects legislators' partisanship. The second cosponsoring dimension reflects crime/foreign affairs and civil rights. The third

cosponsoring dimension reflects agriculture and environmental issues, and the fourth cosponsoring dimension reflects fiscal policy. Thus, the issue dimensions identified in our NOMINATE analysis do represent "real" policy issues.

These results support our hypotheses that pre-floor behavior contains more issue dimensions than floor behavior, and thus they provide strong support for our dynamic agenda theory. The debate-stage policy agenda contains several dimensions, and consequently provides a rich environment for ambitious policy entrepreneurs to structure and restructure their proposals along favorable evaluative dimensions. In this arena, strategic policy entrepreneurs can build political support for legislation by emphasizing the issue dimension that attracts the most support. For example, a bill to reduce agriculture subsidies may fare better if packaged as a "deficit reduction" issue (and sent to the appropriate committees) rather than an "agriculture" issue; members of agriculture committees would very likely use any gatekeeping authority to keep such an issue from reaching the floor.

By the time proposals are settled on the legislative floor, the decision agenda exhibits a low-dimensional structure, with only a single consistently significant dimension. The tight constraints of floor rules and House procedures minimize the dimensional structure of roll-call votes, thus making strategic agenda manipulation quite difficult, although not impossible. Therefore, the primary locus of strategic legislative behavior is not on the floor during roll-call votes, but rather in the rich, multidimensional environment in the pre-floor debate arena.

Together, these findings suggest an institutional explanation for the low-dimensional agenda on the House floor. A multidimensional pre-floor agenda and low-dimensional floor decisions suggest that some form of structured induced equilibrium is an underlying principle of legislative organization. These results, however, do not suggest which of the primary candidates—legislative committees or political parties—is responsible for winnowing pre-floor issue dimensions to create unidimensional decisions. In fact, alternatives to our theoretical assumptions are possible, as our evidence is unable to address the cause for differences in member behavior during cosponsoring and floor voting. Future research should look to identify how the legislative process winnows the multiple pre-floor dimensions down to a single evaluative dimension for floor decisions. This article does suggest an analytic framework for investigating these questions. For example, does the dimensional reduction occur because the only proposals selected for floor votes are those that align members along a single dimension? Or does vote trading across multidimensional proposals create unidimensional decisions?

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