Why the Issue Dimensionality of Political Systems Varies, and What Difference it Makes: Policy Space, Ideological Space and Institutions

A dissertation submitted to the
Department of Social and Decision Sciences
in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy in Political Science

by

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William Keech (Chair)
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Carnegie Mellon University
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"Why the Issue Dimensionality of Political Systems Varies, and What Difference it Makes: Policy Space, Ideological Space and Institutions"

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Abstract:
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Abstract

This dissertation develops and tests theory about the relationship of preferences, institutions, and government policy to the dimensionality of political systems. Because of the structure of preferences, some countries have more issue dimensions than others. Institutions may shape the expression of ideological dimensions by shaping the strategic incentives of politicians and voters, and in shaping the kinds of issues that will be considered. Finally, the policies that governments pursue influence how many potential political conflicts are realized as issue dimensions. In turn, as issue dimensionality changes, strategic actors are sometimes motivated to change their choices, institutions or policies. Analyses based on roll call voting in US Congress, the US states, and cross-national data examine theory predictions concerning the dimensionality of ideological and issue spaces.

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Dedication

To Sarah (4), David (2) and Leah (8 months).

Without you, getting there would have been much less fun.

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Introduction

William H. Riker (1986, p. 147) defined heresthetic(s) as the art of political manipulation, including manipulation of the dimensionality of the choice space, agenda control, and strategic voting. Riker developed a number of case-studies in the art of political manipulation, and subsequent literature has extended his project of elucidating instances of heresthetic manipulation (see MacLean 2002 for a review). However, the literature has lacked a foundation in the potentialities for political manipulation – the possibilities for heresthetic.[1] This project begins to provide that foundation.

I argue that an important element of this foundation is the size of the active policy space from which proposals are drawn – the space Riker called the feasible set.[2] By proxying for variation in the size of the active policy space, we can understand variation in the degree to which there are opportunities for political manipulation. Although the chaos results of the 1970s remind us that anything can happen in politics, the refinements of the 1980s and 1990s counter that some things are more likely to happen than others. By understanding variation in the conditions for heresthetic, we can move beyond the (often insightful) case study method of Riker (1982, 1986) and those who have followed his lead (MacLean 2002) to develop more general predictions about the sort of institutions and spaces political manipulation is likely to produce under particular circumstances.

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[1] As MacLean (2002) notes, explaining the appearance of heresthetic maneuvers through variation in individual ability (as in the previous literature) is unsatisfying on some levels.

[2] MacLean (2002) attributes the quote to Riker (1993, p. 000). The full quote is as follows:
"At the most general level there are the things people talk about as possible subjects for group decision. Call this the feasible set. From this misty swamp, politicians - by constitutional restrictions and direction and by rhetorical and heresthetical maneuvers - form the set of considered issues."

This research program began when I listened to Friedrich Hayek's (1944) classic The Road to Serfdom as an audio book while commuting to campus. Hayek wrote the book before all of the seminal works in the spatial theory except Hotelling (1929), yet his analysis seemed consistent with later spatial modeling. I found myself translating Hayek's argument into spatial terms. This translation led to curiosity – did the world work as Hayek suggested? I suspected that Hayek provided insight into a question that already interested me: why the predictive power of the ideological dimension(s) varied.

Hayek (1944) postulates a relationship between the degree of government planning and the ability of democratic governments to build majorities for policy choices. Hayek appears to anticipate the chaos results of social choice theory (e.g. McKelvey 1976, 1979), and connects the likelihood of chaos with the size of the policy space. Increases in economic planning make majorities harder to come by. Hayek asserts that when governments try to exercise too much control over the economy, democratic decision making breaks down.

> They are not asked to act where they can agree, but to produce agreement on everything – the whole direction of resources of the nation. For such a task the system of majority decision is, however, not suited. Majorities will be found where it is a choice between limited alternatives; but it is a superstition to believe that there must be a majority view on everything. There is no reason why there should be a majority in favor of any one of the different possible courses of positive action if their number is legion. Every member of the legislative assembly might prefer some particular plan for the direction of economic activity to no plan, yet no one plan may appear preferable to a majority to no plan at all. [Friedrich A. Hayek 1944, Page 64]

Translating this to spatial language, more government economic intervention means a larger policy space. And a larger policy space will typically have a higher probability of

preference cycles: a situation in which there is no plan preferred by a majority to all others.[3]

Riker (1982) presents selected estimates of the probability of Condorcet cycles as a function of the number of alternatives and the number of voters (assuming all orderings will appear with equal probability). These calculations suggest that the portion of profiles with a cycle is increasing in the number of alternatives and in the number of voters. For any number of voters greater than three, the probability of a cycle approaches 1 as the number of alternatives increases. Similarly, increases in the number of voters make cycles more likely for a given number of alternatives. When the number of alternatives is 6, for example, 31.5 percent of profiles have no Condorcet winner as the number of voters goes to infinity.

Table 1.1: Probability of a Cyclical Majority, Pr(m,n)

	N=number of voters					
m= number of alternatives	3	5	7	9	11	Limit
3	.056	.069	.075	.078	.080	.088
4	.111	.139	.150	.156	.160	.176
5	.160	.200	.215			.251
6	.202					.315
Limit	≈1.000	≈1.000	≈1.000	≈1.000	≈1.000	≈1.000

Source, William H. Riker (1982) p. 122.

My initial hypotheses and empirical explorations were based upon the idea that politics should be less stable, and the ideological dimension(s) weaker, when there was more government intervention. Theoretically, this approach was unlikely to succeed

[3] Schumpeter (1942) makes a related argument. "The essential point is this. No responsible person can view with equanimity the consequences of extending the democratic method, that is to say the sphere of "politics," to all economic affairs. Believing that democratic socialism means precisely this, such a person will naturally conclude that democratic socialism must fail. But this does not necessarily follow. As has been pointed out before, extension of the range of public management does not imply corresponding extension of the range of political management. Conceivably, the former may be extended while the later remains within the boundaries set by the limitations of the democratic method."(p. 299)

given the empirical evidence the cycles are rare in the real world. As it turned out, the statistics were inconclusive: in some data sets the relationship seemed to be as postulated, while in others (e.g. for other countries or states) there was an opposite relationship.[4] The first step in putting the pieces together was to re-read Hayek with more care.

According to Hayek, in Germany an increase in the number of policy dimensions led initially to a situation in which majority rule was not decisive, then to the rise of ideologically regimented mass movements. Once voters were faced by a frustrating lack of political equilibrium, Hayek argues that, in Germany political power shifted to parties with developed ideologies that promised order, most dramatically to the Nazis. This could be translated into a prediction about the degree to which political ideology structures voting: with larger policy spaces, chaos and/or uncertainty may provide popular electoral incentives for stronger ideology, incentives that might or might not be met.[5]

Let's put this in (subsequent) context a bit. The literature on social choice and political institutions suggests that the existence of 'equilibrium' policy outcomes can come from two generic sources. Sometimes a preference-induced equilibrium (PIE) will exist; but on the other hand institutions may determine a structure-induced equilibrium (SIE).[6]

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[4] Methodological issues might explain the divergence of course. For example, there were (and are) doubtless some omitted variables. However, I believe that I have a model which explains these results.

[5] In chapter 4 we will develop a model that produces this prediction. The model I develop below incorporates incentives to form stronger ideological dimensions, and also reveals how a larger policy space can provide opportunities for selection of issues compatible with ideological commitments. A larger policy space will tend to simultaneously increase the demand for a stronger policy space, and make supplying a stronger space through party discipline easier, even as it increases the potential for cycles.

[6] The structure induced equilibrium concept is in large part the contribution of Kenneth Shepsle (1978, 1979) and Shepsle and Weingast (1981).

A preference-induced equilibrium occurs when there is a clear majority rule preference – there is a policy proposal capable of defeating all others in pair-wise comparisons. For there to be a preference-induced equilibrium, certain conditions must be met, see Davis 2003 for a review. As table 1.1 suggests, when there are many alternatives and all preference orderings are equally likely, the odds of a preference-induced equilibrium are small.

A structure-induced equilibrium can bring order in the face of multi-dimensional disorder. Kenneth Shepsle writes: "the fact that majorities cycle in their preferences means that, to break the policy indeterminacy, it is necessary to institute procedural regularities that bring closure to legislative subjects." (Shepsle and Bonchek 1997 p. 321) The trick of course is that the structure must come from somewhere – there is a deeper game that determines the choice of institution (Riker 1980).

I believe that the opportunities and incentives provided (or denied) by particular policy and ideological spaces can go an important part of the distance in illuminating that institution-shaping game. At a fundamental level, this dissertation is about understanding the spaces politics is played in, and their consequences for political/institutional outcomes. I will claim that as policy space dimensionality and ideological space predictive power change, strategic actors may be motivated to change their choices, institutions or policies in predictable ways.

As the size of the policy space varies, this changes the likelihood that there will be a preference-induced equilibrium. Following the argument of Riker (1982), a preference-based equilibrium is less likely when the policy space is large, more likely when the policy space is small. Thus, a larger policy space creates conditions in which, absent

institutional and/or ideological structure, politics is more likely to be cyclic, grid-locked, or indecisive. Keep in mind, however, that the potential chaos of a larger policy space also provides opportunity for more flexible or powerful manipulation.[7] A large policy space may make restrictive institutions and ideology more appealing to voters and politicians, even in the absence of widespread instability. Once time limits begin to curtail consideration of the entire potential agenda, larger policy spaces make it easier for leaders to exercise agenda control. In addition, citizens may demand such control: a larger policy space also means the public policy debate will be harder for citizens to monitor, making candidates or parties with strong ideological commitments more appealing (Dougan and Munger 1989). With a response to the opportunities provided by potential chaos, larger policy spaces may be associated with strengthened institutions capable of providing SIE.[8]

While 'chaos' may thus provide tools to (partially) resolve itself, this produces a tradeoff described by Schumpeter (1942, chapter 13). Arguably a larger policy space can only be compatible with democracy through the use of stronger institutional restrictions (Schumpeter focuses on delegation to non-political planning boards). The argument is that as the policy space grows, the degree of stability that one can expect from PIE diminishes. To sustain a functioning political order, the institutions capable of generating

[7] For example, in Chapter 3, I show that larger policy spaces are associated with more power for the Speaker in state legislatures. Of course there does remain a role for instability – more powerful speakers do not have longer terms in office.

[8] Hayek's claim that socialism undermines democracy is based upon the assertion that the institutional measures necessary to provide equilibrium in a fully planned economy amount to the destruction of democracy. Given the German experience that so shaped Hayek's presentation and development of these ideas (See Hayek 1944) this view is hardly surprising. Whether there may be a set of political institutions capable of sustaining a very high degree of government planning while maintaining more than nominal democratic control remains a question I cannot answer. And I do not know of a definitive answer in the literature, and I am not prepared to offer one.

SIE (and the latent "ideological" dimensions) must be strong enough already or be strengthened.

This project occupies an intersection in the discussion of the appropriate place of ideas and institutions in political explanation (Blyth 2003, Lieberman 2002). On the one hand, I will show that institutions are associated with variation in the predictive power of latent dimensions that may represent 'ideological' commitments. On the other hand, I will show that ideological and institutional structures both correlate with changes in the more basic bargaining environment of the issue space, and that both appear to alter with the degree of complexity of the issue space. This suggests a model capable of explaining political change as the result of conflict and disjunction (Lieberman 2002), but with a tone more consistent with Riker's (1980, 1982, 1986) understanding of political disequilibrium and the attendant creative opportunities for heresthetic manipulation.

The argument will proceed through several stages built around three questions: what issue dimensionality (policy space and ideological space) is, why it varies, and why it matters.

Section 1 addresses the dimensionality of the policy and ideological spaces, and provides a framework for understanding why they vary. The first chapters will examine the "two-space" model of Hinich and Munger (1994), and will develop the theory and empirical application of the policy space and ideological space. The policy space ($D \subseteq N$) is the space from which policy proposals are drawn.[9] The ideological space (Π) is a (constructed) lower-dimensional space that contains evaluative dimensions. Positions on

[9] Also important may be the number of alternatives offered on each policy dimension.

ideological dimensions are associated with positions on policy dimensions, although some linkages have more error than others.[10] The predictive power of the ideological space is defined as the degree to which one can accurately anticipate behavior (e.g. votes in the legislature, party position-taking) on the basis of ideological position. Since the predictive strength[11] of an ideological dimension may vary across policy dimensions, the ideological dimension(s) will be stronger when either (1) preferences across issues are more similar or (2) when the subset of issues selected for evaluation of the predictive power is one on which preferences are more similar.[12]

Section 2 addresses why the predictive power of the ideological space varies, and the consequences of changes in the policy space and ideological space for political institutions. This section contains three substantive chapters, each of which develops a model and tests it. The organizing principle is my interest in understanding changes in the dimensionality of relevant spaces (policy, ideology), and their impact on politics.

In Chapter 3 I will show how larger policy spaces (relative to time available) lead to stronger legislative leadership institutions. I argue that previous attempts to explain the power of legislative leadership through the principal-agent framework have used endogenous measures of available leadership opportunities. I develop a simple characterization of the relationship between the size of the policy space, the time available to consider political issues, and the agenda power opportunities available to political leaders. An empirical model of the power delegated to legislative leaders in the

[10] For example, religious conservative ideological position in 1990s American Politics was closely associated with support for a partial birth abortion ban. But there remained potential for 'error' in the sense that one might not be able to predict with certainty the severity of the ban preferred, in particular whether an exception to protect the health or life of the mother should be permitted.
[11] I will say that an ideological dimension is 'stronger' when it predicts policy choices more accurately.
[12] Through agenda control, as we will see in Chapter 4, institutional structure may produce a strong observed ideological dimension even when preferences across (all) issues are relatively unstructured.

US states finds the expected relationship: holding time available constant, a larger policy space leads to more powerful legislative leadership.

In Chapter 4 I will show how the supply and demand for ideological dimensions is reflected in the predictive power of the latent ideological dimension. I develop a model of the supply of and demand for ideology. Ideological consistency is expected to be higher when the supply of ideologically consistent issues is larger, and/or when the demand for such issues is larger. For example, when there are more issues (relative to available time), it is easier to select an agenda populated by issues that divide legislators in similar ways, producing a powerful ideological dimension In addition to novel hypotheses concerning the size of the active policy space, and time, I also examine (and integrate with the supply-demand framework) explanatory variables postulated in the literature such as the effective number of political parties, economic inequality, and low-salience issues.

In chapter 5 I will show how variation in the predictive power of the ideological space shapes the willingness of legislators to tolerate 'outlier' committees. I synthesize the informational and distributive models of legislative organization to illuminate the boundaries of the informational 'no outliers' prediction. As predicted, when there is more (ideological) uncertainty, more state legislative committees are outliers. However, when the left-right dimension accounts for more of what goes on in politics, the prediction of no committee outliers commonly attributed to the unidimensional informational model of legislative organization (Gilligan and Krehbiel 1989) applies more accurately.

Section 1: What is Issue Dimensionality?

Spatial models of politics rely upon an analogy between political policy positions and geometric space. Policy positions are visualized as points on a line, or as locations in multi-dimensional space. In spatial models, political actors (voters, politicians, parties, interest groups, etc.) are typically imagined with positions in that space, and their choices are explained and analyzed as (strategic) consequences of their goals, including but not entirely restricted to[13] their spatial relationship to other players, and to policy proposals.

The literature suggests that the number of dimensions in the spatial model have important implications for the functioning of democratic government (Hinich and Munger 1994), the stability of political outcomes (Nybade, 2004, Riker 1982, McKelvey 1979), and the existence of a 'public will' (Riker 1982).[14] The various authors diverge over whether the important dimensionality here is ideological (Hinich and Munger), at the policy-space level (Riker), or an amalgam of the two (Nybade). What determines variation in the issue-ideological dimensionality of party systems is ill understood, however.

The simplest spatial model is one-dimensional. In a one-dimensional spatial model, numbers on the real number line represent policy or ideological positions.[15] For example, if the policy space is the interval between zero and one [0,1], then voters and policies are 'placed' somewhere between zero and one. Thus, a position of 0.5, is at the

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[13] In chapter 3 we will stay with a fairly strict spatial utility-maximizing model. In chapter 4 we will modify this framework to include some utility for 'ideology'. In chapter 5 we will return to spatial utilty-maximization, but the space where utility resides will be (at least in part) the ideological space (rather than the policy space of chapters 3 and 4.

[14] The degree to which parties are playing on a multi-dimensional space or a unidimensional space is important for coalition stability (Nybade 2004) and presumably influences the coalition-building game that parties play.

[15] For the moment we will persist in this vagueness. The model is in fact *different* if the line represents ideology rather than policy.

middle of the policy space, while positions at 0 and 1 represent extremes. If voters are distributed symmetrically around this point, it will also be the location of the median voter.

With an equal number of voters on both sides, two alternatives, and some restrictions on voters' preferences, the median voter determines policy outcomes under majority rule. If politics is truly played on a one-dimensional field, and other assumptions are met, then the median voter theorem applies. If there was only one policy dimension, politics reduces discovery of the preferences of the median voter. Politics is rarely this simple, except by construction. We will see that the policy space is almost always large.

To preserve clarity in the argument, it is necessary to think about the dimensionality of the political system on two levels. Following a distinction that begins with Cahoon, Hinich, and Ordeshook (1976), this section develops a two-space theory. The first space is a policy or issue space with many dimensions, and the second space is an 'ideological' latent space that both voters and politicians use to simplify, understand, structure, and justify choice within the complexity of the space of potential policies.[16] The two-space model claims, in essence, that even though (or perhaps because) the policy space is extremely complex, voters and politicians structure their choices using a set of simple principles.

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[16] "This two-space theory was originally stated as a conjecture by Cahoon, Hinich, and Ordeshook (1976) who dubbed the low dimensional space a *basic space* and the high dimensional space an *action space* containing all "... contemporary political issues [and] government policies ..." (Ordeshook, 1976, p. 308) Hinich and his colleagues then developed the theory in detail including how one space mapped into the other (Hinich and Pollard, 1981; Enelow and Hinich 1984). They labeled the dimensions of the low dimensional space the *predictive dimensions.* More generally these are latent or evaluative dimensions and in political science work are commonly referred to as *ideological dimensions.* (Hinich and Munger, 1994, 1997. I will refer to these as *basic dimensions* in this book." Quoted from Poole (2005, p. 15-16).

Hinich and Munger (1994) extend and develop the Enlow and Hinich (1984) two-space model. I summarize their discussion of that model before extending their discussion and model in various ways.

The essential points for this analysis are as follows. We will follow Hinich and Munger (1994) in assuming the existence of an *n*-dimensional issue space over which voters have preferences.[17] We will also assume an 'ideological' space of predictive or 'basic' (Poole 2005) dimensions that may be important in political discourse, and may function as a constraint on (at least some) political choices by elites.[18] As in Hinich and Munger's model, positions on issue space dimensions are 'linked' to ideological positions in people's heads as a consequence of the normative implications of ideological theories and accumulated experience with the meaning of political language. The degree to which positions in one space are linked to positions in the other space varies: some issue dimensions are tightly linked (in terms of the consistency of preferences) with ideological dimensions; preferences on other dimensions are not associated with ideological dimensions. Finally, Hinich and Munger suggest that parties play an important role in constructing the ideological space by creating conditions for the maintenance of a "viable" ideology, a suggestion that we will explore more fully in the model below.[19]

I will differ from or move beyond the Hinich and Munger model in several ways. I will modify their definition of the issue space, and will consider alternative models for

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[17] Broadening the scope of the Hinich and Munger model slightly, we will consider legislators as well as ordinary citizens. This is consistent with the arguments put forth by Poole (2005).

[18] Various names are given these dimensions by different authors. Hinich and Munger argue that the dimensions are ideological, and call them ideological. Poole (2005) takes the less definite position that the dimensions are 'basic'. Elsewhere, the dimensions are described as 'predictive' dimensions. In this paper I will typically refer to these dimensions as 'ideological' or 'partisan-ideological' to indicate the claim embedded in my model that these dimensions are maintained by the political parties, perhaps in an effort to present a consistent party ideological image.

[19] Hinich and Munger (1994) p. 165-166.

the origin of the ideological space, and will contest or at least complicate their claims for ideology as the source of political stability.

The relationship between ideological or 'predictive' dimensions and the more numerous dimensions of the policy space is a central lever on which the theory developed in this dissertation turns. The ideological dimensions represent an attempted simplification – a construction of simplicity – that is successful to varying degrees depending upon both institutions/opportunities, and the political gains to be had.[20]

In chapter 2 of this section, we will begin to examine the implications of ideological and policy space dimensionality for understanding politics and political institutions: this theme will return in some of the key empirical sections. The framework developed in this section will underlie the theory, models and hypotheses of section 2.

[20] To understand the meaning of this correspondence, it is useful to note the limits of ideology: unless the predictive dimensions provide an unrealistic degree of structure, they cannot alone explain the existence of political equilibrium, but such dimensions also reflect a variety of institutions, e.g. political parties with agenda setting power, that can support equilibrium.

Chapter 1: The Policy Space, and How it Varies

The issue space is the space of all political issues. The policy space is the active subset of these issues – the issues to which the public and/or politicians are paying attention. The size of the policy space in the spatial model is simply the number of dimensions *n* required to describe every active policy. In a spatial model built in the space of real numbers of dimensionality *n*, for example, a vector containing n elements describes each policy position. With two issue dimensions, a policy position is defined by a vector {a,b}. Each of the *n* dimensions in such a model is some policy dimension.

Defining the Issue Space and Policy Space

Although the modeling remains for subsequent chapters, we begin by formally defining the issue and policy spaces.

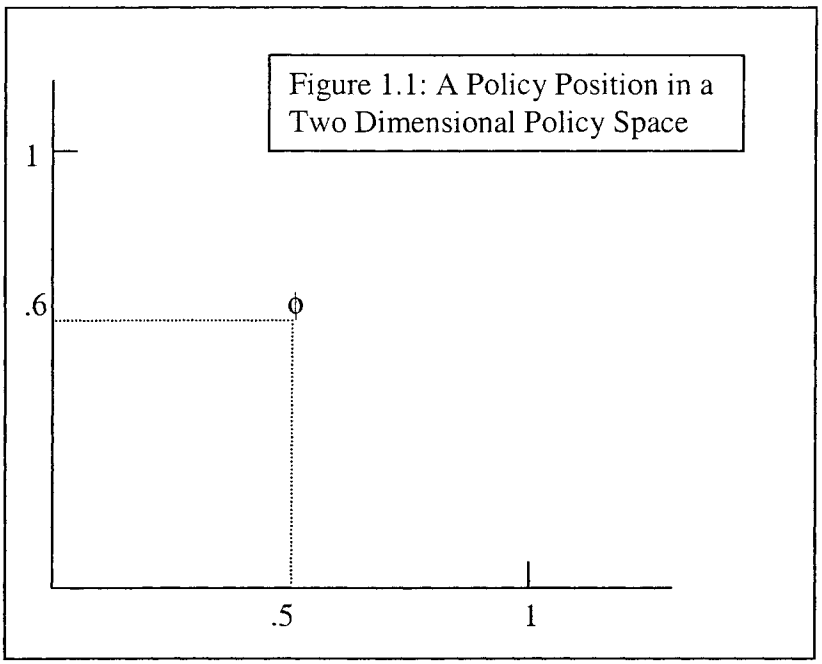
The issue space (denoted N) has N dimensions: 1 through N where $N \in [1,\infty]$

Following standard spatial modeling practice, we define these dimensions in the space of real numbers: $\Re^n$.

Within the issue space there are *D active policy dimensions* (1 through *D*) (what 'activity' means is discussed more below). The subset of the issue space that is active, is the policy space. The active policy space *D* is defined as a lower-dimensional subset of the issue space: $\mathbf{D} \subseteq \mathbf{N}$.

A policy position ϕ in the policy space is a vector of positions on each of the policy dimensions. For example, if $\mathbf{D} \leftrightarrow \Re^2$, then ϕ is two dimensional: $\phi=\{x,y\}$. If $x=.5$ and $y = .6$, then p would be located as shown in figure 1.1.

<Insert Figure 1.1 here>



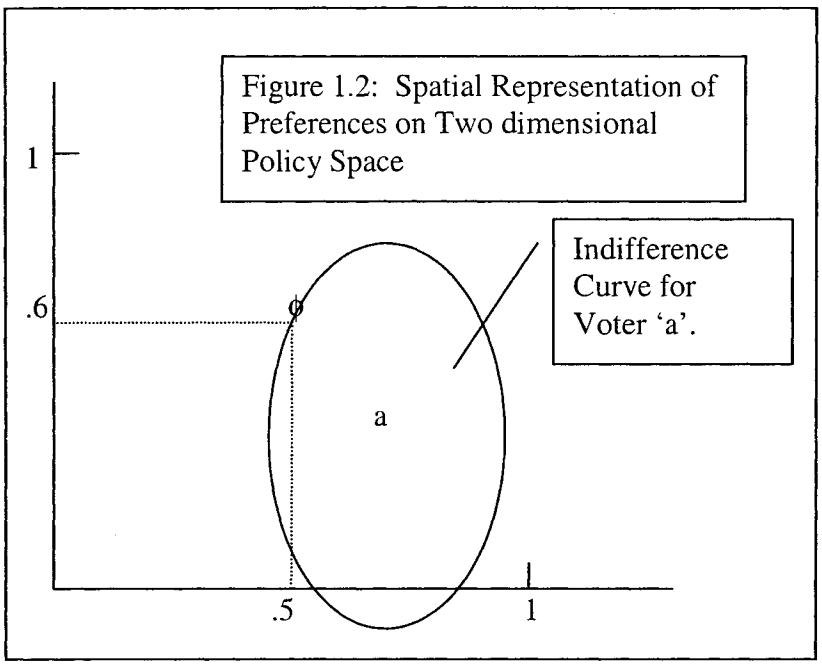
Voters have preferences over policy space positions. I will refer to the distribution of voters' preferences on policy space dimensions as the 'preference-policy distribution'.

> *Definition of Preference-Policy Distribution* – voters 1...n each have a utility function $U_i=v(\phi)$. Denote $v_d f(\phi)$ as the "*issue-preferences*" on any particular dimension *d*, where v_d is the 'salience' of a dimension (possibly voter-specific), and *f* is a function of position on the issue-dimension. The preference function is quasi-concave.

All voters have a most preferred 'ideal' point in the policy space, with decreasing utility for points farther from this ideal point.

Characterizing a specific voter utility function allows us to place voters in the policy space and to construct indifference curves. Quasi-concavity allows us to define voters' ideal points. An ideal point in the policy space is the position where the voter derives maximum utility from each of the dimensions considered. We can map voters onto the policy space defined in Figure 1.1. In Figure 1.2, the ideal point of voter 'a' is represented, along with an elliptical indifference curve drawn such that points within the

ellipse are preferred by voter a to the policy ϕ, and points outside of the ellipse are not preferred to ϕ.



Preference Similarity and the Issue Space

The translation from formal model to empirical application requires some empirically tractable definition of what constitutes an issue dimension, and a method of discerning voters' preferences on these issue dimensions. We must elucidate the real-world meanings of the D dimensions. Furthermore, we would like to be able to place voters and candidates on these dimensions so that we can test the implications of our models.

Consider first two policy dimensions. One is the appropriate level for the minimum wage, which can take any value from zero up. The second dimension is the

level of the capital gains tax, which can again take any value from zero up. Figure 1.3 shows voters' ideal points placed on these dimensions.

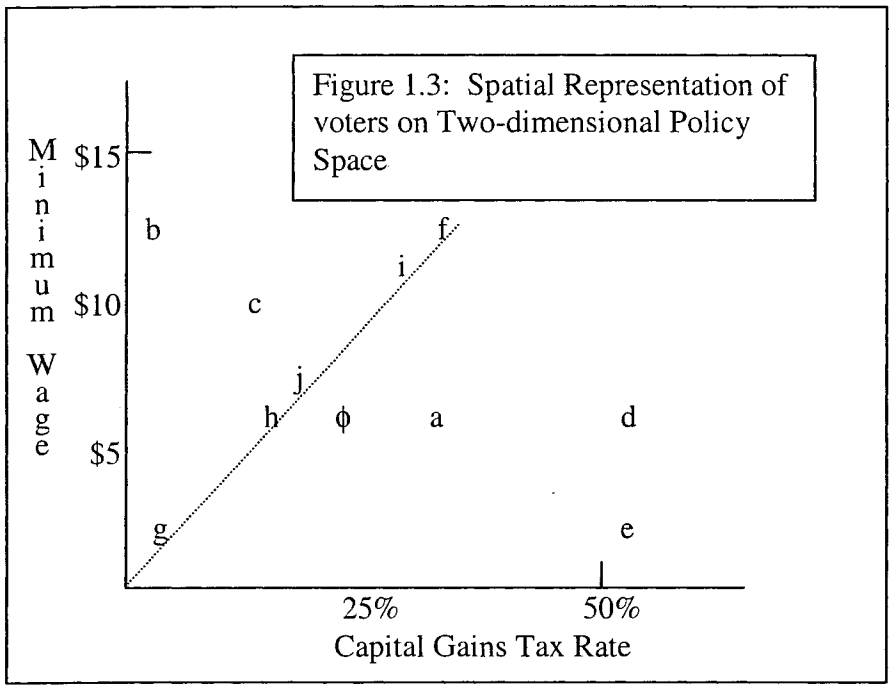


Figure 1.3: Spatial Representation of voters on Two-dimensional Policy Space

In figure 1.3, some voters (f, g, h, i and j) have preferences arrayed on a single line. The preferences of these voters are arguably consistent with a generally redistributive outlook: those who want a high minimum wage to help the poor also want a high capital gains tax rate (perhaps to 'soak' the rich). Other voters (a,b,c,d and e) prefer a range of different relationships between minimum wage and capital gains rates. Some voters (e) want high capital gains rates and low minimum wages, while others (b,c) want relatively high minimum wage rates, but low capital gains rates.[21]

Although political scientists have been discussing issues and spatial models for generations, there remains a rather poor fit between the spatial definition of an issue and

[21] The alignments of voters a through e may seem unusual – it is easier to imagine voters like voters f through i, since these voters have preferences consistent with the standard left-right ideological dimension. However, it is not hard to imagine reasons why one might have material interests structured as with the unusual voters. For example voter (b) might be a retiree with life savings in a rental property subject to high capital gains rates who is also working as a greeter at a department store for minimum wage in order to earn extra money. She might want to see low capital gains so that she could sell the property without a substantial penalty (and stop working as a greeter?), but she could also believe that a higher minimum wage would increase her income.

our typical issue classifications. Assessments of the size of the issue space typically depend upon policy typologies with categories that encompass many (spatially) distinct issues.[22] Attempts to compress the number of issues by combining in one 'issue' or category of issues on which preferences are correlated blurs the potentially useful distinction between policy space and ideological space (developed more below).

Starting with the positives, however, the field has developed some useful intuitions. Ian Budge and Judith Bara write:

> "Most investigators in this area would probably agree that the 'true' policy space is composed of as many dimensions as there are political actors and public preferences held by them – forming an underlying space of almost infinite dimensions therefore." (Budge and Bara 2001 in Budge et. al. p. 59)

The useful intuition is that the true policy or issue space is extremely large: the space of potential political choice is large. However, the suggestion that the number of political actors bounds the space raises the problem of separating similar dimensions in a subtle way.

The restriction to the number of political actors is reasonable in the following sense – if we are distinguishing dimensions on the basis of political preference, then the number of political actors, and their preferences, defines an extreme upper bound on the number of possible dimensions. Past some limit some of these dimensions will have the same ordering of preferences, and thus it will often not be possible to distinguish amongst them on the basis of preferences alone.[23] Nonetheless, if they are actually separate issue dimensions, they will have a dimension-specific status quo, which can be used to demonstrate that the dimensions are distinct, as in the *amendment anomaly* section below.

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[22] See the discussion of the amendment anomaly below.

[23] With three voters, there are 3! (3*2*1) possible orderings, although half of the orderings will be reflections of the other half (e.g. A,B,C and C,B,A). With n voters, there are n! possible orderings.

Thence, we cannot rely upon correlations between voters' views on one issue and their views on other issues to assess the size of the policy space or 'combine' issues.

In Figure 1.3, voters f through j have preferences arrayed on a single line. If these were the only voters, then arguably a single left-right 'ideological' dimension would govern choice on both issues. This does not imply, however, that policy changes must occur only on this line. In spite of the voter alignment, we are still in a two-dimensional policy space. Indeed, with the status quo located off-the-ideology-line as in the figure, we could observe passage of policies that change either dimension alone, or both at once. Policy change can occur on one dimension without necessarily implying a policy change on the other. Further, as we include voters (a,b,c,d and e), it becomes increasingly difficult to argue that a single left-right ideological or preference dimension is even governing choices.

Treating as one dimension multiple dimensions on which voters have highly correlated preferences raises empirical difficulties. One difficulty has been a tendency to conflate the policy and ideological spaces (see chapter 2 for definition of the ideological space): to assume that substantial correlation between voter's preferences across issues *a* and *b* implies that there are fewer policy issues involved.

Laver and Hunt (1992) write:

> "While the theorist can wave a magic wand and declare a policy system to be one-, two-, or three-dimensional, the empirical analyst dealing with a particular case is left with no hint as to how to determine the actual dimensionality of the space in question. And this empirical problem is not one of mere operationalization." (p. 23)

Specifically, Laver and Hunt note the ambiguity associated with circumstances in which voters or parties can be perfectly lined up on a single dimension, even though the theorist

has defined two underlying dimensions. Theoretically these might be distinct dimensions, but empirically there is no way to separate the dimensions merely through an examination of the structure of preferences. While this particular difficulty might be bypassed by some assumption that issues where preferences are identical can be considered as a single dimension,[24] moving epsilon away cannot be dismissed so easily – what about the instances in which most voters have 'the same' preferences across two dimensions, but a few voters do not? In contrast to Laver and Hunt, I contend that *any empirical operationalization of the policy space consistent with spatial theory must recognize that even when preferences are absolutely identical between two issues, those issues are still separate elements in the policy vector* ***if*** *policies and preferences on these issues can be varied separately.*

The Amendment 'Anomaly'

Even though policy dimensions in the same general policy domain are often evaluated in similar ways, one can sometimes demonstrate that they are distinct. The amendment anomaly below attempts just this demonstration. The appropriate model (at least for the legislative politics application below) is still a multi-dimensional model. In the absence of a multi-dimensional model it is impossible to render a consistent account of certain voting patterns. At minimum, I will show that politics modeled on a single line in spite of multiple policy issues may have an arbitrary or non-existent 'unitary' status quo.

[24] If we are thinking in terms of a theory-defined multi-dimensional spatial model, this conflation makes little sense: why not preserve the true dimensionality? The trick for empirical modeling is to find a way to measure the underlying multi-dimensional model. I will propose a partial answer to this difficulty below – a set of proxy measures that should all be associated with the size of the policy space.

Furthermore, where the number of policy dimensions is large, the "amendment anomaly" provides a way to glimpse the (high) dimensionality of the policy space, and to (partially) distinguish policy dimensions, even where voters hold sufficiently similar preferences across issues that a single dimensional ideological space (see chapter 2) may guide votes on both.

Assume for a moment that there truly is only one dimension in the policy space, with the other assumptions of the median voter theorem met, at least for a particular piece of legislation under consideration by a legislature. Also, assume that sincere voting takes place over the standard series of paired comparisons used in legislative voting, and that the status quo is run against the result of some sequence of amendments to the initial bill. It follows that under these assumptions each passing amendment must shift the legislation closer to the ideal point of the median voter.[25] By shifting the legislation closer to the median voter, the amendment also influences the winset of that legislation – the set of points (or amended bills) preferred by a majority to the legislation. The first amendment to pass, A_1 must be farther from the median than the second amendment to pass (A_2), and so forth. Consequently, the size of the winset of A_1 must be larger than the winset of A_2.

Consider a single-dimensional issue space on the [0,1] line, with voters distributed uniformly over the issue space, and single peaked preferences. In this model, legislators are considering amendments to a bill. We will restrict amendments to a position on the [0,1] line – an amendment must be offered by some member of the legislature. The example pictured in figure 1.4, the status quo is at 0, and the initial bill (B) is at 0.25. Assume 101 voters' ideal points are distributed uniformly (e.g. 0, 0.01,

[25] We assume that there is no strategic voting. In a one-dimensional space with two alternatives considered at a time, the incentives to vote strategically are relatively small in any case.

0.02...0.99, 1) with the median at 0.5. With B at 0.25, the winset (set of amendments that could overturn the bill is (0.25,0.75), so the winset covers a distance of 0.5.

Fig. 1.4. SQ	B	M	A_1
0	0.25	0.5	0.74

An initial amendment A_1 is offered at 0.74, and passes by a small majority. Now the winset is smaller: it ranges from (0.26,0.74), and covers only 0.48. It is easy to show that the winset will get smaller with each successfully passed amendment.

Some elements of the winset of a bill, if proposed, will win with larger majorities than others. Let Θ be the largest possible majority in favor of a new amendment. The movement of the amended bill to the median (and consequent shrinking winset) also puts limits on the maximum size the coalition that can be mustered in favor of some new amendment. Specifically, the size of the maximum coalition must shrink.

It is easy to show that in a one-dimensional model with single-peaked preferences,[26] the amendment A_Θ associated with Θ is always slightly closer to the median than the bill that is being amended, but immediately adjacent to the bill. Let ε be a small positive number.[27] Without loss of generality, assume that the location of the bill is greater than the median on the number line (B>M). The position of the amendment with the largest possible majority is then $A_\Theta = B - \varepsilon$ and the majority in favor of A_Θ includes all voters between it and zero $\Theta = [0, A_\Theta+\varepsilon/2)$.[28] After one amendment has been accepted, the size of Θ is necessarily smaller since the amendment is at least epsilon

[26] See definition above in the formal presentation of the policy space.
[27] One interpretation of epsilon is that it is the smallest difference that will be noticed by voters. Another interpretation, if the number of legislators is finite, would be that this is the distance between adjacent legislators.
[28] Conversely, if B<M, then $A_\Theta = B + \varepsilon$, and $\Theta = (A_\Theta-\varepsilon/2,1]$.

closer to the median. If the first amendment passed was A_Θ, then $\Theta' = [0, A_\Theta)$, which is less than $A_\Theta+\varepsilon/2)$.[29] As A gets closer to the median, the size of the largest possible coalition (Θ) shrinks toward 0.5. And with more amendments, A must get closer to the median. At B=M, $\Theta = 0.5$ at the most[30].

Intuitively, note that when the bill is at the edge of the distribution of voters, say at 1, any amendment from 0.99 to 0.01 can pass. A wide range of winning majorities could accompany passage. An amendment at 0.99 would pass 100 to 1. An amendment at 0.01 would pass 51 to 50. When the bill is at the median, the best possible outcome for an amendment is that there will be a toss-up: the most votes an amendment could possibly receive would be just slightly more than half of the total.

This implies that in a one-dimensional space certain patterns will not be observed. For instance, that Θ decreases with more amendments has implications for the size of support coalitions favoring some amendment. It does not rule out the possibility that one amendment will pass with a small margin followed by another amendment with a large margin. But after at least one amendment has been passed, this does rule out unanimous passage of a subsequent amendment. Passage with unanimous support implies that the bill as amended already is located at the edge of the distribution of voters, yet after at least one amendment has passed, the bill cannot be at such a location. Such amendment chains are easy to find. I found one in the amendment pattern of the first bill I tried.

During consideration of the 1996 welfare reform bill by the US House of Representatives, a series of amendments passed with progressively larger margins,

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[29] Conversely, if B<M, then $A_\Theta = B + \varepsilon$, and $\Theta = (A_\Theta-\varepsilon/2,1]$.

[30] The equality holds only if one can propose an amendment at the same location as the bill. Such an amendment will lead the median voter to randomly select between the bill and amendment. Similarly, if there is an even number of voters, a range of alternatives between the voters closest to the median could have this property. Absent these cases, no proposed amendment can garner even fifty percent of the vote.

ending in a unanimous vote: a pattern that cannot be explained by this one-dimensional model. The bill was amended several times in the House during the 1995 debate. Roll call 249 on March 22, 1995 passed the "Archer technical amendment" involving offsets of savings with tax cuts. The margin was 228 to 203, with Republicans and Democrats almost perfectly divided. Later in the same day, roll call 252, the House passed an amendment offered by Bunn of Oregon expanding the eligibility of unwed mothers for benefits. The margin was much larger (351 to 81). The next day in roll call 256, the House *unanimously* passed the Salmon amendment (433 to 0), which dealt with cross-state payment of child support.[31]

Although the one dimensional spatial model predicts that the potential support for a passing amendment will shrink as the number of passed amendments increases, this example shows a pattern of voting that is flatly inconsistent with that prediction.[32] To rationalize this pattern of votes, one would need two spatial dimensions, or violation of some other assumption of the model. Further, keep in mind that we need at least two spatial dimensions simply to make sense of voting on this *single* piece of legislation in what is sometimes (imprecisely) termed a single issue-area (welfare reform). How many more dimensions might be needed for the thousand votes in a contemporary Congressional session? I want to highlight a fact about political decision-making. There

[31] The abstract of the vote provided by Poole and Rosenthal in their Voteview program summarizes as follows "THAT REQUIRES STATES TO ADOPT PROCEDURES TO AUTOMATICALLY PUT LIENS AGAINST PROPERTY OF PERSONS FOR DELINQUENT CHILD SUPPORT PAYMENTS ORDERED BY ANOTHER STATE."

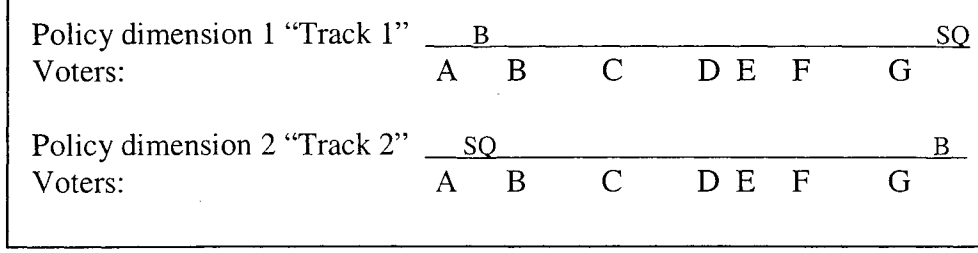
[32] It is possible that the logic developed here does not apply to the empirical case because some other assumption of the median voter model has been violated. In addition, one way to force this into consistency would be to model amendments with positions *exterior* to the set of legislators. With sufficiently 'exterior' bill and amendment locations, the bill could keep being amended (even unanimously) for a very long time. I find exterior amendments implausible, however, because every exterior amendment is Pareto dominated by at least one interior amendment.

are *many* policy dimensions. That is to say, most politicians in most polities face political choices in an extremely complex space of policy alternatives.[33]

A simple visualization of a multi-dimensional policy space on which preferences are ordered similarly but the status quo is different across dimensions is below.

In figure 1.5, each line represents a separate dimension, but the ordering of members is identical across dimensions. Like parallel railroad tracks these dimensions are tightly bound together. However, trains can move in both directions at the same time – each dimension has its own status quo and bill location. In keeping with the transportation logic (and to make things simple) the example below uses the 'city block' metric. That is, overall utility is simply the sum of the utility on each dimension. This has the effect of preventing the location of bill or status quo on one dimension from influencing the preferred location on the other dimension, as does assuming Euclidean preferences.[34]

Figure 1.5: The "Two Tracks" Policy Space



The voters are ordered in the identical way on both policy dimensions, but the status quo (SQ) and initial bill locations (B) are in different locations. Thence, a series of

[33] This also raises a point which I shall not develop here, but which is relevant to various recent attempts to enrich the estimation of latent 'ideological' dimensions of legislative voting which some concept of the 'status quo': if the policy space has many dimensions. How well can a latent dimensional estimate of the status quo reflect the status quo in a high-dimensional policy space? For an attempt to estimate a consistent status quo, see Joshua Clinton and Adam Meirowitz (2001).

[34] The two main utility metrics used in spatial models of politics are the Euclidian metric and the city block metric.

amendments could bring the bill location on dimension one (B_1) to the median (voter D) without influencing the location of the bill on dimension two. On dimension one, with B at the median no amendment could garner the support of more than half of the voters. On dimension two, however, an amendment at the location of voter G on the second policy dimension could garner unanimous support. Thus, with two dimensions the amendment anomaly is easily obtained.

It is important to emphasize that the predicted effect -- that unanimous votes cannot take place on amendments after a first amendment has passed -- does not apply to final passage votes. We do not expect to see diminishing support margins on final passage votes as a result of multiple amendments, even with a single dimensional policy space. In the 'two tracks' illustration (figure 1.4), restrict focus to the first dimension. Had the vote for final passage occurred prior to any amendments, the bill might have received little support, since the bill position on the first dimension was extreme. In particular, D is indifferent between B and SQ, so the bill will either lose or win by a slim majority. After amendment to bring the bill closer to the median (D), its chances of passing would seem somewhat better: all voters except for G would now prefer B to SQ on dimension 1. The decision to pass an amendment involves the choice between bill and amendment, and we have shown that in one dimension the support coalition for the amendment will tend to shrink. However, and critically, the final passage decision involves the bill and the status quo. The amendment anomaly suggests that after a series of amendments the bill must get at least some votes versus the amendment. In final passage a unanimous vote for passage means that the alternative to the bill garnered no votes – the status quo is the equivalent of an amendment receiving no support.

Successful amendments in a one-dimensional policy space should improve the bill's chances of passing versus the status quo.

One can offer alternative explanations for the empirical observation of the amendment anomaly. For example, one could write a model in which each issue has some kind of valence associated with it. There might be votes on which a legislator would vote in favor (even in spite of personal beliefs to the contrary) because it sounds like a good thing to do. On this account, for each policy issue, we need only consider the valence value of the issue and the policy position. A positive valence (perhaps due to popular perceptions or preferences) on the issue may even lead to passage of policies that shift the status quo away from the median voter because they 'sound' good.[35] Part way between these models is a 'multi-track' model similar to that of figure 1.5. The bill might have several policy dimensions, yet preferences could be ordered identically for all of them. These models are nearly equivalent. Even though in the valence model the status quo on all issues is constrained to the same location, valence perturbations in effect allow it to vary, while in a "multi-track" model there is a separate value on the status quo for each policy dimension. Ultimately, I believe that these models are nearly equivalent. Both recognize in some form the multi-dimensionality of the issues.

In addition, members may vote based on their expectations concerning outcomes resulting from a series of anticipated votes. Strategic evaluation of the entire set of future actions could lead members to place votes inconsistent with their underlying preferences. Conceivably, strategic votes could lead to creation false instances of the amendment anomaly. On the other hand, there is little incentive to vote strategically unless one's

[35] What politician wants to oppose a minimum wage, or the 'right to work'? Policies may be popular simply because of how they are perceived, rather than because of the actual utility associated with them. The names given to bills and acts often reflect such efforts to capitalize on positive valence.

vote may be pivotal, and the amendment anomaly is precisely about the occurrence of unanimous votes late in a sequence of amendments. While it is possible that a line of previous passage votes all obtained smaller margins than they should have due to strategic voting, this hardly seems plausible in the extreme form it would have to take to avoid (or create) the anomaly. To avoid the anomaly, all of the previous amendments that passed would have needed to have underlying unanimous support.

The amendment anomaly buys two important insights. One insight is that we should not expect the status quo in 'ideological' space to be clearly defined. The second insight, more central for this project, is that the size of the policy space is not determined by preference orderings. Searching for the dimensionality of the policy space using preference data will lead us astray.

Empirical Definition of the Policy Space

How then does one operationalize a reasonable spatial definition of the policy space? We begin with the spatial model as described above. In the spatial model, to see whether an issue is a separate dimension in this space, one must simply ask whether positions on this policy can be varied independently of other issues. This project will use the following definition of a dimension of the issue space (N, D) when we approach empirical application:

> *Each issue ω that can be changed without simultaneously changing other policies in the issue space represents at least one unique dimension.*

This definition is consistent with the multidimensional spatial model. In the context of a multi-dimensional spatial model, one can change values on any given dimension(s), and positions are characterized by the position on each of these

dimensions. Similarly, by the definition above, a point is characterized by its position on a number of policy dimensions.[36] Thus, I provide a criterion for distinguishing between dimensions in the issue space even when preferences on the two dimensions are identical.[37]

The space of all policies – the issue space – includes dimensions that have little or no current political activity, and very low salience. The policy that Jesse Richman be granted a pension of five million dollars a year for life is in the space of possible policies. There is absolutely no activity on this dimension, however.

Thus, it is customary to offer some restriction of the issue space to an active policy space that includes only dimensions subject to a threshold level of political activity.[38] In the formal definitions above, this was the policy space: *D*. Critically, we want to define the active policy space as the space of issues that is available for political debate and action – the set of policies that politicians or parties could plausibly pull 'off the shelf' or perhaps from the newsstands when they want something to enact or debate.

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[36] At this point in the presentation, I do not want to claim that our utilities for other dimensions are not influenced by changes in one dimension. (i.e. that utilities are separable across dimensions.) Some spatial utility metrics (e.g. spherical/Euclidian) do have this property, but others do not. The point is that we have a separate dimension if we can change policy on this dimension without changing some other policy. Granting me a pension for life of five million dollars a year does not change whether or not *you* receive a similar pension. I can have mine without you having yours, and you can have yours without me having mine. None-the-less, whether or not I have mine may change my attitude toward you having yours. Anticipating an argument about the rule of law, if government policymaking is restricted to general prospective enactments such that the only alternatives are that both of us (and everyone else in our circumstances) gets a pension or not, then we have only one dimension – the everyone-a-pension-or-not issue.

[37] Note that the requirement of simultaneity helps to keep dimensions unique. A dramatic increase in defense spending may imply that taxes or deficit spending will increase, but decisions of whether to borrow, tax, cut spending elsewhere, or print money, need not be made at the same time as the appropriation decision. Unfortunately, the criterion does require some judgment – assessing the dimensionality requires a thought experiment in which one policy is varied, and one checks whether others have changed.

[38] This kind of restriction is employed by Hinich and Munger 1994, but it can be seen even in the work of Joseph Schumpeter (1942).

Hinich and Munger (1994) offer a definition of political activity: "Social problems large numbers of citizens care about that (1) politicians talk about (a) in public, (b) to contributors, or (c) among themselves, OR (s) the press talks about, either because some interest wants it discussed, or because citizens care about it." (Hinich and Munger 1994, p. 111)[39] With one important modification we will adopt this definition. I do not have a serious disagreement with Hinich and Munger about what activity means, but I do not wish to exclude issues that receive less public care, provided politicians and/or contributors care about them. Simply because an interest has managed to prevent the public and press from paying attention does not mean that the issue is inactive in legislative or bureaucratic politics: merely that the scope of activity/conflict is small.[40] We modify the definition as follows:

> Definition: The Policy Space (active subset of the issue space) contains issue space dimensions that (1) large numbers of citizens care about, OR (2) politicians talk about (a) in public, (b) to contributors, or (c) among themselves, OR (3) the press talks about, either because some interest wants it discussed, or because citizens care about it."

We are now ready to turn to the implications of these definitions for the empirical measurement of the policy space. By considering as a separate dimension any policy that can be varied without necessarily modifying some other policy, I am taking a definition of the issue space that splits into many dimensions choices on what are sometimes considered the same 'issue' in policy typologies. Take, for example, the abortion 'issue'. While it is common to speak of abortion as a single issue, there are in fact many policy dimensions that can be varied on the abortion 'issue'. In the late 1990s and early 2000s,

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[39] Hinich and Munger's definition is consistent with policy 'problems' or solutions that include many distinct policy changes. I think it is more consistent with spatial theory to explicitly recognize a criterion for distinguishing issues, as stated above in the empirical definition of the issue space.

[40] See for further discussion Schattschneider (1960), Bachrach and Baratz (1962, 1963), Gaventa (1980) and the discussion of institutions and agenda setting below.

several these policy dimensions were politically active. For example, the decision of whether to ban so called 'partial birth abortions' is arguably distinct from whether parental notification should be required of minors. Since one can alter the policy on partial birth abortions without altering the policy on parental notification, these are separate dimensions. In addition, both of these can be varied without regard for whether US government monies are used to fund abortions/family planning in China, and/or in the US. Thus, although in common usage one refers to the 'abortion issue,' we should properly refer to the set of issue space dimensions concerning abortion policy rather than simply the abortion issue. Those abortion dimensions that are politically active will, in turn, be readily available for 'use' in politics.[41]

There are many potential abortion issue dimensions that are not active in contemporary US politics. I take an extreme case to illustrate the size of the potential policy space. In a world of extreme political control, one might have abortion permits allocated to individual petitioners by legislative action. Although extreme, this level of involvement had a parallel in the decision of the Florida legislature to pass 'Terri's Law" in order to stall the starvation/euthanasia of Terri Schiavo in 2003 through removal of her feeding tube after more than a decade in a "persistent vegetative state."[42]

All this is not to say that attitudes on the abortion dimensions are apt to be structured by one's ideological outlook, or at least one's views of abortion in general: these distinct abortion issues nevertheless are going to be viewed by voters in similar

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[41] Republicans, more than Democrats, seem to have recognized the potentialities provided by multiple abortion issues. By raising issues on which the public backs their anti-abortion position (partial birth abortion, parental notification) they are able to gain politically from the abortion issue, in spite of public opinion that is quite divided on abortion in general.

[42] More information on the Terri Schiavo case is available at the website of the Terri Schindler-Schiavo Foundation: http://www.terrisfight.org/.

ways.[43] But the fact that they are structured in similar ways, does not mean that they will be viewed in identical ways. And even if they were viewed in identical ways, they might have quite different status quo, which can be important.[44]

Assessing the dimensionality of the policy space

The discussion above of the large size of the policy and issue spaces may prompt the rejoinder that one be 'shown' the true size of the policy space – how can this thing be measured? As Laver and Shepsle (1994) note, this question is not easy to answer, and it remains difficult even once one has overcome the conceptual difficulty created by confusing the policy space and the distribution of preferences on it. But we should at least be able to develop some theoretically informed proxy measures of the policy space. I present a set of conjectures that will serve two purposes. I would like to test them on appropriate data, but I will also use these conjectures to establish proxies for the size of the policy space useful for testing the models developed in chapters 3 and 4.

Claim 1: *Population.* In a simple distributive politics model like the divide-the-dollar game, where each person is a dimension, adding additional people implies adding additional dimensions. Since one set of potential dimensions (in the issue space but not necessarily in the policy space) is the "pension to Mr. Jones" variety of distributive politics, the issue space is by-definition larger with a larger population. A larger population directly implies a larger issue space.

Arguably, this can be extended to a world in which distributive politics is played at a group level. The presence of more people may imply the presence of more groups,

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[43] Of this more later, because I want to explain the conditions under which these dimensions are more or less likely to be structured by general considerations.

[44] Different status quo locations provide opportunities for different legislation to pass. SQ to the right of the median in a one dimensional space would presumably be favorite targets by the left, since they have a good chance of winning.

and thence more dimensions. Simple combinatoric logic suggests that the number of potential groups increases quite dramatically as the number of people increases. There will likely be multiple policy dimensions that shape the welfare of each group, but with more groups or individuals involved, the upper bound on the size of the preference policy distribution is higher. The argument here is old. In Federalist 10, James Madison writes that "The smaller the society, the fewer probably will be the distinct parties and interests composing it; the fewer the distinct parties and interests, the more frequently will a majority be found of the same party." (p. 83). Thus, Claim 1 is that all else equal *increases in population will be associated with increases in the size of the issue space.*

Will a larger issue space translate into a larger set of active policies? It is possible that more potential dimensions lead to a squeezing out process, or make it more difficult to get one's voice heard, leading to fewer active dimensions as a portion of the overall issue space. On the other hand, it is hard to imagine that increasing the size of the issue space will lead to fewer issues becoming active than with the smaller space. A richer and more specified model will be required, and chapter 4 attempts such a model by considering the conditions under which specific policy issues will be raised.[45] Conjecture

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[45] As we will see, the presence an extended polity with more people may increase the predictive power of simplifying 'ideological' dimensions for a number of reasons. In Federalist 10, James Madison (1787) also suggests that a larger and more diverse population can check the power of individual factions because few are likely to possess the support necessary to achieve a national majority. With more people, the issue space is larger, but this does not necessarily imply a larger ideological space, nor even necessarily a larger policy space to the extent that a larger space makes it harder for a given issue to become 'active'.

Madison suggests that the increase in population will be associated with a decrease in the number or portion of issues on which a majority preference can be found, which might be read as a statement about the stability of majority rule as the population increases – the portion of issues with a preference induced equilibrium will be smaller. In some contexts at least, parties or other agenda setters may choose to exclude issues without a preference based equilibrium, and the diversity of groups may also make it hard for the smaller groups to bring their political goals into the active policy space. Madison appears to view this weakening of the power of individual groups as a chief advantage of the extended republic. Thus, although a case can be made that the portion of potential groups that will form and/or have their preferences enacted into legislation may be smaller in larger polities, Madison's argument is consistent with a larger overall policy space with more groups.

1 is meant to establish primarily that policy makers will have more options to choose from, and face more potential demands when the population is larger, even though the ability of the political system (and the public) to address issues may be limited.

Claim 2: *Government Intervention.* The more policies the government is already involved in, and the larger the scale of government spending, the larger the active issue space tends to be. Any increase in government intervention, absent the delegation of power that frequently accompanies it, should be associated with an increase in the size of the issue space – if government is doing more, planning more, more separable policy decisions need to be made.

Increased government intervention on some policy issue tends to create the conditions for the emergence of multiple active policy dimensions. For example, with passage of the endangered species act, the US government began to protect many endangered species. The decision to protect endangered species on private land initiated a series of political fights, each with a somewhat different set of dimensions involved: on property rights, on reintroduction programs, on whether particular species should be added from the list, and so forth. If the government had ignored the issue of endangered species, then we might have simply a single dimension: do we want to advance legislation to protect endangered species or not. And possibly the issue would be ignored (leaving it out of the active issue space), as was the case for most of American history prior to the second half of the twentieth century. Once government began to intervene, the need to revise, adjust, and create exceptions made it more likely that a set of distinct policy dimensions would be active.

The original act passed in 1973 by overwhelming majorities in the House[46]. The general endangered species act has remained very popular, and the occasional opposition to endangered species protection is often statistically accounted for by Poole and Rosenthal's Nominate two-dimensional spatial model, which suggests that it is consistent with general ideological positions. However, the policy issue "should there be an endangered species act or not?" is only one of the issues that have appeared in the wake of the act's passage.

By passing the endangered species act, Congress raised a host of specific, theoretically distinct, and ideologically mushy auxiliary issues. Many small and specific policy dimensions became politically relevant as a consequence of endangered species act passage.[47] As an aside, Poole and Rosenthal's 2-dimensional Nominate spatial model poorly explains votes on these policy dimensions, although it has done somewhat better over time.[48]

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[46] The 1973 conference report passed with 355 yeas to 4 nays on the conference report, with no classification errors and a proportionate reduction in error (P.R.E) of 1.0. In final-passage votes, environmental policies had a valence appeal, from the late 1960s through the early 1990s that made it difficult for members to justify voting against these measures. Protecting the environment was seen as an unambiguous good, and few members wanted to be seen as anti-environmental. In the mid to late 1990s several more divisive environmental issues gained prominence, including western water and grazing rights, oil drilling in the Arctic Wildlife Refuge, and the Kyoto protocols for the reduction of Greenhouse Gas Emissions.

[47] This process could be modeled as follows. Passage of the general endangered species act shifted the policy status quo on a number of potentially separate decisions (e.g. will the snail darter be protected?). By shifting the status quo, passage increases the likelihood that such issues will be acted upon (presumably they had previously been at a status quo position in which little action would be likely.

[48] Note that whether or not the ideological space inferred by Nominate maps onto these issues or not isn't essential to the point. But the fact that ideology maps quite poorly on these dimensions is consistent with their being on a variety of relatively obscure policy dimensions. There may be a slight upward trend whereby votes on the new issues are gradually being wrapped into the general endangered species act votes. Votes were identified using a keyword search for "Endangered Species" in the bill abstracts provided with Poole and Rosenthal's Voteview program.

A summary of these issues follows. In 1976, Congress voted on a plan to compensate for losses caused by endangered wolves in MN.[49] An amendment to the 1978 revision of the Endangered Species Act sought to exempt Tellico Dam from the provisions of the Act.[50] In 1987, Congress voted on whether to remove the Leopard Darter Minnow from the Endangered Species List, and whether to delay implementation of turtle exclusion nets in the Gulf of Mexico.[51] The California Desert Lands Protection Act included a restriction that valuation of private lands should not be adjusted to reflect the presence of endangered species.[52] And the House voted for Endangered Species Act suspensions for disaster area flood control project repairs in 1997.[53]

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[49] 94th House, Roll Call 1188: "TO SUSPEND THE RULES AND PASS H.R. 14418, TO ESTABLISH A PILOT PROGRAM TO COMPENSATE PERSONS WHO SUFFERED LOSS OR DAMAGE FROM PREDATION BY ENDANGERED SPECIES, SPECIFICALLY WITH REGARD TO THE EASTERN TIMBER WOLF IN MINNESOTA." (164 yeas versus 235 nays. Errors 102. P.R.E. .378). PRE stands for Proportionate Reduction in Error. It is the portion of variance that the spatial model explains beyond what would be explained by simply assuming that all members took the more popular position. In this case the spatial model makes 102 errors relative to 164 errors based on assuming the popular position. Thus, the spatial model makes only 62.2 % as many errors. 1-0.622 = 0.378. Like the adjusted R-squared, PRE can be negative.

[50] 95th House, Roll Call 1519: "TO AMEND H.R. 14104, THE BILL EXTENDING APPROPRIATIONS FOR THE ENDANGERED SPECIES ACT THROUGH FISCAL YEAR 1981. THE DUNCAN AMENDMENT EXEMPTS THE TELLICO DAM AND RESERVOIR PROJECT FROM THE PROVISIONS OF THE ENDANGERED SPECIES ACT." (235 yeas, 163 nays. 86 errors. P.R.E. .472).

[51] House 100, Roll Call 467: "TO AMEND HR 1467, ENDANGERED SPECIES ACT, TO REMOVE THE LEOPARD DARTER MINNOW FROM THE ENDANGERED OR THREATENED SPECIES LIST." (Yea 137, Nay 274. Errors: 103, P.R.E.: .248.).
House 100, Roll Call 468: "TO AMEND HR 1467, ENDANGERED SPECIES ACT, TO DELAY FOR TWO YEARS THE IMPLEMENTATION OF REGULATIONS REQUIRING THE USE OF TURTLE EXCLUDER DEVICES BY SHRIMPERS ON OFFSHORE WATERS OF THE GULF OF MEXICO." (Yea 149, Nay 272, Errors 109, P.R.E. .268).

[52] House 103, Roll Call #918, 7/14/1994: "H.R.518 BY LEHMAN, RICHARD (D-CA) -- CALIFORNIA DESERT PROTECTION ACT OF 1994 CALIFORNIA MILITARY LANDS WITHDRAWAL AND OVERFLIGHTS ACT OF 1994 BODIE PROTECTION ACT OF 1994 (HOUSE AGREED TO THE TAUZIN AMENDMENT, AS MODIFIED, THAT PREVENTS APPRAISALS ON INHOLDINGS FROM TAKING INTO ACCOUNT THE PRESENCE OF A THREATENED OR ENDANGERED SPECIES.)" (Yea: 281, 144 Nay, Errors 75, P.R.E.: .479.)

[53] House 105, Roll Call #106, 5/7/1997: "H.R.478 BY HERGER (R-CA) -- FLOOD PREVENTION AND FAMILY PROTECTION ACT OF 1997 (HOUSE AGREED TO THE BOEHLERT AMENDMENT IN THE NATURE OF A SUBSTITUTE, AS AMENDED, THAT EXEMPTS FROM THE ENDANGERED SPECIES ACT CONSULTATION AND CONFERENCING PROVISIONS, A PROJECT TO REPLACE A FLOOD CONTROL FACILITY THAT IS DECLARED A FEDERAL DISASTER AREA IN 1997 TO THE EXTENT AS WOULD BE REQUIRED BY CALIFORNIA PROJECTS SUBJECT TO THE U.S. FISH AND WILDLIFE SERVICE POLICY ON EMERGENCY FLOOD RESPONSE AND SHORT

The discussion above is meant to suggest that when the government is larger[54] we should expect more active policy dimensions. Claim 2: All else equal, *higher levels of government intervention will be associated with more active policy space dimensions.*

Claim 3: *The Rule of Law.* Although in general larger government should mean a larger issue space, how the government intervenes is arguably at least as important. I will show that the more specific the activity, the more active policy dimensions. For example, as government engages in more economic planning there are opportunities for more different coalitions, and there is less constraint across preferences. A comprehensive economic plan is rather like a rule for dividing the society's dollars, and the policy game will consequently tend towards the multidimensional character of a divide the dollar game. In the language developed above, more government planning (even holding the size of government constant) will tend to be associated with a larger active policy space.[55]

TERM REPAIR OF FLOOD CONTROL FACILITIES ISSUED ON FEBRUARY 19, 1997; PROVIDES THAT EXEMPTIONS SHALL NOT APPLY AFTER THE DATE THAT THE ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS DETERMINES THAT REPAIRS HAVE BEEN COMPLETED ON DECEMBER 31, 1998, WHICHEVER IS EARLIER; AND CLARIFIES THAT THE EXEMPTIONS APPLY TO ANY PROJECT TO REPAIR A FLOOD CONTROL FACILITY IN RESPONSE TO AN IMMINENT THREAT TO HUMAN LIVES AND PROPERTY.)" (Yea 227, Nay 196, Errors 81, P.R.E.: .587.)

[54] I define 'larger' rather broadly to include more rules, more expenditure, etc..

[55] An example of this effect in patent policy is developed below.

Hayek suggests that the dimensionality of the ideological space will also be increased, or the dimensions weakened: that ethical principles will be unable to structure choice. There is no simple rule for the translation of the number of issues in the policy space to the number of ideological dimensions. One ideological dimension can potentially structure an infinite number of policy dimensions. Hayek argues that where government intervention has swelled the size of the policy space, the ability of a single dimension to manage conflict will tend to break down. He makes this argument particularly in reference to principles of fairness and their (in)ability to structure choices.

> "There are no practicable standards of merit, deserts, or needs, on which in a market order the distribution of material benefits could be based, and still less any principle by which these different claims could be reconciled." (Hayek 1976, 91)

In essence, Hayek argues from the incompleteness of (some) ideologies that morality/ideology will be unable to structure decision making in a (sufficiently) collectivist society. The necessary number of linkages just does not exist.

Economic planning generally means a smaller role for general non-ex-post-facto rules, in the spirit of the rule of law ideal. Hayek (1944) describes the rule of law as the condition under which "government in all its actions is bound by rules fixed and announced before hand – rules which make it possible to foresee with fair certainty how the authority will use its coercive powers in given circumstance."(p.72) For the US Government, the1946 Administrative Procedures Act places similar if less specific restrictions upon the regulatory powers of federal agencies.[56] The Endangered Species Act exceptions discussed above are generally not consistent with prospective rule making in the sense that most were specifically targeted at known individuals and groups, and embraced past as well as future actions/consequences. The rule of law is a legal institution that limits possibilities of rulemaking and administrative action in ways that restrict the size of the active policy space. For example, under the rule-of-law, areas of policy that depend on specific, post-hoc rules are not to be considered. There are several sets of specific criteria associated with the concept of the rule-of-law. Richard F. Bensel (1980) attempted to synthesize Hayek's (1944) criteria and Theodore Lowi's (1979) related criteria into a five-point list.

1. The general rule contained in a statute must be prospective, not retrospective.
2. Statutory language must be clear, specific, and publicly advertised. The statute must minimize administrative discretion.
3. The general rule contained in a statute must treat individuals equally in classification and enforcement. The objects of state policy should be classes and categories of citizens behavior rather than specific individuals or isolated situations.
4. Statutes must be drafted by a governmental body (usually the legislature) not involved in direct enforcement or implementation.

[56] A key difference is that the Administrative Procedures Act permits regulations targeted at a single individual, whereas theorists of the rule of law have generally required focus on a category of citizens (See Bensel's criteria above.)

5. All administrative decisions must be subject to judicial review for compatibility with statutory specifications.
[Bensel 1980, pp 736-37]

Policies consistent with the rule of law cannot explicitly provide benefits to particular individuals. It is easy to see that policies directed at known individuals or groups will tend to inhabit multi-dimensional issue spaces. Each category in the plan, each class subject to special rules or treatment, becomes a separate dimension according to the definition of the issue space given above. Without the rule-of-law restriction, one can make changes on any one dimension without changing the others. Under a general Endangered Species Act, the Leopard Darter, and Gulf of Mexico turtles are either both protected, or both not protected. When specific rules are made in particular special cases, then any combination of protection and non-protection is possible.[57][58]

The discussion above is meant to suggest that when the government is more involved in determining specific policies tailored to individual situations, we should expect more active dimensions in the issue space. Claim 3 is thus that *more specific government intervention – and less rule of law -- will be associated with more policy space dimensions.*

Claim 4: *Political Institutions.* In addition to, or in conjunction with the rule of law, other political institutions are arguably related to the size of the policy space, in part

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[57] Arguably, but see Raz (get cite) policies consistent with the rule of law cannot make distinctions between citizens on the basis of race or ethnicity. Such distinctions have often been the basis of the 'second dimension' in American politics. I show below (patents case study) that the politics of individual benefits tends to be ill-structured by ideological dimensions.

Nor can such policies include Ex-post-facto (retrospective) rule changes, which eliminates a substantial class of potential policy actions. Note in this respect that the US Constitution (Article 1, Sections 9 and 10) bans ex post criminal laws at the state and national level, but does not restrict the retrospective application of civil laws.

[58] Criterion 2 is one component that potentially runs contrary to the argument. If legislatures are required to be specific, then they cannot avoid decisions on difficult policy dimensions through delegation or through related avoidance tactics.

through their relationship to the degree of government intervention in society and economy. The discussion below intersects in some ways with the discussion of ideological dimensions that follows in chapter 3. Constitutional restrictions may at times delimit or restrict political activity. Institutions that facilitate delegation may be a means of reducing the size of the policy space dealt with by legislators and/or voters.

Constitutional limitations on government power are seated in the design of the United States constitution. The Congress is granted specific powers under Article 8 of the Constitution, (e.g. power to borrow money, coin money, establish post offices and post roads...). From early on, these powers have been expanded through flexible interpretation of the necessary and proper clause, as for example in the creation of the National Bank and purchase of the Louisiana Territory.[59] None-the-less, through much of the 19th century a limited strict-constructionist reading of these delegated powers prevailed. For example, President Jackson vetoed the construction of some road projects on the grounds that the government lacked constitutional authority to build them. Time, court interpretation, popular pressure, and ultimately the New Deal inaugurated a period in which the delegated powers of the Constitution were read so expansively that they imposed few limits on Congressional power. The ability of legal constraints to function depends upon possession of sufficient political support. As a consequence perhaps of the Reagan 'revolution' the Article 1 Section 8 delimiting of Federal power seems to once more impose some limits on Congressional action, as in United States v. Lopez (1995) and United States v. Morrison (2000). As a result of Lopez, the Congress does not have authority to ban possession of a gun near schools, and thus (at least until the composition

[59] "To make all Laws which shall be necessary and proper for carrying into Execution the foregoing Powers, and all other Powers vested by this Constitution in the Government of the United States, or in any Department or Officer thereof."

of the Supreme Court changes) this particular policy cannot be enacted by the national government.

Joseph Schumpeter (1942) sees such limitations as a potentially useful innovation of the "bourgeois" class.

> "The bourgeosie has a solution that is peculiar to it for the problem of how the sphere of political decision can be reduced to those proportions which are manageable by means of the method of competitive leadership. The bourgeois scheme of things limits the sphere of politics by limiting the sphere of public authority; its solution is in the ideal of the parsimonious state that exists primarily in order to guarantee bourgeois legality and to provide a firm frame for autonomous individual endeavor in all fields. If, moreover, account be taken of the pacific – at any rate, anti-militarist and free-trade tendencies we have found to be inherent in bourgeois society, it will be seen that the importance of the role of political decision in the bourgeois state can, in principle at least, be scaled down to almost any extent that the disabilities of the political sector may require." (p. 297)

Thus, although these are somewhat difficult to quantify, the existence of institutions such as constitutional restrictions that are capable of restricting the scope of political activity should influence the size of the active policy space. The effects of political institutions on the policy space are expected to operate through Claims 2 and 3 above –institutional rules may influence either the scope of government activity or the way in which government intervenes.

Claim 5: *Issue Classifications*: Earlier in this chapter I discussed the severe limitations of current issue typologies as measures of the size of the active policy space. Typologies of political issues attempt to group political activity into categories defined by some set of important characteristics. For example, Aage Clausen divided Congressional votes into six categories: government management, social welfare, agriculture, civil liberties, foreign and defense policy, and miscellaneous policy (see appendix 2). In a

more elaborate coding attempt, Poole and Rosenthal extended Congressional Quarterly codes and coded votes all the way back to the first session of Congress using 99 "specific issue codes" such as: "1. Gasoline rationing/allocation, 2. Fish & Wildlife, 3. Tax rates, 4. Budget resolution, 5. Women's Equality, 6. South Africa/Rhodesia, 7. Amnesty (all wars), 8. Unemployment/Jobs... etc." (See Appendix 2 for citation and complete list).

Issue categorization schemes are useful in identifying the general domain in which a policy took place, and some such categorizations are helpful in determining the type of policy being dealt with en route to estimating domain specific effects.

These categorization schemes are limited, yet they do have a place in our attempt to develop proxies for the size of the active policy space. They simply cannot reflect the full complexity of the policy space. A given issue, for example tax rates, can encompass rates for a variety of taxes: income, excise, poll, etc.[60] Similarly, unemployment policy covers multiple distinct dimensions. It might involve the time-period for unemployment benefits, the amount of unemployment benefits, the financing structure for unemployment benefits, make-work, job training opportunities, and so forth.

In spite of their limitations, activity on a more diverse set of typology categories should typically correlate with the presence of more active policy dimensions. Continuing with Poole and Rosenthal's coding, if unemployment did not appear as a category during a given session of Congress, then no element from the space of 'unemployment' issues received consideration. We do know that when 'Unemployment' votes are present we have at least one active unemployment policy dimension that was

[60] Early in this chapter I discussed the distinction between capital gains taxes and income taxes. Since these tax rates can be varied separately, they constitute distinct dimensions in the issue space.

inactive before. Thus, although none of the current issue typologies is granular enough to assess the true size of the active policy space, we can infer some information from issue typology based coding. While imperfect, the number of typology categories that are active ought to be a rough indicator of the size of the active policy space because the separate typology categories should divide distinct issues. Thus, Claim 5 is that for a given issue typology, when *more categories are 'active' there will tend to be more dimensions in the policy space.*

Summarizing across the claims, we expect that: (1) increases in population will be associated with increases in the size of the issue space; (2) higher levels of government intervention will be associated with more active policy space dimensions; (3) more specific government intervention – and less rule of law -- will be associated with more active policy space dimensions; (4) institutional rules may influence either the scope of government activity or the way in which government intervenes; and (5) for a given issue typology, when more categories are 'active' there will tend to be more dimensions in the policy space.

Conclusion

In this chapter, we have examined the formal definition of the policy space: the fundamental space in the two-space model. Shifting toward empirical evaluation, we demonstrated with the amendment anomaly that correlation in voters' preferences is irrelevant if we want to have a non-arbitrary characterization of the number of dimensions of the policy space. This is a substantial contribution: it clarifies definitions in a very muddy literature. Leveraging the amendment anomaly model, we constructed an

empirical definition of the policy space consistent with the formal model, and examined several sources of variation in the size of the issue and policy spaces.

One goal of this chapter is to convey a sense of the size of the issue space. The space from which policies can potentially be drawn is very large. Because there are numerous non-exclusive policy alternatives, a large set of policy dimensions face most political decision makers. But I hope to have also given grounds to suppose that the size of the active policy space is potentially measurable – that political institutions, government policy, and population influence it, and that it can also be (roughly) measured using existing issue typologies. Variation in the size of a large but finite active policy space is an important explanatory lever in the models developed in chapters 3 and 4.

Chapter 2: The Ideological Space and the Structure of Stability

> "What the data are telling us – and it must be emphasized that this is a wholly empirical result – is that, though the policy space citizens care about is enormously complex, differences over these policies tend to cleave along lines that are highly correlated across issues. The basic principle or judgment that dictates one's opinion on child care has high predictive content for health care, welfare reform, and educational policy. A successful theory must therefore recognize that the relevant space for political strategizing is not the policy space, with its high dimensionality, but a simple space, with latent or recovered dimensions." (Hinich and Munger 1994: 233)

> "The notion of ideology as a set of ideas with policy implications can be formalized in a spatial model. The precise correspondence between ideological position and the policy platforms voters associate with that position is complex. Politicians depend on the historical relation of others who have claimed their ideological affiliation, and on the subsequent actions of those others, to create the correspondence in voters' minds. Each campaign influences this correspondence, to some extent, but the whole value to the voter is not having to relearn the meaning of political language. Rather, each voter carries in his mind an individual, idiosyncratic expectation of what political messages mean." (Hinich and Munger 1994, p. 235)

Political scientists use the term ideology in two distinct though overlapping ways. On the one hand, ideology is about ideas – it is about what is good. It is about the kind of world we want to achieve, and how we would like to get there. On the other hand, ideology is used to characterize emergent political cleavages that may be the product of happenstance and circumstance, with ideas a convenient glue between disparate interests. This chapter clarifies the tensions between these definitions, and points the way to a partial synthesis based on the work of Penn (2003).

In the previous chapter I introduced a "two tracks" visualization of the policy space with similarly ordered preferences across multiple issues. If the different lines or 'tracks' represent the policy space, then the ideological space is the common roadbed; the ties that span multiple policy dimensions and thence facilitate choice.

Anthony Downs' (1958, chapter 8) described such a roadbed: a left – right ideological dimension on which parties compete for votes. Following Downs – if under a range of names – the ideological dimension has played a central role in many models and empirical studies of politics. These dimension(s) have alternately been termed

ideological (Hinich and Munger 1994), predictive (Hinich and Pollard 1981), political (Downs 1958), policy[61] (Clinton, Jackman and Rivers 2004), or basic (Poole 2005) dimensions. In the United States, the left-right dimension is often termed a liberal-conservative dimension.[62]

This chapter describes the ideological space. In the two space model, the ideological space is a space (with relatively few dimensions) that is linked to the policy space. The linkage of policy and ideological space means that a position on the ideological space implies some set of policy positions, and vice-versa that a set of policies is associated with an ideological position. Since the ideological space is smaller than the policy space, some information is potentially lost in the translation, as for example if two politicians with the same 'ideological' position have some distinct positions.

In addition to describing the theory of the ideological space, we will want to consider the important distinction between observable ideological dimensions (as inferred for example from roll call votes) and 'true' ideological dimensions based upon ideas. Observable ideological dimensions can obscure or concatenate multiple 'true' ideological dimensions, and apparent stability of voter positions in the observable dimensions may mask substantial change in actual policy positioning.

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[61] In contrast with the work of Poole, Rosenthal, Hinich and Munger, Jackman et. al. do not explicitly recognize the existence of two spaces. Denoting the latent dimensions as 'policy' dimensions implies that these dimensions not only structure choice, they are what is chosen. For a range of reasons (as outlined in the previous chapter) I find a two space model with a policy space defined in terms of its full complexity more appealing and logically consistent.

[62] The term ideological is used broadly here to refer to latent dimensions inferred from the positions of votes taken by political parties or politicians. I refer to these predictive-political-basic-ideological dimensions as "ideological" except at points where another name better captures the particular mechanisms postulated to create the dimension. For example, in the development of the partisan agenda setting model there are points where "partisan-ideological" is more appropriate.

Definition of the Ideological Space

In Downs' (1958, chapter 8, p 135-139) model of the ideological space, as with the 'two tracks' above, voters associate policy positions with ideological positions: each policy position is tied to a position on the general dimension. Since parties need not take the same ideological position on all policies, Downs assumed that aggregate party positions on the ideological dimension are constructed by voters as a weighted average of party positions on the various policy dimensions. In the presentation below, I follow the formal definition of the policy space of Hinich and Munger (1994). As with Downs' earlier and less formal model, their approach allows us to model the degree to which parties take consistent ideological positions.

For simplicity we will begin with a single ideological dimension. We might justify this decision by noting that the 'first' ideological dimension is empirically by far the most important in most polities.[63]

Let Π be an ideological space in the space of real numbers $\Re$ on which π represents an ideological position. In figure 2.1, the ideological position π is in the center-left on an ideological dimension.

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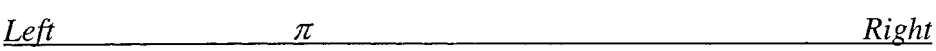
[63] How many predictive-political-basic-ideological dimensions are there? Empirically, one dimension tends to predict quite well, and the ideological space rarely has more than two dimensions. However, some theories and models do appear to predict a similar result. Although there are arguably a substantial number of ideas capable of providing some guidance in political decision-making, Hinich and Munger (1994) suggest that ideological conflicts will frequently be bi-polar in a way reminiscent of Hegelian dialectic. The conflict between a society's orthodox ideology and its heterodox competitor creates the main left-right dimension that typically structures empirical political choices. Thus, conceptually, ideological dimensions like "left-center-right" derive from fundamental conflicts between divergent views of the good society. On the one side, as with an economic left-right dimension, one might find those who want extensive government intervention and ownership in economic life, and on the opposite, those who prefer that government action be limited.

Figure 2.1 A Single Ideological Dimension



What does being 'center left' on this dimension mean? The content of that position (e.g. the values it implies are their policy implications) would seem to be quite important, at least if we care about the dimension. I will assume that (at least some) voters care whether a candidate is liberal or conservative, left or right, because ideology carries information about how the candidate is likely to respond to a range of policy problems. The relationship between the ideological dimension and the policy space is thence crucial for understanding political choices and outcomes. (And that relationship is a central question of this dissertation.)

The ideological space can imply positions on a range of policy dimensions, but need not predict positions on all dimensions equally well, or even at all. The equation below linking the policy space to an ideological dimension was introduced by Hinich and Pollard (1981)[64]. The equation is structured in terms of the degree to which positions on the ideological dimension imply positions on specific policy space dimensions. Thus, the policy space is on the left hand side of the equation (a policy position is being implied or predicted) and the ideological position is on the right hand side. This is analogous to a voter (i) learning that a candidate (p) has a liberal ideology (π), and then attempting to

[64] I have modified the notation slightly from the presentation of this equation in Hinich and Munger (1994): I subscript dimensions in the policy space using 'd' instead of 'j'. In addition, I use D to denote the policy space, whereas Hinich and Munger use ω.

infer her position on policies (ω_d) such as partial birth abortion, banning assault weapons, or inflation-indexing capital gains taxes.[65]

$$\omega_{idp} = b_{id} + v_{id}\, \pi_p$$

In the equation, ω_{idp} is the position of candidate p on policy dimension d associated by voter i with the ideological position π_p. The voter and dimension-specific parameters b_{id} and v_{id} determine the intercept and slope of the relationship between the ideological dimension and the policy space dimensions.[66] If v *is* zero, then there is no link between the ideological dimension and the policy space dimension. If, on the other hand, v is non-zero, then positions on the ideological dimension carry information about positions on the policy space, and ideology potentially provides guidance for choices based upon policy space locations.

In the non-probabilistic world of this equation, we cannot yet think about partial constraint at the individual level – the linkage is error free. However, because each voter has her own dimension-specific linkage terms (b and v), the degree to which voting can be predicted accurately with aggregate linkage terms (as in all existing latent-dimensional inference methods applied in these settings) can vary a great deal. For instance, some voters might see a positive relationship between the ideological position and policy position (with varying positive values of v), while others could see no relationship between ideological position and policy position, or even a relationship in the opposite direction. Thus, in late 1980s Canada (Johnston, Blais, Brady, and Crete, 1992)

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[65] Reorganizing the terms of the equation, we could imply that voters learn policy positions on gun control, capital gains taxes, abortion... and attempt to infer candidate ideological positions. Indeed, this is the empirical task that confronts efforts to recover the latent ideological dimension from opinions or roll call data.

[66] In chapter 1 I used v to indicate the salience of a policy dimension. Using the same term here makes sense: the slope term in this equation determines how a policy dimension maps onto the ideological dimension. A larger value of v implies that a given policy dimension is more important.

conservative ideology implied a position contrary to autonomy for Quebec in most of the country, but a position in favor of autonomy within Quebec itself.

Within voters, and between voters, some issues have strong linkage parameters, others weak linkages. Policy dimensions with weak links to the prevailing ideological dimension(s) often become 'cross-cutting' issues that divide the major partisan and/or ideological coalitions. (I will have more to say about the connection between party and ideology below.) For example, in 1970s Boston the issue of court ordered school busing emerged as a powerfully divisive racial issue that fragmented the constituencies of the liberal Democratic coalition. The scars and repercussions of this period endured even through decisions regarding the 2004 Democratic National Convention in Boston.[67] Critically, the liberal-conservative dimension did not (does not?) provide much predictive leverage on school busing, in part because neighborhood and community concerns not typically activated in state or national politics clashed with egalitarian considerations.[68]

In the Hinich and Pollard equation above, each individual voter has a unique set of linkage terms that connect ideological positions to policy positions, and each policy dimension has a unique voter-specific linkage parameter. Hinich and Munger (1994) note:

> "While we allow for different perceptions about the slopes of the linkages and the status quo policies, these differences must not be too large. If they are large, then our concept of a macropolitical ideological space will be have been [sic] falsified." (p. 118).

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[67] Slackman, NYT (2004) describes the controversy that followed convention organizers' decision to host a party for the New York delegation to the 2004 Democratic National Convention in South Boston, site of angry anti-bussing protests during the court-ordered school integration of 1974, and the potential complications created for the Democratic party's ability to unite black voters behind John Kerry's campaign.

[68] "To many blacks, opposition to the busing was seen as opposition to integration of the schools; to many whites, it was a reaction to what they viewed as the unfairness of having their children sent out of their own neighborhoods to go to school." Slackman 2004.

While the degree to which the macropolitical ideological space is falsified is our main empirical project, let us note another aspect of this quote.[69] Instead, I want to note an intriguing disjunction between the general formulation of the Hinich and Pollard equation, and the more restricted formulation typically used in the application of multidimensional scaling techniques to infer latent ideological dimensions. The empirical scalings assume that voters have identical values for b and v, and (more important) that the linkage term v is the same across issues.[70][71]

Hinich and Munger (1994) proceed to introduce probabilistic voting. In their interpretation of the probabilistic voting model with ideology, ideological positions are perceived with error, which introduces error in perceptions of policy space positions.[72] Although we are adding an error term, we have now dropped the voter-specific subscripts. No longer does each voter perceive the space differently, except to the extent that these variable perceptions are now subsumed in the error term. We shall consider this error term more deeply soon. Where $\hat{\omega}_d$ is a position in the policy space, we have as follows:

$$\hat{\omega}_d = (\pi + e_d(\pi))v$$

Note that $e_d(\pi)$ is the error in the linkage between ideological dimension and policy dimension. This error is normally distributed with $E(e_d(\pi)) = 0$ and $E(e_d(\pi)^2) = \sigma^2_d$. π is an ideological dimension, and ω_d is a policy dimension.

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[69] See Poole and Rosenthal (1997), Hinich and Munger 1994.
[70] See for example Clinton, Jackman and Rivers (2004) in which there is no attempt made to characterize different policy space dimensions
[71] As we shall see, a portion of the empirical variation in the predictive power of the ideological dimension(s) can be statistically explained by considering the implications of the more flexible formulation – by recalling that the predictive power can vary depending upon the policy dimension under consideration.
[72] Hinich and Munger use this to construct a vote function based upon the quadratic utility model (p. 175).

Thus, voters use their perceptions of ideological positions to determine positions in the policy space, but their perceptions of ideological positions are prone to error. We will have more to say about the interference of 'error' in the linkage between policy and ideological spaces shortly. Hinich and Munger assume that voters are aware of differences in the variance (error) between candidates. Given their assumption of quadratic utilities (which implies risk aversion) this means that options where the linkage between ideological space and policy space is clearer (less prone to error) will be advantaged.

As we proceed, we shall want to keep in mind a distinction between the ideological space that truly 'exists' in voters heads, and the ideological space that one can observe. The unobserved (true) fit between ideological space and policy dimension(s) depends upon whether there is a non-zero 'slope' parameter in equation 2.1, and upon the degree of error. If the slope parameter is zero, or the error is large, the fit is weaker than if the slope is non-zero and the error rate is small.

Observed fit depends upon 'rationalizability' – on the ability of a statistical model to make predictive sense of a given pattern of votes, positions, etc. The observed fit is consequential and non-trivial because for electoral accountability, observed fit is what matters. One would suppose that voters are less likely to observe concealed or 'unobserved' differences.[73] Observed fit is defined as the portion of votes taken on the policy dimension(s) that can be predicted using the ideological dimension.[74]

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[73] Hidden differences may influence the sorts of deals that must be crafted, however.

[74] In other situations, I will make verbal or mathematical arguments about observed fit. Observed fit will often be different from real fit.

The Uses of Ideology

The literature attributes several characteristics to the ideological space. These characteristics are interrelated. For example, the ability of the ideological space to provide stability depends in part on its basis in belief systems, and also on its role in political communication. After summarizing these characteristics, I will elaborate them below.

1. Belief systems (characterized here by locations in the ideological space) guide choices by voters and politicians. Thence, understanding the ideas and structures that make up the ideological space may provide insight on choices and actions taken in politics.
2. Ideological dimensions facilitate political communication. Because the policy space is complex, and new issues arise, it is difficult for politicians to communicate their positions on all policy space dimensions to all voters.[75] Because of its relative simplicity, ideological positions provide a language through which voters may make relatively informed choices while using information economically. Because ideology can provide credibility and ease communication politicians have incentives to maintain relatively consistent ideological reputations. Thence ideological dimensions may facilitate communication and accountability between voters and politicians.
3. The ideological space stabilizes and coordinates political activity. On the hand, this is because of the potential importance of ideological reputations

[75] Arguably the same problem arises when legislation becomes sufficiently complex: choice on the basis of the ideological location of a bill may prove simpler than careful evaluation of all provisions and riders, particularly for complex budget legislation.

(Downs 1958 chapter 8, Hinich and Munger 1994, Dougan and Munger 1989), and on the other because it provides less room for potentially chaotic maneuver (Hinich and Munger 1994). Thus, the ideological space may provide structure capable of resolving the difficulties of majority rule: it may facilitate the creation of stability.

As *belief systems*, the predictive-political-basic-ideological dimensions are rooted in *ideas*. Ideology is founded on normative principles, perhaps based in individual psychology, that provide rationales for specific policy action. Ideology guides political choices because (and to the extent that) it provides a coherent structure through which reasoned or rationalized choices can be made. Hinich and Munger (1994) synthesize several interpretations of ideology as follows:

> "Ideology: an internally consistent set of propositions that makes both proscriptive and prescriptive demands on human behavior. All ideologies have implications for (a) what is ethically good, and (therefore) what is bad; (b) how society's resources should be distributed; and (c) where power appropriately resides." (p. 11)

Thus, ideologies are ideas that imply political actions or decisions – ideas with capacity to guide or structure politics.

The concept of ideology in political science is closely linked (at least since Converse 1964) to the idea of 'constraint' across issues arising from belief systems. Ideology is revealed to the analyst as belief systems that guide (constrain) decision makers and structure their decisions across a range of policy dimensions (Converse 1964, Poole 2005, Hinich and Pollard 1981, Hinich and Munger 1994). Thus, conceptual principles that guide choices are manifested in political life (and in quantitative analysis) as they shape decisions on a range of specific policies. Keith Poole writes:

> "The number of dimensions needed to represent the points is usually small because legislators typically decide how to vote on the basis of their positions on a small number of underlying evaluative or *basic* dimensions. For example, in recent U.S. Congresses, we can easily predict how a "liberal" or a "conservative" will vote on most issues. These basic dimensions structure the roll call votes and are captured by the spatial maps" (Poole, (2005 p. 1.)

Ideological constraint makes possible prediction: on the basis of inferred ideological position, we can predict how a given voter, legislator, president, etc., will make other choices. This constraint makes the ideological space a potent medium of political communication, and also a source of stability.

Communication and coordination in politics involves relationships between voters and politicians, between politicians and voters, and among politicians. Ideological positions and party labels often facilitate communication and coordination. Under what conditions does ideological and/or partisan position taking have positive payoffs?[76] Individual candidates (Dougan and Munger 1989), and political parties (Cox and McCubbins 1993 Chapter 5), have an incentive to maintain ideological reputations as a guide to choice by voters and as commitment devices that give credibility to campaign messages.[77]

Dougan and Munger (1989) present a model in which legislators maximize a utility function that includes vote share, special interest contributions, and personal ideology. In a context in which voters are not able to perfectly monitor the behavior of representatives, individual voters will value ideology because it diminishes the likelihood

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[76] The approach taken here is to some extent compatible with either a top down or bottom-up perspective, but the model I develop is primarily bottom up, with preferences anchored to issue dimensions and 'ideology' defined as a latent dimensions constructed from these more basic preferences. We will model the role of parties and ideology in structuring political presentations: voting in legislative institutions, party position taking.

[77] Partisan construction of party ideology may take advantage of existing ideological preferences. In addition parties and partisans also may attempt to change minds and build coalitions.

that the elected candidate will be influenced by special interests. On a similar line, Anthony Downs (1958) suggests that:

> "Uncertainty restricts each voters' ability to relate every government act to his own view of the good society. Therefore acquaintance with each party's view of the good society – its ideology – helps him make his voting decision without knowing about every policy specifically. Voters thus use ideologies to cut their information costs."

Consistent with the Dougan and Munger model, empirical research has confirmed that congressmen with more consistent ideological positions are more likely to be re-elected (Jenkins 2000). There is also evidence that parties with consistent reputations perform better in elections. The ideological space is potentially a potent conveyor of information.

Cox and McCubbins (1993) articulate a view of parties as legislative cartels that face a variety of collective action problems, which can lead to Pareto-inefficient Nash equilibrium based on individual behavior. They start with a simple model in which the reelection probability of a typical House member (R_i) may depend both on that member's characteristics (c_i) and on the characteristics of the member's party (p_i): $R_i = R_i(c_i;p_i)$. p_i includes party record (central tendency in citizen's beliefs about the actions, beliefs and outcomes attributable to the national party). Because politicians in the party have a common stake in the reputation of their party, achieving a favorable party reputation could make all of them better off. However, each politician may sometimes benefit from behavior that hampers the achievement of this collective good. Party organization and leadership are a potential solution to the collective action problem. Party leadership, if correctly motivated, can structure agendas, committees, and incentives to promote the achievement of a favorable solution to this and other collective dilemmas.

In the Hinich and Munger model of political campaigns (1994, pp. 195-220), those participating in a political campaign (the candidates, interest groups with money) can invest in changes to the degree of error in public perceptions of their own positions or those of other candidates. The mechanism through which these changes take place is not specified in their model. However, Hinich and Munger do suggest that parties have an opportunity to develop policy reputations, and the policy choices of incumbents or party members will influence the degree to which the party's or individual's position is perceived with error. I will argue below that policy choices more consistent with the party's ideological position and/or policy choices on which party members are more (rather than less) consistent with each other represent opportunities to develop public perceptions of a stronger linkage between the policy space and ideological space, thereby reducing the error to which the individual's or party's positions are perceived. Thus, the degree to which parties or candidates have incentives and capacity to reduce 'error' is important.

Finally, *ideology may solve instability.* Ideology is a potential solution to complex, confusing or chaotic policy spaces, and a variety of collective dilemmas. A simple ideological preference-space can reduce cycling, and facilitate coordination in the solution of collective dilemmas. A low dimensional space can be maintained by, or coordinate with, various other institutions: political parties, committees. Furthermore, the use of simple principles to make sense of complexity meshes efficiently with the human tendency to seek cognitive short cuts: helpful rules of thumb that reduce costly cognitive load.

Hinich and Munger (1994) make a strong claim for ideology as the structuring force that not only brings stability, but organizes choice and determines long term political/economic trajectories. The linkages between ideology and policy are, in their language, "the political capital of society, built up over time in voters minds." (p. 235). Without this political capital, they do not believe chaos can be avoided. "Is political life possible without ideology? ... Our answer to the first question is no" (p. 236). Hinich and Munger write:

> "The policy space may be enormous and of very high dimensionality. The ideological space in which the political debate of the campaign takes place, on the other hand, is of low dimensionality, and "positions" in this space (i.e. distinct ideologies) are extremely sparse. In short, in campaigns, politicians can't move without hurting their chances, couldn't move far because the space is small and simple, and can't move anyway because there aren't many places to go." Hinich and Munger (1994, 74)

Thus, their claim for ideology as an answer to Tullock's (1981) famous question "Why so much stability?" rests in part upon the low dimensionality of the ideological or evaluative space. It also rests upon other posited characteristics of the ideological space: its simplicity, and the costs required to change ideology.

Does ideology in fact provide an effective and/or efficient mechanism for inducing stability in the face of policy complexity? Ultimately the answer turns not only on the existence of ideology, but on the content of ideology. Whether ideology induces stability depends on the ability or inability of particular ideologies and their proponents to construct coherent structure capable of shaping the scope and direction of political conflict on the policy space. And any answer is complicated by the possibility that attempts to provide ideological simplicity will inherit instability from policy space complexity.

Instability may remain even in the presence of a fairly strong 'single-dimensional' ideological dimension. Take, for example McKelvey's (1976, 1979) 'chaos' results. McKelvey showed that on a multi-dimensional policy space with sincere voting it is possible to construct a sequence of policies to move from any point in the space to any other point through a sequence of policies arbitrarily close to a given line. McKelvey states:

> "If **X** is any connected subset of $\mathbf{R}^m$, with m>2, one would virtually always expect the conditions to fail, regardless of the nature of individual preferences. In fact, for $\mathbf{X} \subseteq \mathbf{R}^m$, with m>2, the conditions generally fail so badly that not only is there a majority path between any two points, but that path can be chosen in such a way that it is arbitrarily close to any pre-selected curve connecting the two points." P. 1097.

Critically, we must to examine the conditions under which the "virtually always" does not hold – under what circumstances does ideology inoculate against chaos?

Given some variation in individual preferences on policy space dimensions that is not random, but is not 'explained' by the ideological dimension, McKelvey may still apply. In the policy space, an ideological 'dimension' appears as a set of issues across which preferences are strongly correlated. But correlations across preferences are within the limits of McKelvey's assumptions. It is only at the extreme where the cross-issue structure provided by ideology could push outcomes drawn from that preference policy distribution to stability (in the sense that McKelvey's theorem would not apply).

There are conditions under which ideology can provide sufficient structure to avert cycling. The more constraint exists across dimensions, the lower the likelihood of Condorcet cycles. (Riker 1982). Thus, the degree to which ideology structures political choice is important.

There is always a degree of slippage between the ideological dimension and the positions particular voters take on particular policy dimensions. Such slippage may be the result of either the existence of systematic 'non-ideological' preferences on the policy dimensions, or random (unpredictable) error. Systematic non-ideological preferences are most likely to provide opportunities for cycling.

Attempts to infer latent dimensions have typically assumed that errors on one vote are independent of errors on another vote, even if both votes occur on the same policy dimension. Prediction errors may result from either (1) failure of the scaling to adequately capture the structure of preferences on the policy space, or (2) actual (random) errors made by voters.[78] Random and unpredictable errors arguably provide little leverage for the construction of a cycle, but systematic errors that reflect divergent interpretations of the linkage between policy and ideology present opportunities for manipulation and instability.

The discussion above suggests that the degree to which the ideological dimension predicts policy decisions is consequential for political stability. Whether ideology can provide sufficient structure to avert chaos (or provide good government) remains an open

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[78] *The (partial) equivalence of these interpretations is suggested in the following conjecture:*
Assume multi-dimensional policy space. Assume ideology is defined as latent dimensions revealed in the pattern of preferences on that space. This assumes that we cannot independently assess ideology. Assume that there is an infinite number of policy-space dimensions over which voters have preferences. (Let this be the limit.)

In a multi-dimensional scaling of a low-dimensional latent ideology space, voters can be 'placed' and voting will *appear* to be probabilistic. But this is equivalent to a condition in which the probabilistic 'shocks' are really the result of the imperfect correlation in preferences over dimensions in the policy space, with correlations not due to ideology at all, but to something else, for example learning the value of particular coalitions because those coalitions tend to be relatively stable.

Example, assume that a legislator has preferences consistent with a particular position in the ideological space. The deviation from such preferences on one dimension of the policy space will not influence his placement much (at all if we can observe the true 'ideological' space). Thus, this preference on one dimension will not influence overall ideological placement. And we will observe an 'error' in the member's voting pattern. But in fact the 'error is simply a result of (error-free) voting on the underlying space.

empirical and theoretical question. This presumptive ability of ideology to structure political systems is important enough that the factors that influence ideology's ability to provide that structure policy choices are worth analyzing (as we will in Chapter 4).

In closing, however, we should keep in mind that supplying stability through ideology and/or institutions may be difficult. With a multi-dimensional policy space the problem of political and policy stability cannot be avoided. For example, even though institutional structures can produce policy equilibrium under some circumstances (Shepsle and Weingast 1994), such institutions are apt to inherit instability from the policy space (Riker 1980). None the less, the partial role of ideology as an answer to 'why stability' emphasizes the importance of understanding variation in the structure provided by ideology.

Why Ideological Dimensionality and Predictive Power Vary

The degree to which the ideological space governs or predicts choices on policy dimensions reflects the similarity of preferences on the issues – the degree to which policy preferences reflect a latent ideological mapping. Thus the ideological dimension(s) will be stronger when either (1) preferences across issues are more closely linked or (2) when the subset of issues selected for evaluation of the predictive power is a subset on which preferences are more similar. Finally, ideology may appear stronger/weaker when incentives lead to 'strategic' misrepresentation of preferences. Through agenda control, (as we will see in the partisan-agenda-setter model below) institutional structure may produce a strong ideological dimension even when preferences across issues are not correlated.

1. *How to change the policy space – ideology space link:* One way to influence the strength of the ideological dimension(s) is to change preferences/beliefs such that people see issues in a more consistent way. A simple way to change this link is to reduce the uncertainty in the ideology-policy link. The literature on political behavior and political psychology suggests that political sophistication is a key variable governing either the nature or strength of the link between the ideological space and policy choices. (Zaller 1992). Sophisticated voters are more likely to rely on ideological position when judging policies. Goren (2004) shows that sophistication conditions the degree of error in voters' application of policy-specific principles: although voters at all levels of sophistication use similar principles to reason about policy, sophisticated (better informed) voters make fewer errors. This finding is consistent with our model of the ideological space – one would expect information to facilitate error reduction.

Political sophistication can be induced through providing information and/or discussing politics with others. In his Theory of Justice (1971), John Rawls advanced the concept of reflective equilibrium as a method of deriving principles of justice. Through reflection, and deliberation, inconsistencies in one's views are discovered and resolved. Indeed, there is evidence that political deliberation leads to a better integration of policy preferences and political values (Gastil and Dillard 1999)

To reiterate, in the Hinich and Munger model, we can map the effects of political sophistication and deliberation in terms of the uncertainty associated with the relationship between ideological positions and policy space positions. Although this surely does not capture the full psychological import of changes in political sophistication, it does make the modeling task simpler. Explaining changes in the degree to which the ideological

space structures policy choice is hard to reconcile with a strictly rational choice treatment to the degree that we must allow for preferences to change, although simply reducing the 'error' of linkages between policy and value/ideology dimensions is much less problematic. It can be reconciled by positing that voters lack information necessary to map underlying values to particular issues. With more information, voters are able to better make the link. Paul Goren's (2004) recent work on the relationship between political values and policy preferences suggests that this is a reasonable way to characterize the import of political sophistication. Goren found that political values on social welfare policy, and foreign policy were structured similarly among the politically sophisticated and politically unsophisticated – the same ideological space – but unsophisticated respondents had higher error rates.

A second approach is to see in the predictive-political-basic-ideological dimensions a reflection of a coalition building process, perhaps between bearers of different ideologies, or perhaps across a range of (economic) interests.[79] This may be a process that transforms or creates ideology. The implications of this approach, following some ideas of Poole and Rosenthal (1997, chapters 2 and 6) and others, are also developed below. This requires us to think about the conditions faced by the proponents of particular policy positions in their search for compatible coalition partners, and the degree to which such search, (perhaps mediated by the political parties) will lead to the development of strong latent predictive-political-basic-ideological dimensions.

[79] Associated with these two interpretations are different institutional foci. The ideological interpretation tends to be more focused on mass electoral politics, while the coalition-building interpretation is often more focused on legislative politics.

Sometimes leaving aside explicit discussion of ideology, a literature in American politics examines the dynamics of partisan re-alignment among voters (Schattschneider 1960, Sundquist 1983). For example, the drop in predictive power of the low dimensional spatial scaling of Congress in the 1950s, 60s, and early 1970s has been explained as the consequence of the importance of the crosscutting racial and social issues in American politics (Poole and Rosenthal 1997). Mayhew (2002) questions the predictions of this literature.

Poole and Rosenthal (1997) argue that the latent dimensional[80] structure of Congress is the product of party-mediated logrolls across interests. This claim is supported by the work of Fleck and Kilby (2002) who find that constituency variables predict where legislators fall in one or two-dimensional space, but do not predict errors.[81] Thus, the 'ideological' dimensions represent a recurring coalition among a group of interests with preferences that do not conflict too much with each other on the policy agenda. Political parties might mediate this coalition, but it could also operate independent of political parties through a committee system. In either case, the critical factor is maintenance of a relatively stable set of relationships. These stable relationships will produce 'constraint' in revealed preferences.

Interpreting the ideology-as-coalition argument in terms of issue-selection is straightforward: members of an enduring coalition will construct policy proposals that

[80] Poole 2003 prefers the term 'basic dimensions' to 'ideological' because he does not necessarily believe that the interpretation of these dimensions need include political ideology as such.

[81] This article has substantial methodological flaws that impede accurate assessment of its implications. In particular, the authors suggest that economic interests cannot predict errors in the Nominate 'ideological' predictions on the basis of analyses of the entire data set. Thus, employment in manufacturing is asked to predict errors in Abortion votes. Conceptually, there is no economic interest linking these activities. Consequently, the appropriate test would involve, for example, using employment in manufacturing to predict errors in economic policies potentially relevant to manufacturers, such as tariff rates, intellectual property policies, and so forth.

other coalition members find palatable. In addition, one could add a strategic logrolling component – membership in the coalition might be sufficiently valuable that members would be willing to support coalition programs that make them (a little bit) worse off in exchange for coalition support for programs that make them much better off (Shepsle and Weingast 1994).

Quasi-rational models of political learning offer an intriguing account of the ways repeated interaction (such as that between members of a party coalition) can produce ideology. Through experience with the payoffs of different policy options, voters may learn to associate political positions across issues – building constraint. Elizabeth Penn's (2003) model of farsighted voting illustrates a possible process in which preferences for political coalitions are converted into ideological positions. In repeated rounds of coalition building, voters learn to value positions that provide relatively stable coalitions with a high-value stream of future payoffs. These positions arguably form a basis for the construction of ideology.

Penn shows that over time voters will learn to value points where they can form relatively stable or high-value 'contracts' with other voters. That is, the values voters place on particular policy positions shift as they learn about the expected consequences of that position for future payoffs. Thence, they come to prefer points that share gains with other players to points that are close to themselves, but are much more likely to produce outcomes far from their preferences in future rounds. Something akin to political ideology emerges: the contract points that players learn to prefer represent bundles of policy-positions that the learned preferences will 'constrain' to go together. Thus, although players A and B in a divide the dollar game initially do not care at all what the

others' payoffs are, they learn that positions which give both a favorable payoff are advantageous because these tend to be stable.

Penn's result is enormously intriguing as an approach to understanding the development of, and perhaps changes in, political ideologies. In practice, the expectation is rather similar to that associated with reflective equilibrium: extended experience will enhance ideological clarity. Unlike reflective equilibrium, Penn's concept does not depend upon an intuitive sense of fairness – the sense of fairness emerges as initially egoistic players learn 'fair' allocations that have the highest egoistic payoffs. Like Penn's players, political parties and candidates may learn the policy combinations that provide sustained benefits. These combinations, congealed in belief systems, are subsequently or concurrently rationalized through principled argument, and attributed the status of political ideology. Through learning effective 'ideological' proposals, politicians also learn which proposals or policy dimensions to avoid, supporting selection of issues that provide consistent, stable and 'ideological' outcomes.

2. Selecting Ideology-Consistent Issues: Which questions get asked? Given a preference-policy distribution with associated ideological dimensions, the predictive leverage of the ideological space is influenced by the selection of issues. In the pre-Civil War United States, this is dramatically illustrated by the choice between raising non-sectional partisan policies (e.g. the extent to which the national government should construct internal improvements) and sectional policies associated with the economic and moral divisions of slave and free.

By choosing issues on which preferences are more – or less – consistent with the ideological dimension, one can generate (apparent) changes in the strength of the

ideological dimension. Preferences look more ideological to the extent that issues on which preferences are ideologically consistent are more likely to be raised. For example, if policy issues that are incompatible with contemporary ideological divisions get delegated to bureaucratic decision-making, then legislative policy on the remaining dimensions will seem to be highly structured by ideology. When the cross-cutting sectional issues could no longer be repressed in the 1850s, the result was a period in which the main ideological dimensions predicted an exceptionally low portion of the votes taken in Congress.[82]

Conclusion

This chapter has outlined a theory of ideology and the formalization of the ideology space that we will use in subsequent chapters. Furthermore, we have seen that the degree to which ideological dimensions structure political choice is consequential for understanding voters' belief systems, important as a mediator and language in the relationship between politicians and their principals, and consequential for the existence of stable politics.

To understand variation in the degree to which the ideological space structures political choices, we will want to consider these strands of the discussion of ideology – ideology as belief system, ideology as a language of commitment and coordination, ideology as the 'structure of stability' and ideology as the product of (strategic) coalition building. Each of these aspects of the role of ideology is politics suggests distinct hypotheses, some more helpful in certain contexts than others. I suggested at the beginning that the ideological dimensions are constructed. I mean by this that the

[82] See Figure 4.1 below.

predictive power of these dimensions can be partially understood and predicted through examination of the institutional and strategic context in which politicians and voters may attempt to weave a compelling set of ideas, or act in accord with them. Chapter 4 will turn to consideration of the ways in which ideological dimensions can be constructed, along with the incentives and obstacles facing such an effort.

Chapter 3

Getting the Conditionality Right for Conditional Party Government: The Policy Space and the Supply of Political Leadership

Abstract: Previous attempts to explain the power of legislative leadership using the principal-agent framework have used arguably endogenous measures of available leadership opportunities. I develop a simple characterization of the relationship between the size of the policy space, the time available to consider political issues, and the agenda power opportunities available to political leaders. An empirical model of the power delegated to legislative leaders in the US States finds the expected relationship: holding time available constant, a larger policy space leads to more powerful legislative leadership.

"A party is not, as classical doctrine (or Edmund Burke) would have us believe, a group of men who intend to promote public welfare "upon some principle on which they are all agreed." This rationalization is so dangerous because it is so tempting. For all parties will of course, at any given time, provide themselves with a stock of principles or planks and these principles or planks may be as characteristic of the party that adopts them and as important for its success as the brands of goods a department store sells are characteristic of it and important for its success. But the department store cannot be defined in terms of its brands and a party cannot be defined in terms of its principles. A party is a group whose members propose to act in concert in the competitive struggle for political power." (Joseph A. Schumpeter, 1942, p. 283.)

Principal-agent theory is the dominant approach used to understand the power delegated to legislative leaders (Clucas, LSQ 2001, Cox and McCubbins 1993, Aldrich 1995, Sinclair 1999). Leaders are conceived of as agents delegated tasks to help members attain their goals. Principal-agent theory has been extensively applied to analyses of Congressional leadership (Sinclair, 1999) with some attempts to apply it to state legislative leadership as well (Clucas 2001).

Most studies of the principal-agent relationship between members of Congress and their leaders, along with Clucas' study of state legislative leadership, focus on the demand for leadership – on factors that influence how badly members of the legislature need the help of leaders in order to attain their goals. For example, Clucas (2001) examines the role played by electoral competitiveness (expected to increase demand for strong leadership), legislative professionalization (expected to diminish demand for leadership), and career opportunity structure (more opportunities for advancement expected to diminish demand for leadership).

The cost of political leadership (i.e. its supply) has received some attention; principally from the perspective of conditional party government theories (Rhode 1991, Aldrich and Battista 2002). Aldrich and Rhode (1998, 2000) posit two necessary conditions for parties to act like strong parties: (1) the two parties should be polarized,

and (2) the polarization should derive from electoral forces.[12] While the conditional party government concept is potentially useful, it is also potentially circular. The difficulty: it seems plausible that strong party leadership could help create a stronger and more cohesive party in the electorate. As a supply/cost variable, party cohesion is inadequate. The causality is simply too muddy.

In this paper I argue for consideration of a related but less causally ambiguous, influence on the supply of leadership. I will show how (holding time available to consider issues constant) the size of the policy space – the set of issues from which the legislative agenda may be drawn – shapes the degree to which leadership can exercise agenda control. In particular, a larger policy space provides more opportunities for leadership to shape the legislative agenda to effectively meet the interests of party members. In other words larger policy spaces lower the cost of legislative leadership.

I will develop a simple model that gives insight into the relationship between the supply of potential agenda issues and the power of legislative leadership. Legislative leadership is more powerful when the potential benefits of agenda control are greater: when leaders can provide benefits at lower cost.

After developing these hypotheses, I will analyze the Index of Speaker's Institutional Power developed by Clucas (2001) for the state lower houses (Nebraska unicameral excluded).[3] In addition to demonstrating that the size of the policy space has

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[1] One characteristic of strong parties is most relevant for our purposes: strong parties are supposed to grant more power to party leaders. Other characteristics include more legislative party resources, and enactment of polarized policy. Aldrich and Battista (2002) add the supposition that strong parties exert more control over legislative committees.

[2] "With stronger and more cohesive external parties, there is greater homogeneity in members' preferences, and thus a greater willingness to concentrate power in a leader's hands." Clucas 2001, p 321. Clucas cites works by Cox and McCubbins (1993), Rohde (1991), Sinclair (1995), and Smith (2000).

[3] As is conventionally noted in analyses of legislative institutions at the state level, the US states provide an opportunity for illuminating comparative studies.

a significant and substantial effect on the power granted to legislative leadership, my reanalysis of Clucas' work will demonstrate that a substantial omitted variable bias stemming from Clucas' failure to consider the size of the policy space caused the legislative professionalization variable estimated in this previous study to have the wrong sign.

This study advances our understanding of the principal agent analysis of legislative leadership by introducing consideration of more plausibly non endogenous measures of the 'supply' or cost of legislative leadership.

Theory

Legislative leaders are agents of those who select them and/or endow them with power. When leaders fail to (or are unable to) attend to the needs of their selectors (party), they may be stripped of leadership powers. In the famous rebellion against US House of Representatives speaker Joe Cannon in 1911, a portion of Cannon's Republican selectorate sided with Democrats to strip the speaker of significant powers (Riker 1986). Consistent with this model, they stripped Cannon of power because he was blocking their progressive policy agenda.

In our model we will focus on a single role that leaders serve: setting the agenda. More powerful leaders have more ability to structure the agenda, less powerful leaders have less power. Because the agenda is drawn from the active policy space, larger policy spaces provide richer opportunities for effective agenda setting that serves the collective interests of the leader and party members.

I want to restrict our attention to a particular kind of agenda setting – agenda setting that determines which issues will be considered by the legislature. I am explicitly not considering agenda setting designed to produce non-median outcomes as in the Rubenstein (1982) model and its extensions (Baron 1989). In addition, I am not investigating the role of timing within the agenda as in (Patty and Penn 2003). In particular, we will assume that once leadership allows consideration of a policy to come to the floor, the resulting outcome is that preferred by the policy-dimension-specific median.

The ability of leaders to select issues for the agenda depends upon two factors: the size of the active policy space (denoted D), and the maximum size of the legislative agenda (denoted T). When the active policy space is small relative to the size of the potential legislative agenda, leaders have less ability to structure the legislative agenda in a way that makes their supporters happy. When the size of the active policy space is large relative to the size of the potential legislative agenda, leaders have more opportunity to exercise agenda control in ways that benefit a majority of the legislature.

The size of the active policy space. Recall from chapter 1 that the active policy space (D) is defined as a lower-dimensional subset of the issue space (N): $D \subseteq N$. Intuitively, policies are active if people care about them, and are trying to achieve policy change.[4] Activating inactive policy space issues is by definition costly. Active policy space dimensions are indexed $\omega_1, \omega_2, \ldots \omega_d$. A larger active policy space means that there are more issues which could easily be included in the legislative agenda.

[4] Activity is defined by Hinich and Munger (1994, p.111), and I modify their definition only slightly. Hinich and Munger require public attention for an issue to be 'active' but I do not require public attention, provided there is sufficient attention from politicians. The hidden rider changing policy to benefit a special interest without generating any public interest is active.

Time limits. The agenda of any legislative body is finite in length – there is only so much time in which proposals can be considered. Legislatures are typically reconstituted through new elections every few years. They cannot go on voting forever. And there are limits to the capacity and willingness of members of such assemblies, which further circumscribe the size of the potential agenda. Critically, time may run out before all potential elements of the legislative agenda have been decided upon. We will denote the time limit faced by a particular legislature "T".[5] T is defined in terms of the number of issues that can be addressed: if T = 1, then this means that there is time to address only one issue. If T = 200, then there is time to address 200 issues. This assumes that the time required to address each issue is equal, a simplification that may be worth relaxing later.

We now examine the possible configurations of time (T) and number of issues (D). If $T \geq D$, then there are fewer issues to consider than time to consider them. When $T \geq D$, the only effect leadership agenda setting can have is to *remove* issues from the agenda. If the leadership only cares about policy outcomes, then any single issue removed from the agenda must be one on which a policy change would have passed with the support of a majority. Although in some situations removing multiple issues might make a majority better off, this suggests that the legislature is unlikely to delegate much power to leadership when T>D.

If $T < D$, then there are more issues to consider than time to consider them. When $T < D$, leadership agenda setting can *change the mix of issues considered.* Often

[5] In the long run, this assumption must be correct, since, as Lord Keynes pointed out, we are all dead in the long run. Arguably, however, continuing bodies like the US Senate do not have this bound on their long-term agenda. There remains a limit to how many issues the Senate can consider during a given session, however, and this sort of limit is primarily what I want to suggest.

by selecting the mix of issues considered, leadership can make a majority better off than they would have been if the leadership did not exercise agenda control – under a random recognition rule. To illustrate, consider the example in figure 3.1, below. In the example, the leadership can make A and B strictly better off by choosing an agenda of issue 1. A, B and C are legislators, and sq is the policy status quo for each issue.

Figure 3.1. Pro-majority Agenda Control When T = 1 and D = 2

Issue 1: A B sq C

Issue 2: A C sq B

It is easy to see that an agenda of issue 1 makes A and B better off relative to a situation in which each member is equally likely to be recognized to propose an agenda item. In figure 3.1, A and B are both better off than they would be if each member was randomly selected to make a proposal because, if selected, C would raise issue 2. Considering issue 2 would make B worse off, and would bring A less utility than raising issue 1.[6] We can generalize this result. *All else equal, the larger D is relative to T, the easier it will be for leadership to make a majority better off than they would be absent agenda control.*[7]

As framed above, the result is in terms of 'all else equal' which I take to be broad enough to allow us to ignore counter-examples based upon odd preference orderings. Another way to frame the result is in terms of adding issues. It is easy to see that D+1, which includes all D issues along with one additional issue provides weakly more

[6] It is easy to demonstrate this property, even using only ordinal information. Thence A B sq C is the ordering for issue 1, and A C sq B is the ordering for issue two. A is indifferent between raising issue 1 and issue 2, but both B and C would prefer to join in a coalition with A to raise one of the issues. A should be able to bargain with B and C to form a party with policy passed that will bring the new status quo to near A's ideal. A and its coalition partner would both be better off.

[7] The above example suggests a temporal boundary on the prediction. Suppose that A and B form a 'party' and pull the status quo to some point between their ideal points. At this point A and B have no common interest, but A and C (or B and C) may be motivated to form a party in order to achieve their common interests.

opportunity for a leader to make her support coalition better off. If the new issue is not useful, the leader can continue with the old agenda. If the issue is useful, then by definition it allows the leader to make a majority (even) better off.

We can also push the model to the limit in which the active policy space gets infinitely large. So long as all preference configurations appear with positive probability, the status quo (sq) is randomly distributed, and time (T) is finite, for any randomly-assigned party, there exists a policy space (D) large enough that joining the party and imposing party agenda control makes all party members (weakly) better off. I will formalize this result somewhat. In the observation below, we will abstract party agenda control as follows: we introduce a 'cost' $c>0$ that applies to any member of the party raising issues which will produce non-party-unity votes. P+ denotes the set of issues in D to which the cost does not apply (party unity attained), while P- denotes the set of issues to which the cost does apply (party unity not attained).

Observation: As the active policy space gets infinitely large, all members of the majority party/majority coalition are better off (or at least indifferent to) establishing party agenda control.

Proof: Let $P \subseteq V$ denote the members of a majority party. For the observation to be satisfied, for all configurations of voter preferences $\exists$ X and T such that $\forall v_i \in P$, $u_i(x|c_i>0\ \forall i) > u_i(x|c_i=0\ \forall i)$. Where x denotes the set of proposals selected. Let D be very large relative to T. Under the assumed random distribution of the status quo, and with cost at zero, let D go to infinity. As D (the number of policy space dimensions) gets very large, the expected utility for a given proposal-maker for $p_i \in P+$ and $p_j \in P-$ converge. (Law of large numbers: both are drawn from same distribution). When the expected utility $E(u(d_i \in P+)) \rightarrow u(d_j \in P-) \mid c_p=0 \forall p$, the proposal maker expects to be

indifferent between making party unity or non-party-unity proposals, and thus indifferent between there being a cost or not. However, other members of the proposal maker's party prefer to be made better off by the legislation and thence included in the coalition. Other members of the party are included in more coalitions when the cost is positive. Thus, as D gets large, the proposal maker is expected to be indifferent, and other party members will typically prefer leadership agenda control (a positive cost).

Example: In the three-voter case, each time a proposal passes, two voters are made better off, and one voter is made worse off, or all three are made better off. The baseline: assuming that proposals are equally likely to be ordered in each way, and that the status quo is distributed randomly between the voters, voters can expect to be made better off about 2/3 of the time -- if A makes a proposal, this proposal will make better off B or C (or both) in order to garner majority support.[8] Once they join the majority party (or their party begins imposing costs), A and B know that they are more likely to be made better off every time their co-partisan party-member makes a proposal than they were before.[9] With very high party costs and a large enough policy space X, A and B can expect to be made better off by legislation 5/6 of the time, but C can expect to be made better off only the 1/3 of the time he makes a winning proposal that involves A or B.[10] Since 5/6 >2/3, A and B are made better off by a larger portion of passing legislation. [11]

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[8] This probability would be higher if we allowed the status quo to fall outside of the set of voters: this would permit universalistic coalitions (given a bargaining game producing such predictions).
[9] Not including the co-partisan leads to a cost c_p that would not be borne if the co-partisan were included.
[10] The calculations are based upon a situation in which no universalistic coalitions are proposed, and where there are enough partisan proposals for A and B to include each other in their proposals and yet each make as many proposals as C. The example is of the case where the cost imposed for non-partisan proposals is so high that no non-partisan proposals will be made. Recall that C is equally likely to include A or B in the support coalition for C's proposals.

Simply put, the size of the policy space relative to the time limit faced by the legislature influences the desirability of partisan agenda control. When the leader can choose from a wide selection of potential agenda items, she is more likely to be able to select a program that is better for a majority of the legislature. Thus, delegating broad agenda power to the leader will impose few costs on followers, and is likely to bring them benefits. By contrast, when there are few potential agenda items, the leader is less likely to be able to use agenda power to procure a program that benefits a majority, so followers are unlikely to give the leader much power.

We derive two main hypotheses, and one subsidiary hypothesis.

Note that B and A will each include the other in all of their proposals, and they will make 2/3 of all proposals, so based upon within-party proposals alone, 2/3 of the proposals will include both majority party members. C needs allies from the majority party to pass proposals. Since C makes 1/3 of all proposals, and the support coalition is equally likely to include A or B, the total portion of proposals in which each member of the majority party is included is 5/6.

[11] The utility outcome depends upon the specific distribution of utilities, but in expectation they will be better off most (though not all) of the time. Clearly, some party coalitions are better than others. The minimal winning majority coalition with the highest level of similarity in its members' preferences is probably the one with the highest payoff, although the time restriction T means that only similarity on the first T dimensions raised matters, again in contrast to the conditional party government hypothesis.

Counter examples depend upon there being few available party unity proposals: if A and C are located near each other on most dimensions, then a party containing A and B may make A worse off: such an poorly constructed party would make the alliance with C more costly without providing much countervailing benefit for B. Thus, as suggested above (party assumption) the degree to which being in a party makes one better off depends upon how similar party members are. If you and I can agree on nothing whatsoever, then if we join the same party and establish a high-cost unanimity requirement for proposals, we will never be able to make a proposal – a cost without benefits. If we agree on nearly everything, then joining a party will not seriously limit our ability to make proposals for policy changes we support, but we will benefit from having our preferences taken into account by each other in making proposals.

More similarity isn't always better, however. If one wants to prevent changes on a particularly important issue, a partisan alliance with those most committed to making changes on that issue could be an effective way to block changes. Arguably, this is what the Southern Democrats attempted on civil rights during the 1940s, 1950s and early 1960s. The cost of breaking party unity was high when Lyndon Johnson's Democrats ultimately passed civil right legislation, as a partisan realignment in the South produced Republican dominance of the presidency from 1968 through 2004, and the 1994 Republican take-over of Congress.

Hypothesis 1. Because larger policy spaces provide more opportunity for agenda setting, *legislatures with larger active policy spaces (D) should have more powerful*[12] *leaders (holding the agenda time limit constant).*

Hypothesis 2. Because smaller agendas provide more opportunity for agenda setting, *legislatures with smaller agenda time limits (T) should have more powerful leaders (holding the size of the active policy space constant).*

Hypothesis 3. The ability of a majority to select a leader who will implement a desirable program might be constrained by commitment problems, but such problems could be resolved by picking a member who sincerely prefers the appropriate agenda, if one exists. Thus, *legislatures with more members should have more powerful leaders.*[13]

Empirical Tests

This section investigates delegation of power to the Speaker in the lower house of 49 US states (Nebraska is excluded because of its unique non-partisan unicameral structure).

Data and hypotheses

Our dependent variable is the Speaker's Institutional Power Index (Hamm and Squire 2001, Clucas 2001). To construct this index, Richard Clucas coded five measures of the speaker's power: appointment, committee, resources, procedural, and tenure in office, then summed these in an overall "Speakers' Institutional Power Index." The index measures the speaker's power during the 1995-96 legislative sessions.[14]

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[12] Our operational definition of leadership power comes from Clucas' scale. In terms of the model, power is defined in terms of the leader's capacity to determine what issues will go on the agenda.

[13] I do not rule out alternative routes to this prediction. Larger legislatures likely face more severe coordination problems, so they might have stronger demand for a powerful leader.

[14] Theoretically, the index varies between 0 and 25. Empirically, it ranges from 7.5 in Wyoming to 23.5 in West Virginia. The mean is 18.1, and the standard deviation is 3.2. As coded by Hamm and Squire (2001),

Our measure of *Legislative Professionalism* is based on data reported by King (2000) for the 1993-94 legislative sessions. More professionalized legislatures typically have full time representatives with staff support who meet for longer legislative sessions. Because more professionalized legislatures have the capacity to handle more issues during a term, the value of "T" (our time constraint variable) should be higher when the legislature is more professionalized.[15] Since higher values of T make for a larger agenda (and thence less range of agenda setting choice) more legislative professionalization should be associated with less power for leaders. Clucas hypothesized a similar effect, though for somewhat different reasons – his argument was that more professionalized legislators would be more constituency-focused and less willing to follow the dictates of party leaders.

An alternative measure of legislative professionalism included by Clucas (2001) involves dummy variables that categorize legislatures into three categories: *Career* legislatures typically have long-serving incumbents with substantial staff resources; *Springboard* legislatures have less permanent membership, but they provide opportunity for advancement to higher office, while *Dead End* legislatures provide the fewest opportunities. Clucas postulated that springboard legislatures would be least likely to have strong leaders, since members are focused on developing support for higher offices.

Political Competition is from an index originally constructed by (Holbrook and Van Dunk 1993). Clucas (2001) hypothesized that more political competition would

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the Speaker of the US House of Representatives under Joe Cannon had powers rating an index value of 20, and under Hastert in the late 1990s, the index value was 14.5.

[15] This does seem to be the case. For example of the lower house of the California legislature (large state, professional legislature) took 2215 roll call votes in the 1999-2000 period. And the New York legislature (also a large state with a professionalized legislature) took 316 votes. By contrast, the Texas lower house (large state, non-professional legislature) concluded only 136 roll call votes during the same period.

typically be associated with stronger power for speakers because legislators facing close competition have more need for intra-party coordination in elections and within the legislature. Alternatively, this prediction is consistent with an extension of the model developed in this chapter: I demonstrate in Chapter 4 that requiring supermajorities restricts the set of viable alternatives. Keeping a larger majority happy is harder because there are fewer useful issues. Thence, the agenda setting task of leaders is simpler, and the leader is arguably needed more strongly by supporters, when political competition is fierce.

Policy space: The policy space is difficult to measure directly. However, we will use two rather different variables to proxy for the size of the policy space: the natural logarithm of state population, and the level of government intervention. We expect states with larger populations or more government intervention to have more active policy space issues. The correlation between population and government intervention is *negative* 0.18, so there is no serial correlation between these alternative measures. If in spite of their negative correlation, we still find significant positive effects for both variables, this will be fairly strong evidence in favor of a *policy space* interpretation of the common effect, as opposed to some alternative variable-specific explanation for the relationship.

Government Intervention; the index of government intervention is derived from the Economic Freedom Index provided by the Fraser Institute (Karabegovic, McMahon, Samida Mitchell 2004, Wang 2005). The original economic freedom index (EFI) can vary between 0 and 10. Government intervention is 10-EFI. I argued in Chapter 1 that more government intervention would be associated with a larger policy space. Briefly,

more government regulations, more government spending, etc. imply that there are more policy decisions which need to be made, monitored, and revised. As described above, our expectation is that a larger policy space will be associated with more powerful leadership because it diminishes the costs associated with more powerful leadership, while increasing the benefits. One disadvantage of this variable relative to state population is that one can imagine the possibility of reverse causality – strong leaders might increase government intervention. On the logic of the model above, increasing government intervention might provide additional issues with which to construct a coalition.

State Population; is measured by the 1990 national census. I take the natural logarithm of state population in the analyses reported here. I argued in Chapter 1 that a larger population would be associated with a larger policy space. As described above, our expectation is that a larger policy will be associated with more powerful leadership because more people create more opportunity for different groups to form, more potential targets for distributive politics, and arguably more need for political action to address public problems.. Except in the very long term, it is hard to imagine that the size of state population is under the control of state-level political leaders.

Number of legislators: The model presented above is kept deliberately simple. A more complete model would include the difficulty of selecting a leader who would implement an agenda beneficial for the majority party. All else equal, having more members in the legislature allows for a broader range of choice, making it more likely that the legislature will find a leader with appropriate preferences. As we will examine briefly below, this might also make it easier to find a cycle among leadership candidates.

Results and Discussion

Table 3.1, below, exhibits the results of multivariate OLS regressions.

(Insert Table 3.1 here.)

The results strongly support our main theoretical predictions: a larger policy space is associated with more powerful legislative leadership. Our theoretical interest centers on the two policy space proxy variables: average government intervention, and the natural logarithm of state population. The estimated coefficients for both variables are in the expected direction and statistically significant. In equation 1, the state population variable achieves standard levels of statistical significance ($p>t = 0.0046$) and the government intervention variable also achieves standard levels of statistical significance ($p>t = 0.04$). The policy space results are substantively significant as well: when we omit the two policy space variables, the adjusted R^2 drops from 0.29 to 0.10. Apparently these variables account for nearly two thirds of the variance explained by the equation. If the conjectures linking these variables to the policy space are correct, then this provides strong support for the idea that the policy space is important for understanding the power of legislative leadership. Further, the fact that both policy space proxy variables have the expected sign provides some support for my contention that these variables are indeed picking up meaningful variation in the size of the policy space.

We also expected higher levels of legislative professionalism to be associated with weaker legislative leaders. Our argument is based upon the role of professionalization in extending the capacity of legislatures to deal with a lengthy

agenda. Clucas' had a distinct argument which produced a similar conclusion.[16] In equations 1 and 2 and sign of this variable is in the expected direction, and the estimated coefficient is statistically significant. This suggests that legislative professionalism is playing the anticipated role: more professionalized legislatures are less willing to delegate power to leaders. Although these results support Clucas' argument, they run counter to Clucas' (null) empirical findings. Intriguingly, when we omit the policy space variables, the professionalization coefficient is much smaller, and statistically insignificant. This is because profesisonalization is positively correlated with the size of the policy space – a larger policy space tends to be associated with higher levels of legislative professionalization. The correlation of professionalization with population is 0.629, and the correlation with government intervention is 0.189. With the policy space variables absent, the coefficient on legislative professionalism is subject to omitted variable bias in the opposite direction from the true value of the coefficient. This accounts for Clucas' failure to find the expected effect for legislative professionalization: the bias was working contrary to the hypothesized effect.

As in Clucas' analysis, the level of political/party competition has a significant effect in all equations. This supports his argument there is more demand for strong leadership when political competition is fierce.

We expected that legislatures with more members might have stronger leadership. In the context of our model, more choice among potential candidates for speaker would make it easier for parties to find a candidate able to select a desirable agenda. This

[16] Clucas believed that members of a professionalized legislature were more likely to devote their energies to constituent service, rendering reliance on party leadership less necessary for electoral success.

variable approaches statistical significance only when we omit the dummy variables for legislature-type (equation 2).

Causality Suggested. Table 3.2 reports simple correlations between Clucas (2001) Index of Speaker's Institutional Power and the (Karabegovic et. al. 2004) Economic Freedom Index in North America.

(Insert Table 3.2 here.)

The results suggest that the relationship between the level of economic freedom and the power granted to the speaker of the state house runs in the expected causal (negative) direction. The correlation between economic freedom and the Speakers' Institutional Power Index falls off by the late 1990s, which is consistent with the notion that previous levels of economic freedom are influencing the speakers' power, but speaker's power is not substantially influencing the level of economic freedom, at least during the late 1990s.[17]

Agenda Setting Power and Stability. Opportunities for powerful agenda setting make the legislature more likely to grant leaders broad powers. But better opportunities for agenda setting could provide richer opportunities for counter-agenda setting. More agenda setting opportunity makes it easier for those who would challenge the speaker to construct an alternative agenda preferred by a majority. Thus, more agenda-setting opportunities might reduce speaker tenure. On the other hand, once in possession of

[17] Perhaps, however, this change somehow resulted from the Republican takeover of many state legislatures in the mid 1990s. One story: the Republican take-over initiated a new policy regime in many states, with associated changes in economic freedom. In spite of policy change, however, in many cases the institutional powers of the speaker did not change. The diminished correlation may also result from the advantages stronger leadership institutions could offer to Republicans bent on increasing economic freedom.

power, the speaker might be able to use side payments or other resources to prevent challenges.[18] Empirical tests of these competing hypotheses did not provide clarity.[19] Tenure in office (as measured by Clucas) seems to be slightly longer when the policy space is larger, but the effect is statistically insignificant. More agenda setting opportunities do not procure political longevity, but they do not undermine it either.

It is worth noting an alternative, though not altogether incompatible, interpretation of these data. In particular, we might posit that a larger policy space (or more population and more government intervention) creates more demand for political control – more need for some authority to assert order in chaos/complexity.[20] Although this 'chaos solving' argument, and the model used in this paper predict the same first-order effects, they arguably have divergent predictions about the variance in leadership power. If politicians have to struggle to resolve increasingly difficult collective action problems as the probability of cycles on the policy space increases, then there will be more failures of collective action. Thus, a 'chaos-solving' explanation suggests that there will be wider variation in the power of political leaders when the policy space is larger. However, I have found very little evidence for such an effect.

Conclusion

In this chapter we developed a simple characterization of the relationship between the size of the policy space, the time available to consider political issues, and the agenda-power opportunities available to political leaders.

[18] On this version of events, more agenda setting opportunities might increase speaker tenure.
[19] Results available upon request.
[20] This formulation is discussed in the Introduction of this dissertation, and has a lineage back to Hayek (1944) and Schumpeter (1942) at least.

This analysis has substantially improved our understanding of the principal-agent relationship that governs the power of legislative leadership. Substantively, supply side issues seem to account for a great deal of the explained variance. Although demand factors (e.g. political competition[21]) are also significant, the size of the active policy space relative to the time available appears to account for almost two thirds of the explained variance. The empirical model provides strong support for our extension of the principal-agent model of party leadership to include agenda opportunities associated with the size of the policy space.

The results of this comparative analysis of state legislative leadership fit fairly well with trends in the power of the Speaker of the US House of Representatives. The revolt against Joe Cannon came at a time when the House of Representatives was rapidly professionalizing and institutionalizing. This more professional and institutionalized House presumably had greater capacity to address political issues. In the face of a larger potential agenda, members were unwilling to tolerate Cannon's restrictive agenda. Reforms in House Rules in the 1970s and 1990s increased the Speaker's power. This model suggests that it is no coincidence that the 1970s reforms came during (and near the end of) a period of extraordinary legislative productivity and increased government intervention. It also may be no coincidence that in 1995 Republicans simultaneously reduced Congressional staffs and ceded power to party leadership.

Not only are the policy space variables statistically significant, but we successfully corrected an omitted variable bias that produced Clucas' (2001) failure to find a relationship between legislative professionalization and the speakers' institutional power index.

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[21] Heightened political competition appears to exert an independent effect in favor of stronger leadership.

The model is broadly consistent with the conditional party government hypothesis of Rhode (1991), and some analyses by Aldrich (1995). The conditional party government hypothesis suggests that party unity is contingent upon the level of agreement among members of the party, and the degree of disagreement between party members and those in the opposite party. As has been noted in the literature, this tends toward tautology. Note, however, that by considering variation in the size of the policy space we introduce a new conditionality.

These results support a revised version of the conditional party government thesis. Party leadership is stronger when there are better opportunities for party leaders to construct an agenda *on which* party members have homogenous preferences. Given such opportunities, party members are more likely to grant power to party leaders. By examining plausibly exogenous effects on the agenda opportunities available to party leadership, this chapter provides novel support for the concept of conditional party government. It also supports my overall argument about the importance of understanding issue dimensionality – the dimensionality of the policy space seems to be an important influence on the power of political leadership.

Table 3.1. Determinants of Speaker's Institutional Power Index (1995-1996 session) in American State Legislatures

	Equation 1	Equation 2	Equation 3	Equation 4
	Parameter Estimate (Standard Error)			
Intercept	-14.19	-15.61	14.38	-9.39
Size of the Policy Space:				
Natural logarithm of state population	1.68 (0.56)**	1.76 (0.55)**		1.44 (0.55)*
Average Government Intervention, 1981 to 1994	1.52 (0.71)*	1.55 (0.72)*		2.24 (0.66)**
Number of legislators	0.011 (0.0075)	0.013 (0.0070)+		0.010 (0.0071)
Legislative Professionalism 1993-1994	-11.67 (4.13)**	-10.40 (3.83)**	-2.68 (3.32)	-7.18 (3.71)+
Index of Political Competition	0.10 (0.044)*	0.10 (0.044)*	0.085 (0.040)*	
Career legislature	1.51 (1.10)		2.72 (1.16)*	
Dead end legislature (springboard legislature omitted)	0.077 (1.016)		1.38 (1.04)	
	N= 48	n= 48	n= 48	n= 48
Adjusted R^2	0.29	0.28	0.10	0.21

Note: Cell entries are OLS regression coefficients. Standard errors are in parentheses.
** indicates statistical significance at the .01 level.
* indicates statistical significance at the .05 level.
+ indicates marginal statistical significance at the .10 level.

Table 3.2: Simple Correlations of the Speakers Institutional Power Index and State/Local-Level Economic Freedom

	Speakers Institutional Power Index (1995-1996 legislative session) n=49
Economic Freedom 1981	-0.32
Economic Freedom 1985	-0.25
Economic Freedom 1989	-0.25
Economic Freedom 1993	-0.23
Economic Freedom 1994	-0.14
Economic Freedom 1995	-0.10
Economic Freedom 1996	-0.064
Economic Freedom 1997	-0.066
Economic Freedom 1998	-0.014
Economic Freedom 1999	-0.035
Economic Freedom 2000	-0.044
Average Economic Freedom: 1981 to 1994	-0.26
Average Economic Freedom: 1995 to 2000	-0.057
Average Economic Freedom: 1981 to 2000	-0.16

Chapter 4

Conditions for the Construction of Simplicity: Why the Predictive Power of the Ideological Space Varies

Abstract: I develop a model of the supply of and demand for ideology. Ideological consistency is expected to be higher when the supply of ideologically consistent issues is larger, and/or when the demand for such issues is larger. For example, when there are more issues (relative to available time), it is easier to select an agenda populated by issues that divide legislators in similar ways, producing a powerful ideological dimension In addition to novel hypotheses concerning the size of the active policy space, and time, I also examine (and integrate with the supply-demand framework) explanatory variables postulated in the literature such as the effective number of political parties, economic inequality, and low-salience issues. Empirical results from a time series for the US House of Representatives, a cross section of US state legislatures, and a panel of party manifestoes from 25 established democracies support my claims.

"...The extent of commitment by adherents [to an ideology], and the reasons for it, are crucial to an understanding of any political system." (Hinich and Munger 1994, 11).

Rubin (2004) suggested that "Ideology is a thorn in the side of public choice." Because of the discipline's failure to explain the sources of and variation in ideology's importance for politics. This chapter essays to answer Rubin's challenge. The focus of this chapter is on explaining variation in the predictive power of the main ideological dimension. I will show that variation in the *availability* of political issues for selection, and in the degree to which politicians have reason to demand ideological consistency, explains a substantial portion of the variation in the predictive power of the main ideological dimension in the US House of Representatives, US State Legislatures, and a 25 country panel of party manifestoes.

The Ideological Dimension(s)

Explicitly or implicitly, much modeling in political science relies upon low-dimensional spatial models. Due to its simplicity and tractability, the one-dimensional spatial model dominates modeling in political science.[1] This model has some empirical support: one or two-dimensional models of this 'ideological space' (Hinich and Munger 1994) can account for a large portion of the votes in most legislatures, and can make sense of most party position taking (Poole and Rosenthal 1997, Budge et. al. 2001, Huber and Inglehart 1995). However, the degree to which the 'ideological' dimension(s) describes behavior varies substantially. On one extreme, Nebraska's unicameral legislature, and Poland's Sejm seem to lack meaningful 'ideological' dimensions while

[1] Although it has many names, the one dimension of this model is often termed ideological (Hinich and Munger 1994). There is often an implied or assumed policy/outcomes space, as for instance in Gilligan and Krehbiel (1989).

on the other extreme a single ideological dimension (left-right) successfully predicts almost all roll call votes in the British House of Commons.[2] The substantial variation is illustrated in figure 1 below for the US Congress.[3] The figure shows the predictive success of one and two-dimensional spatial models of ideology, as estimated by Poole and Rosenthal's (1997) D-Nominate program for the US House of Representatives.

(Insert Figure 4.1 here)

We will explain the variation in this table, as well as two other datasets in terms of systematic changes in several factors: time available, the size of the active policy space, the level of political competition, etc.[4]

Variation in the degree to which low-dimensional (or ideological) spatial models can account for roll call voting is arguably worth understanding. At the most basic level, this variation may reflect intriguing differences in the way political conflict is organized.[5] This variation is doubly important to the extent that it reflects differences in the ability of ideology to facilitate coordination and commitment (Dougan and Munger 1989). Hinich and Munger (1994) suggest that ideology may simplify the choice space, providing a way around the disequilibrium 'chaos' theorems of McKelvey (1979), Schofield (1978) and

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[2] Poole, Keith. April 2-5 2004 spatial modeling round table at Midwest Political Science Association meetings.

[3] The predictive leverage offered by a single spatial dimension has ranged from miniscule (an APRE of under 0.15) to extremely large (an APRE more than 0.80). APRE stands for Aggregate Proportionate Reduction in Error. It is calculated by comparing the portion of votes predicted correctly by the spatial (ideological) model with the number predicted correctly by simply guessing that all members took the more popular position.

[4] Time alone is not strongly correlated with ideology. Thus, the overall series does quite well on stationarity tests, although various sub-series do not (e.g. series that include only the 1970s to present increase in APRE1).

[5] See, for example Mark Blyth (2003)'s examination of the role of ideas in determining institutional outcomes, Campbell (1964), Goren, 2004, and Carbonell 1981. Downs makes related arguments concerning the importance of ideological structure for the number of political parties.

others.[6] Finally, understanding why the predictive power of the ideological dimensions varies may clarify the conditions under which one dimensional (or even 'few-dimensional') spatial models of politics are adequate representations of political space.[7] Understanding this variation may make it possible to model politics more accurately by incorporating the impact of changes in the structure of the 'space'.[8] [9]

A few authors have addressed variation in the predictive leverage provided by ideology. McCarty, Poole and Rosenthal (1997, 2003) investigate the possibility that higher levels of economic inequality are associated with a more powerful (predictive) main ideological dimension in the US Congress during the Post-WW II period. Gerald Wright and coauthors (Wright and Winburn 2003, Wright and Osborne 2002, Wright and

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[6] And empirically, the issue dimensionality influences coalition stability (Nyblade 2004, but see Laver and Shepsle 1994).

[7] Examples of one-dimensional models of politics include Krehbiel's Pivotal Politics (1998) and informational model of committees (1991). Intriguingly, Krehbiel's incomplete information model, like various spatial models of ideology (e.g. Hinich and Munger 1994), depends significantly upon error in perceptions of policy positions. Variation in the degree to which the ideological dimension accurately predicts vote choices might provide leverage on variation in the degree to which Congress delegates to outlier committees, as discussed below. A thought experiment suggests how the implications might follow. An ideologically heterogeneous committee reports a bill to the floor with broad support for the legislation within the committee such that a separating equilibrium allows the floor to infer that the proposed policy would be beneficial provided the ideological positions of committee members provide an accurate picture of their policy preferences on the bill. Now imagine that uncertainty about the policy implications of those members' positions increased. With greater uncertainty, the support of a heterogenous set of committee members would carry less information about the policy proposal, degrading the quality of the information available to the floor. The degree of uncertainty about the policy location is associated with the willingness of the floor to delegate power to a committee through restrictive rules.

[8] In spite of its importance, few have attempted to explain variation in the degree to which the ideological-spatial model describes behavior. A focus on inferring dimensions has largely precluded systematic analysis or explanation of the substantial variation in the degree to which one-dimensional/low dimensional 'ideological' models successfully account for political preference data. Most analyses measure variation in the degree to which single/low dimensional models describe political behavior, but unlike this project, most devote little attention to explaining that variation.

[9] At the most basic level, the degree to which the ideological space governs or predicts choices on policy dimensions reflects the similarity of preferences on the issues – the degree to which policy preferences on a set of issues reflect a latent ideological mapping. Thus the ideological dimension(s) will be stronger when either (1) preferences across issues are more closely linked (Zaller 1991, Goren 2004) or (2) when the subset of issues selected for evaluation of the predictive power is a subset on which preferences are more similar. Thus, another direction for research involves the creation of or change in the linkage between policy dimensions and the ideological space. This is an issue I intend to treat elsewhere in subsequent work.

Schaffner 2002) posit that US State Legislatures with more party competition tend to have a more predictive main ideological dimension. The ideological supply and demand framework presented below incorporates these hypotheses, and makes novel predictions as well.

This paper uses a version of the "two space" model developed by Melvin Hinich and various coauthors. (Hinich and Pollard 1981, Enlow and Hinich 1984, and Hinich and Munger 1994). The two spaces are: an *n*-dimensional active policy space (D) over which voters have preferences,[10] and a few-dimensional ideological space Π.[11]

We reframe Hinich and Munger's equation (discussed in Chapter 2) as equation 1 below. In essence this states that in the mind of a voter or politician, an ideological position implies a vector of policy choices. (Vice-versa, a vector of policy positions implies an ideological position), and that this policy-ideology linkage is subject to error.

Equation 1.
Ideology Space-Policy-Space Linkage Equation

Policy Space Dimensions		Ideological Space Dimensions		Error in linkage between spaces[12]
$\hat{d}_\theta$	=	$v_\theta \pi$	+	$e_\theta v$

The equation states that preferences on the policy space issues (d_θ), are linked to positions on the ideological space (π), but this linkage is subject to error ($e_\theta v$). To assess

[10] The same idea has various names: other aliases include (arguably) the 'outcomes' space and 'issue' space. As used here, however, the policy space refers to the 'active' subset of the larger issue space. That is, the policy space contains those issues which are available to legislators or parties seeking to construct a platform. I will often call this the 'active policy space' for added clarity. Use of the term policy space here does not imply that other issue space dimensions lack linkage to the ideological space.

[11] Aliases include: predictive dimensions, basic space, political space, and policy space).

[12] Where $e_p(\pi)$ is normally distributed with $E(e_p(\pi)) = 0$ and $E(e_p(\pi)^2) = \sigma^2_p$

the degree to which policy choices are shaped by the ideological space, we will estimate the size of this error: σ^2_p. in terms of how well the ideological space predicts policy choices. The predictive power of the ideological space is stronger when one can predict policy positions more accurately based on ideological position (alternatively when one can predict ideological position more accurately based on a vector of policy positions). Most critically, the framework can accommodate situations in which some issues are more consistent with a given ideological dimension than others: 'errors' and linkage parameters can vary by issue. This opens opportunities for supply and demand guided selection of issues to influence the overall fit of ideological dimensions.

Note that the discussion above is framed in terms that can accommodate definition of the ideological dimension in terms of some 'true' ideational ideological dimension, but also definition of this dimension (as in Nominate's uncovering) simply on the basis of consistency of orderings across different votes in a session. As suggested in chapter 2, there is space for much blending of these views of ideology. Thus, an appropriate analysis of variation in ideological dimensionality should probably be capable of encompassing both views. None the less, there will be times where it is simpler to focus on one perspective for presentational purposes. If ideology is ideational, then one can speak of 'ideological' issues absent the reference to consistency with other issues required by the other perspective, and this sometimes makes for simpler, clearer exposition.

In the sections below I will present a model of issue selection based on the supply of and demand for ideological fit that can incorporate the results of previous authors, and makes new predictions based on variation in the supply of ideological-dimension-

consistent policy dimensions. I will then examine the data available to test these hypotheses, analyze this data, and discuss the results. As we will see, the predictive power of the ideological dimension is larger when there is more competition between political parties, larger (but only some of the time) when there is more economic inequality, and larger when there are more opportunities to select an agenda populated by ideologically consistent issues.

Theory: Supply of and Demand for Ideologically Consistent Issues.

The model described in this chapter is of agenda setting capability (the supply of ideologically consistent issues) and demand for ideological consistency. In Chapter 3, we found evidence that the size of the policy space influences the power delegated to political leaders. Here, we extend that argument to suggest that the size of the policy space shapes pro-ideological agenda-setting opportunities for individual legislators and political leadership. Understanding factors that increase the supply of (or demand for) more ideologically aligned issues allows us to account for much of the variation in ideological fit sketched above.[13] The principal argument is that the observed predictive power of the ideological space is shaped by opportunities for selection of ideologically consistent proposals from the active policy space, and by demand for such more ideological issues.[14]

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[13] For example, when there are more active policy dimensions than there is time to consider them, larger policy spaces (holding time available constant) provide more opportunity for pro-ideological agenda setting.

[14] I recognize that there is also a role for learning – if people learn to think about politics differently, or even simply learn more about politics, this also tends to influence b_{id}, $v_{id.}$ or $e_{d.}$ Learning could influence the intercept (b_{id}), slope (v_{id}) or error rate ($e_{d.}$). For example, politically sophisticated voters tend to make many fewer errors when relating policy positions to value dimensions (Goren 2004). Learning more about politics reduces the error rate.

It is critical to get straight at the outset that issue selection is the mechanism on which the paper builds. As outlined above, suppose that there is a policy space, with some dimensions more strongly associated with ideological dimensions, others less strongly associated. By choosing issues on which preferences are more – or less – consistent with an ideological dimension, one can generate (apparent) changes in the predictive power of the ideological dimension. Preferences will look more ideological to the extent that issues on which preferences are 'ideologically consistent' are disproportionately on the agenda.[15] If we ignore policy dimensions incompatible with contemporary ideological divisions, then legislative votes (on the remaining dimensions) will seem to be highly structured by ideology.[16]

As in chapter 3, we will assume that there are N legislators who will vote on an agenda of length T or less, with T defined in terms of the number of dimensions that can be considered. Legislators may choose to grant agenda power to (party) leaders who can to some degree overcome collective action problems in order to supply demanded ideological consistency. We will focus on incentives (demand) and opportunity (supply) to select issues consistent with ideology for the agenda, with less attention to particular

[15] In the pre-Civil War United States, this is dramatically illustrated by the choice between raising non-sectional partisan policies (e.g. the extent to which the national government should construct internal improvements) and sectional policies associated with the economic divisions of slave and free. When the cross-cutting sectional issues could no longer be repressed in the 1850s, the result was a period in which the main ideological dimensions predicted an exceptionally low portion of the votes taken in Congress, followed by a realignment in which the North-South regional division became the main ideological cleavage in United States politics.

[16] Snyder (1992) developed a related explanation for artificial extremism in interest group ideology ratings (e.g. ADA scores). The variation conjectured here is manufactured, in the sense that agenda selection is shaping the dimension, but it is less artificial than the artificial extremism of interest group ideology ratings. The problem with the interest group ratings is that they tend to be based on a biased selection of actual roll calls. Thus, as a tool for understanding preferences on all roll calls, they are misleading.

selection methods (i.e. institutional designs) that allow legislators to achieve demanded levels of ideology.[17]

Sources of demand for ideology by legislators

Although on particular issues other motives may dominate, I will maintain the assumption (justified briefly below) that on the whole individual politicians, and political parties, have incentives to select issues that fit well with one or more ideological dimensions.[18] We will assume that ideology is a normal good.[19] [20] Substantive

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[17] In conventional economic supply and demand analysis the cost per unit of good supplied or demanded is typically assessed in terms of price in monetary units. Here price is in terms of the effort or cost of getting an ideology space with a given level of predictive power. For example, these costs might include lost voting independence due to leadership-imposed party discipline, failure to pass preferred issues because agenda setters oppose passage, and so forth. Since many of the costs and benefits of ideology are collective, outcomes depend upon the uncertain outcome of collective action. Instead of modeling this collective action directly, I focus on changes in the constraint set that influence the likelihood of particular outcomes.

[18] Arguably, policy dimensions on which preferences are consistent with the main ideological dimensions provide individual and collective benefits. These benefits provide incentive to select a consistent 'ideological' agenda. Presumably the demand for ideology is higher when these individual and/or collective goods are more valuable. The crucial point at the moment is that ideology has some value for politicians most of the time – that apparent consistency with an 'ideological' framework is often valuable.

[19] Demand for a normal good increases when income increases. Demand for an inferior good diminishes when income increases (Varian 1987, p. 90). 'Income' with which ideology might be purchased consists of resources that could be used to pressure members to vote in ideologically consistent ways, be that through vote-buying, agenda control, or some other means. As such power becomes more readily available, we assume that more ideology will be procured. This, is the substance of the assumption. The assumption is tested most directly in hypothesis 7 (which is not supported). A fall back assumption, and one which still buys all predictions except 7 is that ideology is non-satiating. Thus, although a powerful speaker might prefer a superior good (i.e. a strong personal following), if ideology gets cheaper, he or she will buy more of it. Absent such assumption, we would have less reason to suppose that more supply (of ideological issues) would influence the predictive power of ideological dimensions. There is some reason to suppose that ideology is not a normal good. For example, a range of political observers appeared to be dissatisfied with the intense partisan-ideological conflict in the late twentieth century (and early twenty-first century) United States. If ideology satiates – if too much ideology is a bad thing – then we might gain some leverage of variation in the predictive power of ideological dimensions by exploring variation in the distribution of this satiation point. In brief, I justify the current focus on the basis of Friedman's pragmatic justification for theoretical assumptions. I believe that the theory developed here does fairly well at predicting variation in ideological consistency. In addition, measuring 'ideological' satiation might well be impossible.

[20] In this discussion I remain vague about whether 'ideology' exists separate from the selection of issues. It may be, for instance, that the 'ideological' predictive dimensions uncovered by spatial analyses are purely the product of logrolls between like-minded interests with no concern for the politics of ideas, save as a useful means of cementing their alliance. Alternately, these dimensions could be the product of causally prior intellectual contests over the nature of the good or the role of the state. In practice, I believe that both alternatives apply most of the time. The causal origins of identifiable 'ideological' dimensions are posited here in terms of selection if ideologically consistent issues. Whether this selection is guided by prior

hypotheses below will explore some sources of variation in demand for ideological consistency. The literature notes several reasons for politicians to 'demand' ideology.

Own Reelection. If voters evaluate candidates based upon ideological-partisan positions, then a more predictive ideological space will reduce the error in voter perceptions of politician's positions. If voters are risk adverse, then politicians with clear ideological positions will be advantaged over those with less-clear ideological positions (Hinich and Munger 1994).[21] Ideology can also make candidate position taking more credible (Dougan and Munger 1989).[22]

Allies Reelection. Ideology can allow politicians to credibly commit to (equilibrium) positions (Dougan and Munger 1989, Levy 2004, Snyder and Ting 2002). Electoral collective goods are often coordinated by political parties.[23]

Coalition Maintenance: A largely one-dimensional ideological space makes for simple coalition building. It reduces the likelihood of social choice instability (Hinich

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ideological conceptions, or derives from constructed coalitions that acquire 'ideological' identification matters little for the arguments of this chapter, though it does influence how one interprets the meaning of a few terms, particularly predictive failures by the ideological dimensions.

[21] Jenkins (1999) found some evidence of this relationship – members of the Confederate Congress who had clearer ideological positions were more likely to be reelected. The 2004 Presidential election turned more than most on the relative clarity of candidate issue positions. George W. Bush emphasized the clarity of his own (ideological) position, repeatedly claiming to voters 'you know where I stand.' Bush also attempted to increase the variance in voters' perceptions of Kerry, labeling him a flip flopper. Kerry responded by emphasizing a different type of variance in the Bush record – a disconnect between Bush policy goals and Bush policy outcomes. In this case at least, policy space-outcomes space uncertainty seems to have been trumped by ideological-policy certainty.

[22] However, clarity can carry costs, to the extent that clarity makes it easier for median voters to work their will.

[23] Parties are a useful starting point because they are almost universal – in some form political parties are involved in the functioning of nearly every democratic system. A theory built around parties, as opposed to one built around committees (for example) thus has the best chance of providing predictions applicable in a range of political systems. Furthermore, the theory is less party-specific than it might at first appear, since we will consider the case where parties are without influence, and the model also speaks directly to issues of delegation and dimension-by-dimension decision-making.

and Munger 1994). Providing legislative collective goods might involve political parties, but not necessarily.[24]

Satisfying Interest Groups: If important blocs of voters or interest groups see some ideological dimension as important, politicians likely have incentive to present a position on that ideological dimension. (Hypothesis 5 will develop a related implication).

The above arguments are presented principally to justify our general assumption that ideology is potentially valued by politicians, but they can also be reframed to provide some intuition about variation in demand for ideology. For example, demand for ideology will presumably be larger when the problems addressed by ideology are pressing. Thus, if voters have fewer ways to monitor the actions of their representatives, the role of ideology as a commitment device (Dougan and Munger 1989) suggests that there would be more demand for ideology. (We will pursue this argument below when we turn to specific hypotheses generated by the model. It forms part of the basis for hypothesis 2a and hypothesis 6.)[25]

Constraints on Supply by Party Leaders

The ability to select ideologically consistent issues is constrained by the costs of providing such issues, including the availability of ideologically compatible issues. Although politicians (individually and collectively) may value ideologically consistent issues, the supply of ideologically-consistent issues depends upon the number (and portion) of ideology-consistent issues in the active policy space. To state the obvious, if

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[24] Alternative approaches to the provision of stable politics and/or strong ideological dimensions include committees (Shepsle 1979), delegation (Schumpeter 1942), some form of dimension-by-dimension decision (Laver and Shepsle 1994, Shepsle and Weingast 1994), and legislative scheduling (Patty and Penn 2003).

[25] Other factors that could increase certainty by voters (and thence diminish need for ideology by politicians): better political information because of smaller district sizes, more compact districts, and the competence and reach of media covering district issues.

preferences on all issues in the active policy space are a fundamentally non-ideological in the sense that preferences on issue a are uncorrelated with preferences on issue b for all issues in the policy space, then even extremely high demand for ideology will likely lead to relatively weak ideological dimensions.[26] A larger supply of ideologically aligned issues, assuming some degree of demand for such issues, should make it easier for legislators to propose ideological issues.

Consistency of Policy Preferences: The degree to which ideology structures preferences on the policy space dimensions (in general) might vary. For example, Goren (2004) shows that politically knowledgeable survey respondents make fewer errors when linking policy positions to value dimensions. If legislators have better information, presumably they will do a better job of linking policy choices to ideology. If ideology does a better job of predicting (expressed) preferences on active policy space issues, then there are more opportunities to select ideologically consistent issues because a larger portion of the issues are ideologically consistent. (The supply interpretation of hypothesis 6, and hypothesis 4 follow from this argument).

The size of the active policy space (D). Some policy dimensions fit better[27] with the ideological dimension(s) than others. All else equal, adding dimensions to the policy space increases the number of more ideological dimensions, as well as the number of less ideological dimensions.[28] A larger policy space provides more choices. Hypotheses 1

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[26] Extremes of party pressure or agenda selection could accomplish the task of providing strong ideological dimensions built on such weak foundations. By constraining choice to a single policy dimension, one would automatically imply an 'ideological' dimension with preferences predicated on the policy positions. Alternately, party pressure could accomplish the task by forcing members to vote in accord with party ideology.

[27] In terms of both unobserved/true fit and observed fit.

[28] *New Issues.* The discussion of the active policy space above includes the effect of exogenous changes in the size of the active policy space. To some degree, however, politicians can consciously raise issues from the issue space (Schattschneider 1960). If activating issues was costless, then the supply of issues would be

and 2 below will distinguish between two quite different opportunity structures for choosing ideologically consistent issues. When there is less agenda control (i.e. there is time to consider all dimensions), then both the less ideologically consistent and more ideologically consistent components of the (expanded) active policy space are likely to be represented. I will argue below that when there is more time pressure (not enough time to consider all issues) legislators or leaders who prefer the more ideological issues will have an easier time granting priority to such issues.

Time Available (T). As the discussion of the size of the policy space suggests, the size of the potential agenda (T) is an important influence on the supply of ideologically consistent issues, principally because it influences the degree to which non ideological issues can be excluded from the agenda. The number of issues (T) that can fit on the agenda varies.[29] When there is less time (T), fewer dimensions can be dealt with, which implies that a smaller number of ideological issues could supply a given level of ideological consistency. In Chapter 3 I argued that a larger potential agenda[30] (T) led to

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perfectly elastic, and we should have to focus only on demand factors to understand the degree to which issues consistent with ideology are acted upon by governments. In fact, there is good reason to suppose that the cost of raising new issues is positive, often prohibitive. To raise an issue, it must first be imagined – the proposal must be invented. Before patents were invented in the middle ages, governments did not have the option of providing patent protection – they hadn't thought of it. Invention overcome, proponents must develop popular and/or elite awareness and support, not to mention the technical expertise to carry it out. Raising issues is costly.

Exogenous changes in the cost of raising new issues: This isn't to say that some new issues aren't almost free. When a Great Depression hits, it may become much easier to act upon issues previously forbidden by Constitution and public preferences. Issues often come from the search for problem-solutions – when public problems arise, it is possible to raise issues that were previously prohibitively costly to raise.

[29] We defer for the moment the problem of putting D and T on a comparable metric: for modeling purposes, T is defined here in terms of D – T is the number of issues that can fit on the agenda.

[30] For example, the time allotted for state legislative sessions varies widely in the United States. Some professionalized legislatures meet for long legislative terms, have many staff members, and consequently (one would expect) a higher time (T) budget. The Massachusetts legislature meets year-round. At the opposite extreme, the Nevada legislature is permitted only sixty calendar days in session per year.

weaker party leadership. Hypothesis 3 (presented below) will investigate the expectation that it leads to weaker (less predictive) ideological dimensions as well.[31]

Hypotheses: Supply of and Demand for Ideology

How does ideological supply and demand influence the predictive power of observed ideological dimensions? Taking in sequence the seven hypotheses outlined below in Table 4.1, I begin with hypotheses linking the supply of ideologically consistent active policy issues (relative to the size of the agenda) to changes in the predictive power of the main ideological dimension(s). The critical point is that when there are more opportunities to select an ideologically consistent agenda, the ideology-consistent issues should account for more of the agenda: there are better opportunities for manipulation of the agenda to produce strong ideological dimensions. I then turn to several hypotheses derived from previous studies, and show how these are consistent with and enriched by the ideological supply and demand framework.

(Insert Table 4.1 here.)

Configurations of T (time) and D (number of active dimensions)

We first consider the relationship between the size of the active policy space and the predictive power of the ideological dimensions when there is no opportunity for pro-

[31] In the previous chapter we attempted to measure T using legislative professionalization. The degree of legislative professionalization may be a more complex variable here. In particular, one motive for professionalizing state legislatures was the belief that professional legislators would tend to take a more general policy and programmatic approach, eschewing local pork barrel politicking. In particular, professionalized legislators tend to be career legislators, which may make for stronger individual demand for ideological consistency. We may be able to resolve these difficulties by including separate variables for career length and legislative term length.

ideological agenda selection: hypothesis 1 -- the PolicySpace⇓ArtifactualSupply hypothesis. If $T \geq D$, then there are fewer issues to consider than time to consider them, and thus there is time to consider all active issues with time left over. For example, a legislature in this region will run out of issues it wishes to address, and adjourn early.[32] In this context, leaving out issues because they are ideologically inconsistent is most costly for legislators – since there are no issues to substitute for left-out issues, each excluded issue makes the majority that would have backed a policy change worse off. Arguably, selection in favor of ideological issues should be non-existent – sustaining an equilibrium in which legislators fail to use the full amount of available time, and leave majority-preferred policy changes un-passed would be difficult: there will almost always be a majority that would like to deal with one additional issue.[33] Thus, selection in favor of more ideological issues should be relatively difficult in this region.

When there are minimal opportunities for pro-ideological agenda selection, adding another dimension to the active policy space will typically reduce the fit of the ideological dimension.[34] A new issue will likely divide members in a new way, and consequently it will typically reduce the observed predictive power of the ideological dimension. The simplest case for this is the shift from one policy dimension to two. When there is only one policy dimension, the observed 'fit' with ideology will be extremely high, as one can simply define an ideological dimension with the same preference structure as the policy dimension. When one shifts to two policy space

[32] This does happen in some US States.
[33] Although the ideological cost of raising some issues might eliminate their majority support status.
[34] See the proofs of Observations 1 and 2 in appendix 4, Koford 1989, and Poole, Sowell and Spear 1992. Although as presented this is an empirical or artifactual argument, the claim is also consistent with a theoretical treatment if we define issue dimensionality using the measure proposed by Nybade (2004). Nybade defines issue dimensionality as the similarity-weighted effective number of issues. Adding dimensions will increase Nybade's measure of dimensionality (more dimensions) except where preferences on the new dimension are perfectly correlated with those on other dimensions.

dimensions, unless preferences are identical on both, the fit of the ideological dimension will diminish.[35] When there is time to consider all issues, considering more issues will typically result in a weaker ideological dimension (Poole, Sowell and Spear 1992). An increase in the size of the active policy space should lead to lower predictive power for the ideological dimension as the artifactual ideological fit fades.[36]

Hypothesis 1. We can now state our hypothesis about the relationship between the size of the active policy space and the predictive power of the ideological space when agenda control is difficult or limited. The *PolicySpace*$\Downarrow$*ArtifactualSupply hypothesis* applies in situations where agenda-selection is not possible (i.e. where $T \geq D$). Under these conditions, *larger active policy spaces should be associated with weaker ideological dimensions.* Figure 4.2 depicts this relationship: the region where hypothesis 1 applies is region 1.

Keep in mind that the ability to specify inequalities between T and D depends upon the maintained assumption that T is measured in D units – that T is the number of dimensions that can be considered given time constraints. In empirical analysis, we will have no such convenient opportunity for direct matching. Thus, identifying the boundary between regions one and two will depend in the manifestoes data analysis on model specification. In the US House of Representatives and state legislatures analyses, we will take advantage of cases where legislatures fail to use the full legally-available session length in order to identify plausible candidates for membership in region 1 (T > D).

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[35] For example, adding the affirmative action school busing issue to the active issue space split existing (Democratic Party) coalitions in many cities during the 1970s. This issue fractured, at least for a time, the existing ideological pattern.

[36] Identified by Koford 1989 and Poole et. al. 1992.

Hypothesis 2: The PolicySpace⇑Supply hypothesis. We now turn to the (more common) case when there are opportunities for pro-ideological agenda selection. Once T < D, there are more available issues than there is time to consider them. This makes it easier to select in favor of more ideological issues (whether based on partisan/collective or individual demands). Because (as asserted above) ideological consistency confers advantages, ideologically consistent issues should be favored (at the margin at least) over ideologically inconsistent issues, with the intensity of preference for ideological issues a function of the demand for ideology.[37]

Some additions to the active issue space allow legislators in one or both parties to present a usefully unified party and/or ideological image.[38] A larger active policy space makes it easier to construct an agenda containing such issues. When T < D, a larger active policy space creates more opportunities for pro-ideological selection. Just how much selection there is will depend on how valuable ideological issues are relative to

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[37] A simple non-political example illustrates the logic. Assume for the moment that everyone at a party prefers green olives to black olives. Suppose that a set of aperitifs on toothpicks is prepared for a reception using either green olives or black olives, in combination with other foods. If few of both the green and black kinds are available (relative to demand) then all will be consumed. When there are a bit more than enough snacks, the portion of green olives consumed will be larger, but because the other items associated with the olive may be particularly unappealing, some green olives may survive. If there are many more snacks than reception-guest that want them, a preference for green olives among the guests will lead to the consumption of only green olives, even if each guest's preference for green is slight. The assumption that party members pay a cost for proposing a bill that divides their party is equivalent to the assumption that the reception guests prefer green olives. A larger issue space makes more 'green olives' (party unity proposals) available. If party members coordinate to choose those 'green olives' then party unity proposals will be over-represented.

[38] For example, the gay marriage issue was an issue that the Republican Party found useful in the 2004 Presidential election. Democrats (and Democratic appointments) in the Massachusetts Supreme Court and San Francisco city government placed gay marriage on the agenda for the 2004 presidential election. In the Senate vote on Gay marriage, nearly all Republican senators voted in favor of a Constitutional Amendment defining marriage, however, a few did not. My analysis above, written before the vote, may have been incorrect where the Constitutional Amendment is concerned. While most Republicans do not support Gay marriage, a Constitutional remedy may be unable to gain full support, particularly among moderate Republicans. Democratic members of Congress who support gay marriage (e.g. Barney Frank) spoke out against raising this issue prematurely during an election year. Republicans benefited from the increased awareness of gay marriage issues, and raised constitutional defense-of-marriage amendments in many states. It appears likely that the gay marriage issue cost John Kerry the state of Ohio (and thence the Presidency) in 2004 by increasing voter turnout among religious conservatives.

other issues, but it is easy to show that as the number of issues in the active policy space goes to infinity, no matter how small the (positive) value placed on ideological consistency, a finite agenda will be completely populated by ideological issues.[39] Hence we have Hypothesis 2, the *PolicySpace⇑Supply hypothesis: In situations where agenda selection is feasable (i.e. when T < D) larger active policy spaces should be associated with stronger ideological dimensions.*

Putting hypotheses 1 and 2 together (PolicySpace⇓ArtifactualSupply and *PolicySpace⇑Supply*), we see that the expected relationship between the size of the active policy space and the predictive power of the ideological dimension is non-linear, with a changed sign near T = D. This predicted relationship between the size of the issue space and the predictive accuracy of the partisan-ideological dimension(s) is as sketched in figure 4.2: Both hypotheses derive from the agenda selection model presented above, and relate to the supply of ideologically consistent issues.

(Insert Figure 4.2 Here)

Hypothesis 2a: PolicySpace⇑Demand. An alternative interpretation of the hypothesized positive relationship between the size of the policy space and ideology is that larger policy spaces make it harder for members of the public to monitor their representatives, increasing *demand* for ideology as a commitment and/or simplifying

[39] This point is based on the assumption that the value of additional ideological consistency is always positive. This assumption may not be correct in all cases. For example, did the Southern and Northern wings of the 1940s-1970s Democratic party desire ideological clarity about their profound differences? One might argue that these party factions would resist clarifying their differences in the interest of maintaining their party coalition. Taking the argument to the limit lets us get around these difficulties, however. If the active policy space is infinitely large, then there should be plenty of issues around that are consistent with a partisan ideological image and maintain unity between party factions. In the Southern/Northern Democrat context, this might involve a perpetual reliving of the glory days of the New Deal prior to the court-packing controversy.

device. Thus hypothesis 2 (though not H1 PolicySpace⇓ArtifactualSupply) is consistent with an alternative explanation driven by uncertainty on the part of voters, and induced demand for ideological clarity on the part of politicians. We will term this alternative explanation hypothesis 2a. the *PolicySpace⇑Demand* hypothesis, as opposed to hypothesis 2, the *PolicySpace⇑Supply* hypothesis developed above. H2 and H2a share an emphasis on the role of agenda selection, and are not mutually exclusive. They do differ in some respects. Most critically, the supply explanation applies only to certain ranges of T relative to D.[40] The demand explanation applies everywhere.[41] Because of these different applicable ranges, the demand explanation (H2a) suggests that hypothesis 1 (PolicySpace⇓ArtifactualSupply) will not be supported.

Hypothesis 3: the LessTime⇑Supply hypothesis. The selection in favor of more-ideological issues that underlies the *PolicySpace⇑Supply* hypothesis should be easier when there is little time to consider the full range of potential issues. Making more time available (while holding D constant) makes it harder to select a pro-ideological agenda,

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[40]The supply explanation does not apply when T>D. We might also want to think about a third region: region 3 arrives when there are so many ideological dimensions available that the full agenda *T* is filled completely with such dimensions. At this point, additional active policy dimensions need not lead to a stronger ideological space. Since there is no opportunity for further increases, the supply explanation suggests that the relationship between policy and ideological spaces should flatten. Pushing the olive example rather past the breaking point, if there are hundreds of green olives available for a few dozen guests, adding more green olives to the mounds available for already satiated guests will not increase consumption.

[41] Melding supply and demand explanations, the degree to which ideological/party consistent issues are preferred influences which of these regions will exist. If demand is zero, then only region 1 will exist in the sense that there will be no 'squeeze out' of non-party-unity or non-ideological proposals. Thus, a larger policy space may weaken the ideological space of a non-partisan political system. Where costs are neither zero nor so large that non-ideologically consistent proposals will never be made, all three regions will exist. Finally, when costs are infinite, only region 3 will exist: only ideological issues will ever be proposed. If the selection is for party-consistent (as opposed to ideology consistent) issues, with exclusively partisan proposals in region 3, adding additional elements to the issue space may well weaken the predictive power of ideological dimensions by revealing additional factions in the opposition party. Issues that provide party unity for both parties may be preferred for proposals because such an issue, with a sufficiently distant SQ, can provide the highest proposal payoff. Absent costs, the best issue to propose is one where the SQ is at one extreme, and the member making the proposal is at the other. With costs, the highest payoff is where the proposal is 'best' and one need not pay the cost of proposing a non-ideologically consistent issue.

which will typically reduce the fit of the ideological dimension(s). Less time available effectively increases the degree to which ideological consistency can be selected. I will term hypothesis 3 the *"LessTime⇑Supply"* hypothesis*: Holding D constant, a more restricted time limit will typically be associated with more predictive power for the ideological dimensions.*

Additional Hypotheses

The hypotheses developed below are consistent with the ideological supply and demand framework (as will be seen). To some extent these hypotheses derive from the work of other authors. We add value by putting these hypotheses in the supply and demand framework, which highlights limits for some hypotheses that their originators may not have anticipated, and by testing them on much richer data sets. In brief, I will argue (H4) that the prevalence of issues from categories with lower average ideological fit will be associated with less overall fit, particularly when there is less opportunity for pro-ideological selection. I will also show (H5) that Economic inequality increases the salience of economic left-right issues, increasing demand for issues consistent with the economic left-right ideological dimension. I will also show (H6) that more party competition increases the supply of party-ideology consistent issues, and also arguably increases demand for ideological consistency. Finally, I will suggest (H7) that stronger legislative leadership may have more agenda setting power, permitting more selection of ideologically consistent issues. As noted previously, all hypotheses are summarized in table 4.1.

Hypothesis 4: SpecialInterest⇓Supply

In their examination of committee assignments, Cox and McCubbins (1993) suggest that the degree to which policies influence the party's reputation is related to the form of 'externality' imposed by policies within the committee jurisdiction. Committees with jurisdictions that do not much affect other members of the party, impose "targeted externalities" that the rest of the party need be less concerned about.[42] The logic developed by Cox and McCubbins for committee assignments can be extended to issues in the policy space more broadly construed. Issues that impose uniform externalities – that are noticed by or influence constituents in many districts – should be better predicted by partisan ideology. Conversely, issues that impose targeted externalities -- in the sense that benefits are localized – should be less subject to partisan (or individual) ideology. Such issues may never develop strong associations with ideological positions. In particular, issues of concern to only a few citizens are unlikely to develop much connection to the ideology space. Consistent with a variety of policy typologies, special-interest politics may thus be perennially disconnected from public ideology.[43]

The *SpecialInterest*⇓*Supply* hypothesis is a kind of 'negative supply' argument. Since special interest issues are typically less ideological, a larger portion of such issues in the active policy space should be associated with lower average ideological fit. This lower average should be consequential in some circumstances. As phrased, hypothesis 4

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[42] Cox and McCubbins suggest that these committees have at various times included Agriculture, District of Columbia, Interior and Insular Affairs, and Merchant marine and Fisheries.) Conversely, committees with broad jurisdictions of concern to most party members impose "uniform externalities," and are likely to be kept under tighter party control. (These committees include (or have included) Appropriations, Rules, Ways and Means, Interstate and Foreign Commerce, Public works and Transportation, Science, Post Office and Civil Service, House Administration, Government Operations, and Veterans' Affairs.

[43] Hinich and Munger (1994, p. 111) specifically exclude from their definition of the policy space social problems that are of concern to small numbers of citizens. They acknowledge that this definition excludes some of the issues Congress votes on. By extension, if vote is on an issue that is not in their policy space, it cannot be linked to the ideological space of their model. Indeed, a vote-level analyses of the US Congress (not reported here) showed that special interest budget issues tend to fit the main ideological dimension in the US Congress worse than any other issues.

contains a caveat limiting its applicability to periods when time limits are not binding. When time limits are binding, the lower average fit of special interest issues should make little difference – selection of ideological issues can lead to the choice of *only* those special interest issues which also happen to be ideological, which should partially or completely compensate for the lower average fit. When time limits are not binding, such selection is harder to accomplish, and the lower average ideological consistency of special interest issues should remain apparent.[44] Thus, hypothesis 4 *(SpecialInterest⇓Supply)* is that *sessions with more special interest issues should have lower overall predictive power for the ideological dimension, particularly when time limits are not binding.*[45]

Hypothesis 5: The Inequality⇑LeftRightDemand hypothesis. Nolan McCarty, Keith Poole, and Howard Rosenthal (1997, 2003) investigated the proposition that variation in the predictive power of the ideological dimensions (and inter-party distance) is shaped by economic inequality.[46] Increased economic inequality arguably makes more

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[44] If the argument of this paragraph is correct, then the presence of more special interest budget issues may indicated a lack of selection power. Special interest issues are more prevalent when there are fewer other (more ideological) issues to push them from the agenda. Thence, the predictive power of the ideological dimension should be lower on *other* issues when there are more special interest budget issues present during a legislative session.

[45] Even when there is substantial time pressure, special interest issues that are low salience may have a greater chance of surviving on the agenda – low salience means that the negative 'externalities' of issues that fit poorly with the ideological dimension(s) are minimal, so there should be less pressure to keep such issues off the agenda.

[46] McCarty Poole and Rosenthal (1997, 2003) show empirical evidence of a strong association between the predictive power of the ideological dimensions and economic inequality for the post World War II United States, with R2 values on the order of 0.92. However, they are cautious about this empirical result, given uncertainty about causation. Another cause for caution is the possibility of spurious results in non-stationary time series like the post World War II inequality and ideology data. Furthermore, they identify a competing highly-correlated trend line: immigration. In subsequent work (McCarty et. al. 2003), they suggest that the increased impact of income on party affiliation "is largely the consequence of polarization of the parties on economic issues and the development of a two-party system in the South." (Quotation is from the abstract.) We will give the hypothesis a thorough empirical work-out below, with data from Gerald Wright's (2002, 2003) cross-section of US States, and Budge et. al.'s (2001) panel of party manifestos, not to mention a US inequality time series that is nearly twice the length of the series analyzed by McCarty et. al. (1997, 2003).

salient the division between rich and poor, and (thence) diminishes the importance of other ideological dimensions.[47] More divergence in the pre-tax-and-transfer incomes of rich and poor should make redistribution more appealing for the poor, and more threatening for the rich, thus increasing the salience of such issues. Thence, inequality increases the demand for issues consistent with the economic left-right ideological dimension. *We will term hypothesis 5 the "Inequality⇑⇑LeftRightDemand" hypothesis: the predictive power of the economic left-right dimension should be higher when there is more economic inequality.*

Note the slight difference in phrasing in the Inequality⇑⇑LeftRightDemand hypothesis. In the preceding hypotheses, I suggested that various factors would increase or diminish supply or demand for ideological dimension(s) without naming the dimension or dimensions. Here I name the dimension. By the economic left-right dimension I mean in particular a dimension that divides politics on class/income lines: between a left concerned with the welfare of the poor, and a right concerned with the welfare of the rich. For example, the key issues might involve redistribution of wealth, ownership of industry, or the distribution of taxes.[48] If the main ideological cleavage in the society is not the economic left-right dimension, then increased inequality will

[47] The ideological efforts of those who would thwart redistribution will be dealt with in a moment.
[48] The appeal of redistribution (e.g. taxes on the rich to provide social welfare benefits for the poor) is typically greater when there is more economic inequality. Thence, the redistributive aspect of the economic left-right dimension clearly will become more salient with more inequality. Other aspects of the economic left-right dimension (e.g. the degree of government regulation) may not increase in salience. There is no reason to expect that economic cleavages not built on the conflict between rich and poor will not increase in salience. For example, the division between Democrats and Republicans on the Tariff issue was clearly an economic division, but it had little to do with class-based distribution of wealth.

diminish the predictive power of the main cleavage in favor of an economic left-right dimension, provided that left-right issues are present in the active policy space.[49]

Hypothesis 6: The PartyCompetition⇑Supply and PartyCompetition⇑Demand hypothesis. Gerald Wright and coauthors (Wright and Winburn 2003, Wright and Osborne 2002, Wright and Schaffner 2002) pursue a party competition explanation for variation in the predictive power of ideological dimensions in state legislatures. The key explanatory variable is the portion of the legislature controlled by each political party (and the presence of political parties). The work of Wright and coauthors suggests that more party competition makes presenting an ideologically consistent party agenda more important. They found that when parties are near parity, ideology predicts roll call votes more accurately. This can be explained in terms of both supply and demand.

PartyCompetition⇑Demand. I argued above that a clear party-ideology image potentially provides electoral benefits. Arguably, when electoral competition is fierce, party members will invest more in their partisan/ideological image. Another way to look at this is in terms fo the inverse. Riker (1982) suggests that when one party is persistently in the minority, the minority party has more incentive to attempt heresthetics to change the existing ideological dimensions towards an ideological alignment more in its favor.[50] Heresthetic projects to upset the current ideological alignment should diminish the fit of

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[49] In the land of Lilliput, where political conflict is principally to do with the proper method of consuming eggs -- the conflict between the Big-endians and Small-endians -- increasing the salience of economic left-right issues would tend to make politics more multi-dimensional, and (at least until economic left-right issues supplanted eggs) would diminish the predictive power of the main dimension. See Johnathan Swift Gulliver's Travels Chapter 4. Available on the internet from http://www.gutenberg.org/dirs/etext97/gltrv10.txt

[50] Riker's main example involves an analysis of pre-Civil War Whig/Republican opposition to the Democratic party and the effort to find an issue or set of issues able to break up the Jacksonian Democrats' coalition.

the main ideological dimension. The absence of such projects should be associated with better fit. Thus, less party parity makes for less demand for ideological consistency (and may even lead to demand for inconsistency on the part of the minority).

PartyCompetition$\uparrow\uparrow$*Supply.* Alternately, we can focus on supply – given a plausible assumption about party size and party preference heterogeneity, it is easy to show that larger parties typically have fewer available issues. Although passage of most legislation requires a simple majority, political parties or partisan coalitions will sometimes hold many more seats than are needed. This sets up a tradeoff for coalition-builders, perhaps particularly in distributive policy. Adding additional members to a (party) coalition can increase the cost of that coalition, although the optimal coalition will not necessarily be minimal winning (See Groseclose and Snyder 1996 and Krehbiel 1998). It is easy to show that larger parties have (all else equal) fewer issues on which they can agree to change policy (See Appendix 4). As the size of a party's majority grows, it becomes more likely that legislation will be passed by a coalition that excludes some party factions -- alternative non-party coalitions may be more appealing.[51] Thus, legislators will be less likely to build coalitions that maintain party unity when parties are far from parity. In turn this tends to diminish apparent consistency with the ideological space (See appendix 4).[52]

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[51] Less equal party ratios within legislatures reduce party unity. When parties are near parity, partisan coalitions approach the efficiency of minimum winning coalitions. Building a coalition that includes all party factions is no more costly, in terms of vote buying say, than building any other minimum winning coalition. When the parties are far from parity, building a coalition that includes all members of the majority party requires costly effort with limited return in terms of the probability of legislative passage. As a few Republicans began to enter Southern one-party legislatures, the 'Speaker system' often involved members of both parties – given the vastly unequal size of the party delegations, the speaker's coalition often involved members of both parties.

[52] See appendix 4 for a formal analysis of the relationship between the predictive power of the ideological space and party unity.

Distinguishing between the supply and demand versions of hypothesis 6 will require distinct measures of electoral and legislative party competition. I will make some attempts to distinguish between these explanations below, but they are not mutually exclusive. Whether by way of electoral incentives (demand) or legislative coalition-building constraints (supply), or both, we reach the same empirical prediction.

Hypothesis 6: *more competitive party systems will typically produce stronger ideological dimensions.*

Hypothesis 7: The Leadership⇑SelectionPower hypothesis. Stronger legislative leadership should be better able to control the legislative agenda, potentially to provide ideological cohesion. Party leaders with more power should be better able to restrict consideration to those issues with higher return for the party (Cox and McCubbins 1993 Chapter 9, also see Aldrich 1995). As suggested above in the discussion of demand for ideology, issues that allow the party to maintain a coherent ideological image should have higher return for the party. Thence, parties with more agenda control will tend to select issues on which the party is relatively unified, and to bypass issues that reveal deep divisions between party members. In sum, we might expect that stronger leadership will be associated with stronger ideological dimensions.[53] Since hypotheses 1 through 6 treat specific conditions for agenda control, H7 is a conditional hypothesis. In the presence of these controls, hypothesis 7 (the *Leadership⇑SelectionPower hypothesis)* deals with the existence of an independent effect for leadership power: [54] *stronger legislative*

[53] Unlike the other hypotheses, this hypothesis does not fit neatly within the confines of the supply and demand framework.

[54] However, the argument in Chapter 3 suggests that the power of legislative leaders is determined by the same policy space variables that will be included here. It is useful to think about the plausibility of the alternative null hypothesis. Once we control for factors that influence the power of leadership (from Chapter 3) such as party competition and agenda setting opportunities (active policy space, time), variation

leadership will be associated with more predictive power for ideological dimensions. The failure of some leaders (e.g. Joe Cannon) who have tried to exercise an independent influence suggests that this hypothesis may fail as well.[55]

Data

We discuss in turn the particular variables used to test each hypothesis across three datasets: this section is organized by-hypothesis. The first dataset is a cross-section of the US States using the roll call data developed by Gerald Wright[56]; the second is a time series of the US House of Representatives based on the work of Poole and Rosenthal (1997); and the last is a panel of party manifestoes from Budge et. al (2001).

Dependent Variable: the 'fit' of the Ideological Dimension(s)

In each of the datasets outlined above, we will assess the degree to which ideology structures choice – the fit of the ideological dimension and/or dimensions. To do so, we need to measure the ideological space and observe how well it predicts policy positions or choices.

Mapping the ideological space involves use of some technique for inferring the latent ideological dimensions, and thence the degree to which they account for the data –

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in the power of leaders may be little-correlated with ideology. And leaders may be motivated by majority construction concerns that are little associated with party or ideology. The "Speaker System" in Southern Democrat-dominated legislatures often involved participation by members of both parties in the speaker's coalition. Speakers may use their agenda setting power in ways that undermine emphasis on party ideology, if this serves their interests better. Party competition is probably the key factor pushing speakers to frame issues in a party-ideology consistent way. In the absence of such competition, powerful speakers may well be those who frame issues in an ideologically inconsistent way. Choosing issues consistent with partisan-ideological competition limits the speaker's ability to select an effective coalition, particularly when one party/ideology dominates the legislature. If a speaker is powerful in a one-party-dominated legislature, this may indicate the presence of an essentially non-partisan speaker system, rather than strong party-ideological leadership.

[55] For an analysis of the rise of Reed and the fall of Cannon, see Riker 1986 chapter

[56] The roll call data is available at http://www.indiana.edu/~ral/.

for votes or preferences. A variety of techniques have been applied including factor analysis (Heckman and Snyder 1997), multi-dimensional scaling (Poole and Rosenthal 1997), and Bayesian monte-carlo methods (Clinton, Jackman and Rivers 2004).

In our analyses of US state legislatures and the US House of Representatives, we will use fit statistics (error rates) for ideological dimensions estimated using Keith Poole and Howard Rosenthal's Nominal Three-step Estimation (NOMINATE). We will measure ideological fit in terms of the aggregate proportional reduction in error (APRE), a measure of the percent of variance explained by the spatial model above a basic threshold -- the percentage of the votes one would be able to predict successfully with a simple model that guessed all members voted in favor of the more popular position on each bill. Higher APRE values indicate better fit. For the US States cross section, values range from 13 percent to 85.3 percent (mean: 48 percent, standard deviation: 17 percent). For the US Congress, values range from 11.5 percent to 82.6 percent (mean: 50 percent, standard deviation: 13 percent). An alternative measure is the pseudo R^2. Fleck and Kilby (2002) report similar results with both measures, which is hardly surprising given that both are built upon a relationship between the accuracy of the full model and a simple intercept-only model.

The time series appears to follow a simple AR1 process in which values at time t are influenced by values at t-1, but not substantially by values at t-2 except through their influence on t-1.

(Insert Table 4.2 Here)

As table 4.2 shows, there is a strong relationship between the value at time t, and the value at time t-1, but the correlation drops off for subsequent lags. For both the first and second dimensions, the first lag is the only one that achieves standard (95 percent) levels of statistical significance. The information that the t-2 and earlier periods contain about period t is relatively scant, and what information there is seems to be passed through the value of period t-1: a simple one-period auto-regressive process.[57] [58]

NOMINATE has been applied to a number of legislatures, including all sessions of the US Congress (Poole and Rosenthal 1997) and a cross-section of nearly all of the US states (Wright and Osborne 2002, Wright and Winburn 2003).[59] However, relatively little work has been done with the roll-call scaling techniques discussed above for non-USA legislatures.[60]

I measure ideological error cross nationally using data from the Comparative Manifestoes Project as reported by Budge, Klingemann, Volkens, Bara and Tanenbaum (2001).[61] This dataset includes an issue coding of party campaign platforms for every

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[57] Nearly all of the information contained in the second lag is included in the first lag: when all or some of the following subsequent lags are included in an estimated equation that includes the first lag, the second, third and fourth lags are non-significant.

[58] Although portions of the APRE time series appear to have over-time trends, the overall series does quite well on tests for stationarity. Although the major changes in the time series correspond to substantial shifts in the landscape of American politics, almost none of these changes have been substantial or abrupt enough to provide significant evidence of a structural change in the relationship between APRE1 and its lagged values. (Insert figure 4.3 here.) Figure 4.3 shows significant f-statistic values only during the one-party "era of good feelings" under Monroe, and into the presidency of John Quincy Adams. Smaller non-significant spikes in the f-statistic values correspond to the 1850s, the overthrow of speaker Cannon, and the mid 1960s. All of these periods have been identified by various scholars as either 'realignment periods' in the development of the American political parties, and/or as periods of major institutional change in the House itself.

[59] Gerald Wright has an NSF grant to collect and make available roll call votes by state legislatures. Wright's work (Wright and Osborne 2002, Wright and Winburn (2003)) provides summary measures for all states except Hawaii (which has too few non-unanimous votes).

[60] John Londregan has applied Nominate, and modified versions thereof, to the Chilean legislature, Poole and Rosenthal (1999) report results from the application of Nominate to the UN, the French fourth republic, and others.

[61] Alternate cross national measures in include Lijphart's issue dimensionality estimates and Laver and Hunt's expert survey (1992). Arend Lijphart estimates the number of issue dimensions in Patterns of

election for twenty five long-term democracies during a period from approximately 1946 through 1998.[62] The main measure of ideological consistency is the portion of party manifestoes in a given election accounted for by categories included in the economic left-right dimension as defined by Budge et. al. (2001).[63] Thus, if half of a manifesto is made up of left-right issues, the 'fit' is 50 percent. If the manifesto contains only left-right issues, the 'fit' is 100 percent. As a measure of ideological fit, this isn't optimal, since it amounts to dichotomizing the issue space: some issues are defined to have perfect ideological consistency, others none at all.[64] In reality, presumably, the relationship is continuous, allowing for situations where issue *x* is less ideologically consistent than issue *y*, which is in turn less ideologically consistent than issue *z*. In spite of their simplicity, these left-right 'fit' estimates track quite well with comparable NOMINATE scores.

(Insert Figure 4.4 here)

Democracy (1999), and his earlier Democracies (1984). The dimensionality estimates are of the degree to which partisan conflict is organized along a number of important political dimensions (e.g. socio-economic, ethnic, religious). Laver and Hunt (1992)'s expert survey included specific issue placements that make it possible to assess the fit of ideological dimensions. (Unlike expert-surveys by Castiles and Mayer (1984) and Huber and Inglehart (1995).) Results using these measures seem to track fairly well with the Comparative Manifestoes data, but these data sets are so small that I chose not the use them.

[62] The countries are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Great Britain, Greece, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United States.

[63] A variety of other ideological dimensions can be constructed from the comparative manifestoes project data. Using the manifestoes coding, various authors have specified alternative left-right dimensions (Pennings and Kennan 1994), as well as an orthogonal social policy scale (McDonald and Mendes 2001).For an alternative left-right scale, see Pennings-Keman (1994)
(Originally from Pennings P. and H. Kennan (1994) "'Links" en "Rechts" in de Nederlandse Politiek', Jaarboek 1993 van het Documentatiecentrum Nederlanse Politieke Partijen, Groningen: 118-44. (Cronbach's alpha = 0.56.) Quoted from Jan Kleinnijenhuis and Paul Pennings (2001) "Measurement of Party Positions" in Laver eds 2001 pp. 162-182.

[64] Another approach to measuring issue dimensionality using party manifestos is suggested by Benjamin Nybade (2004). Nybade is explicitly interested in a measure of the number of issue/ideological dimensions, and does not attempt to simultaneously assess the location of parties on these dimensions. Nybade defines issue dimensionality as a function of the number of underlying issues, and the similarity of preferences on those issues. Nybade reports that his measure does a better job of predicting government-coalition failures in Western Europe than previous measures (e.g. Lijphart 1999).

For the post World War II United States, NOMINATE and manifestoes estimates have very similar error rates – they provide highly correlated measures of the degree to which the left-right ideological dimension structures choice on the policy space. The ideological 'fit' of party manifestoes in presidential elections and the NOMINATE APRE statistics for the United States House of Representatives (see figure 4.4) are correlated at 0.86 for the 1948 through 1996 period.[65] Although we must be cautious about building too much on slender evidence (the US only and a time series at that), it is encouraging that these two rather different measures of the predictive power of the main 'left-right' ideological dimension are in such close agreement.

(H1 and H2) Measuring the Size of the Active Policy Space

Following the argument developed in Chapter 1, we will use several proxy variables for the size of the active policy space, including government intervention, population, and the (effective) number of issues represented in issue typologies. I treat each variable below.

1. Government Intervention – We expect more government intervention to be associated with the presence of more active policy dimensions (Chapter 1, claims 2 and 3). The Index of Economic Freedom in the World[66] (Gwartney and Lawson 2004) is largely an inverse measure of government intervention. Many of the measures in the index of economic freedom are associated with the degree of government planning/intervention in the economy. Appendix 1 provides a rough ranking of the

[65] The R^2 value is 0.74.

[66] This dataset can be downloaded from http://www.freetheworld.com/, a website maintained by the Fraser Institute.

applicability of specific measures.[67] There are 'relevant' items in all of the five main subcategories in the economic freedom index. I eliminated the questionable items, and then reconstructed the index. I then constructed an inverse index so that larger values would be associated with a larger policy space. This 'government intervention index' is computed by subtracting the economic freedom index from ten (10-EF).

US state-level analyses use the Index of Economic Freedom in North America (Karabegovic, McMahon, Samida and Mitchell 2004, Wang 2005). This index is measured every four years from 1981 to 1993, and every year thereafter. Where relevant, I averaged four-year periods from 1981 through 2000 to provide a measure that equally weights all included periods. The Index of Economic Freedom in North America includes sub-indexes for the size of state government, takings and discriminatory taxation, and labor market freedom. The overall index can vary (in theory) between 0 and 10. Many of the nine variables used in this index are directly related to the size of the state government, and thence to the number of dimensions in the active policy space (see chapter 1, claim 2).[68] In the analyses below I will use the entire "Index of Economic

[67] Most measures are relevant -- linked to the degree of economic planning and/or the presence of the rule-of-law -- (23 of 40). For instance, the imposition of price controls often involves (or devolves to) the determination of values for specific goods, and consequently violates the generality often stated as a criterion for the rule of law. However, some measures are not clearly applicable (13 of 40). For instance, the inflation rate is more dependent upon the effectiveness of monetary and fiscal policies than the degree of government planning. A few items are hard to classify (4 of 40), with the role of the military in politics the most problematic. This may be directly related to the effective number of political parties and the expression of political issues, but in a direction we do not want. More military intervention produces lower values on the economic freedom index. But military intervention could reduce the number of visible policy space dimensions.

[68] For example, one component of the "labor market freedom" sub-index is "government employment as a percentage of total state employment." One component of the "takings and discriminatory taxation" index is "total government revenue from own source as a percentage of GDP."With many index items related more or less directly to the size of state government, the index measures only indirectly the degree to which state governments use their financial resources to 'plan' the local economy in ways that should be particularly likely to increase the complexity of the issue space. And these measures are associated indirectly at best with the extent to which states are operating under the rule of law. My favorite variables from the overall index are "transfers and subsidies as a percentage of GDP" from the size of government index, "indirect taxes as a percentage of GDP" from the "takings and discriminatory taxation" index, and

Freedom of North America" to compute an inverse 'government intervention index' that equals (10-EF).

Because the Economic Freedom of the World Index begins in 1970, I also estimated dummy variables to characterize major changes in government policy in the US (Civil War, Great Depression, Great Society, Reagan 'Revolution'). The Civil War, New Deal, and Great Society all saw substantial increases in government activity. The Reagan Revolution attempted (with limited success) to restrict the scope of federal activity.

2. *Population:* As discussed in Chapter 1 (claim 1), a larger population is expected to be associated with a larger issue space. For the US Congress time series, population is as reported by the US Census, with averaging between deciles. Population is measured at the US state level using the 1990 census (the census upon which districts were based during the 1999-2000 legislative session). Cross-national population data is derived from United Nations population estimates.

3. *Effective Number of Issues*: An alternative and more direct approach to measuring the size of the active policy space is to categorize active issues and assess how many of them there are through a more or less direct count (See Chapter 1 claim 5). Using comparative manifestoes project (Budge et. al. 2001) data, I assessed the number of active policy space issues using the inverse of the Herfindahl index. For example, if only one issue was mentioned, then this coding would equal 1, if two issues were mentioned, each fifty percent of the time, the measure would equal 2, and so forth.

(H3) Time

"Government employment" and "occupational licensing" from the Labor market index. Less appealing are measures that seem more associated with conservative ideology than with serious government intervention in the economy. For example: minimum wage legislation, and the size of the state sales tax.

We will use measures of time in two ways. I argued above that the time available relative to D determines whether hypothesis 2 (PolicySpace⇑Supply) or hypothesis 1 (PolicySpace⇓ArtifactualSupply) applies. The switch from PolicySpace⇓ArtifactualSupply to PolicySpace⇑Supply occurs in the neighborhood of T = D: when there are enough active policy issues to fill the available agenda. For the US State legislatures, I proxy for this situation by considering legislatures that fail to use their full legally allotted term. Most states have Constitutional provisions which limit the amount of time that the legislature can meet. Since Constitutional changes typically require supermajorities and voter referenda, there is potential for the constraints to bind. Legislatures in nine states fail to use their legally allotted legislative term, providing 18 legislatures (2 per state) where the time limit arguably is not binding.[69] For example, although there are no legal barriers to longer legislative sessions, the Idaho legislature usually meets only from January through early April. Similarly, although the Maine legislature is permitted a session ending on the third Wednesday of June, on years ending with an odd number, it typically concludes business in March. States like these are the most likely to be members of the T>D category. In these states, hypothesis 1 (PolicySpace⇓ArtifacturalSupply) should apply.[70]

Measuring sufficiently exogenous variation in time limits is difficult in the US Congress because Congress controls its own schedule, with no Constitutional or legal

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[69] The states are: Arizona, Idaho, Iowa, Kansas, Maine, Missouri, North Carolina, Oregon, and Vermont. Source: Council of State Governments (2001) The Book of the States, and the National Council of State Legislatures website http://www.ncsl.org/programs/fiscal/lbptabls/lbpc2t2.htm.

[70] It still might not apply because of other restrictions on the ability to consider issues. For example, several of these states have rather low pay scales for legislatures, with smaller than average per diem compensation. This may mean that legislatures do not want to stay in the capital because of financial pressures. In addition, strong (party) agenda setting can still potentially operate in the T>D area. Demand for ideological consistency could lead to selection in favor of ideology even in this more difficult region.

session-definition comparable to those found for most state legislatures. Over time, some characteristics often associated with legislative professionalism (e.g. staff, salary) have increased substantially in the US Congress, which suggests that we might be able to measure some variation in time available. By contrast, other characteristics have not changed: given the constant Congressional power to determine the Congressional schedule, the potential session-time available to consider legislation in the US Congress has been constant during the history of the institution. Thence, variation in the amount of time spent in session by Congress should provide an indicator of the degree to which Congress was under time pressure. Longer sessions suggest that Congress had less slack-time, shorter sessions suggest that it had more slack time. As a proxy for the T = D boundary, I divided the sessions of Congress using a mean-split. Sessions with higher than average term lengths (in calendar days) were considered 'over-limit' and expected be in the T<D region.[71] Sessions with lower than average term lengths were considered 'under limit' and expected to be in the T>D region. In terms of raw *time* spent in session, there is an upward trend: Congress has been in session longer most of the time since the later years of the Great Depression, but there are a number of earlier sessions that were over-threshold, including the first session of Congress.[72]

In addition to switching between hypotheses (1 and 2) relating the policy space and ideology, we will attempt to measure the effect of time constraints to test hypothesis 3 (LessTime$\hat{\Uparrow}$Supply). One way I measured time constraints was using *Legislative Professionalism* as reported by King (2000) for the 1993-94 legislative sessions. More

[71] An alternative way to measure session length is in legislative days. Sometimes legislative days last for more than one calendar day. To measure the number of legislative days used in state legislatures I convert from calendar days using the conversion formula from King's (2000) legislative professionalization index.
[72] Since this is obviously a rather arbitrary split of the set of sessions. I experimented with various alternative higher and lower cut points, but this made little difference for the substantive results.

professionalized legislatures typically have full time representatives with staff support and meet for longer legislative sessions. The argument for legislative professionalism as a time variable is that more professionalized legislatures have the capacity to handle more issues during a term, so the value of "T" (our time constraint variable) should be higher when the legislature is more professionalized.[73] Since higher values of T make for a larger agenda (and thence less range of agenda setting choice) more legislative professionalization should be associated with 'weaker,' less predictive ideological dimensions. However, for the purposes of this chapter legislative professionalism is a problematic 'time' measure. In particular, professional legislatures are better able to develop expertise. As noted above, those with more knowledge about politics typically make fewer errors when linking policy choices to value dimensions (Goren 2004). Thus, expertise will tend to work in the opposite direction from the expected hypothesis 3 (LessTime⇑Supply) effect. And (unfortunately) both are measured by the same variable.[74]

One solution is to directly assess the degree to which there is slack time – how much time that *could* have been used in legislative session was left on-the-table. More time left on-the-table suggests that members found fewer issues to address than they could have. This suggests a situation in which time constraints did not facilitate pro-

[73] This does seem to be the case. For example of the lower house of the California legislature (large state, professional legislature) took 2215 roll call votes in the 1999-2000 period. And the New York legislature (also a large state with a professionalized legislature) took 316 votes. By contrast, the Texas lower house (large state, non-professional legislature) concluded only 136 roll call votes during the same period.

[74] An alternate expectation concerning the impact of legislative professionalism derives from the literature that promoted professionalizing state legislatures. Proponents expected that professional legislatures would place more emphasis on policy programs, which arguably would lead them to value consistent ideology more highly. Furthermore, professional legislatures typically have less incumbent turn-over. Desire for reelection could lead members to place more emphasis on ideology because of the electoral benefits of ideological clarity sketched above. A partial solution is to disaggregate the King (2000) legislative professionalism index to explore the impact of the session length component separately. But this is only a partial solution, since longer sessions arguably provide more opportunity to develop expertise.

ideological agenda setting: the more time left on-the-table, the lower the fit of the ideological dimension(s) should be. As noted above, eighteen state legislative chambers (in nine states) left time on-the-table by not using the entire legally allowed legislative session.

The task of measuring T is much more ambiguous for the comparative manifestoes project.[75] The data is not derived from a legislature with a fixed or flexible session length. Instead, it is based upon inclusion in a party campaign platform or 'manifesto'. This does carry some opportunities however – the opportunity to assume that the inclusion limits facing parties are constant. Aside from potential variation in national taste for long or short party documents, the trade off between clarity of purpose and inclusion may well be quite constant across countries – if T is based on printing costs or reader attention, then it should be little different in France than Germany, principally unchanged between the UK and New Zealand.[76] To test hypotheses 1 and 2, I will fit a non-linear function (by including squared policy space terms). Thus, we will let the empirical equation identify the boundary between the T>D and T<D regions.

(H4) Portion Special Interest Budget

I measure the portion of special interest budget issues based on Peltzman issue codes supplied by Keith Poole and Howard Rosenthal with their 'Voteview' program. A description of these codes is in appendix 2. Special interest budget is distinguished from the "budget general interest" category by its specificity – it concerns appropriations to

[75] The value of 'T' is rather ambiguous for this data – the data after all is simply a coding of party election platforms or 'manifestoes'. There is no theoretical limit to the elaboration of these platforms, and it isn't clear to me that the practical limit should vary much between countries or over time during the 1970-1998 period. I have experimented with controlling for 'T' with country-level fixed effects interacted with the policy space, but the results of this experiment were (as one might expect given the theoretical ambiguity) ambiguous and contradictory.

[76] In the cross-national panel, panel fixed effects provide a partial control for time, provided T remains relatively constant within-country during the 1946-1998 period. Or for some analyses the period from 1970-96.

particular programs or agencies rather than more general budget issues. For example, in the 106th Congress (1999-2000) the first few special interest budget programs included the Coastal Heritage Trail route in New Jersey, the Sudbury, Assabet, and Concord Wild and Scenic River Act, amendment to the apple and pear export act to restrict its applicability to apples, the Mandates Information Act, and the Microloan program Technical Corrections Act.[77] For this session of Congress there were 425 special interest budget votes, roughly 1/3 of the 1207 votes in all categories. Comparable measures are not available for the state legislatures and cross national data, so this variable is only examined for the US House dataset.

(H5) Economic Inequality

As noted in the theory section, the appropriate measure of income inequality for the theory is pre-tax-and-transfer. We want to measure the extent to which the market distribution of income produces pressure for government action to ameliorate income inequality. None of the empirical analyses reported use this measure. Pre-tax-and-transfer measures are scarce. Thus, the inequality data we will examine include some impact of government redistributive efforts. As we will see, there is suggestive evidence that we would achieve a stronger fit between inequality and ideology using cleaner measures. The current measures are used because they are more readily available.

Cross-national income inequality GINI index values derive from two sources: Dollar and Kraay (2001), and Deininger and Squire (1996).[78] Where multiple

[77] These were roll calls number 29, 22, 21, 14-16, and 11 respectively.

[78] Economic inequality and government intervention are positively correlated (correlation = 0.21). Thus, more government intervention is associated with more inequality. More economic freedom is associated

observations were reported for the same year, I gave highest priority to data denoted by Deininger and Squire as "high quality" data points, next highest to Dollar and Kraay's data, and lowest priority to "low quality" Dieninger and Squire data.[79] These authors code whether the GINI coefficients are calculated prior-to or after taxes, and approximately half of the observations fall into each category. In the data analysis I will examine the impact of pre and post tax measures separately. An alternative source for some income inequality data would be the Luxembourg Inequality Project (*www.lisproject.org*). Although the summary measures reported on the LIS website are post-tax-and-transfer, it would be possible to use LIS survey data to construct pre-tax-and-transfer measures. Although the LIS does not cover all of the countries in the Budge et. al (2001) database, the LIS would provide a more robust measure of inequality for a subset of the countries.

For the United States, the GINI index comes from the US Census, combined with estimates of the GINI index for the period from 1913-1946 by Plotnic, Smolensky, Evenhouse, and Reilly (1998). This allows us to test the relationship identified by McCarty, Poole and Rosenthal with a longer time series. The income inequality estimates of Plotnic et. al (1998) are based on post-transfer but pre-tax income, the standard measure of income inequality reported by the US Census Bureau. In the categorization scheme of Deininger and Squire (1996) this falls into the category 'gross of taxes'. These census bureau data are also used by McCarty, Poole and Rosenthal

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with less inequality. This is consistent with a causal story that inequality generates demand for redistribution.

[79] Deininger and Squire determined quality on the basis of the data source (i.e. surveys ranked higher than tax records), whether the sample covered the entire country, and the like. There is apt to be more error in the low quality data points, but I have not modified my model to account for this suspected variation in reliability. Unless the low quality data is systematically biased in favor of hypothesis 5 (inequality↑↑ideology), which I consider unlikely, net the effect should be that the standard error for high quality data will be slightly over-estimated, and the error for low quality data slightly underestimated.

(2003) as part of their investigation of the relationship between income inequality and party (ideological) polarization. Thus, although it might be useful to consider pre-transfer as well as post-transfer inequality, we do retain comparability with this previous work.[80] I reiterate that for the theory, a cleaner measure would be pre-tax-and-transfer.

For the US states, we will examine the 1999 GINI index for the US states as reported by the US Census Bureau.[81] These data are pre-tax but post-transfer, as with the US national data: both derive from the current population survey. It might be interesting to extend this research by examining whether removing transfers or adding taxes alters the relationship between inequality and polarization.

(H6) Party competition

Across the three datasets, we will principally measure party competition using the Effective Number of Political Parties (ENPP). The Effective Number of Political Parties is the inverse of the Herfindahl Index.[82] Holding the number of parties constant, higher values of ENPP indicate that the share of seats or votes held by the parties are closer to parity: more competition.[83] An alternative, if dated, measure of party competition is an

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[80] The census bureau website reports 'experimental' pre-transfer data for selected (recent) years, but data availability is limited to recent years.

[81] The source for this data is the household measure reported by the US Census Bureau. http://www.census.gov/hhes/income/histinc/state/state4.html. I also use the ratio between the top quintile income lower threshold and bottom quartile upper threshold in some equations. As one would expect from a less precise measure of inequality, this fits the data less well.

[82] The Herfindahl index is a measure of market concentration. For a description of the index and its uses in that field, see http://www.oligopolywatch.com/2003/08/15.html.

[83] Consider the two party case for a moment. When the parties are exactly equal, the ENPP measure is at 2. As one party attains a larger majority, the measure shrinks (more 'market' concentration leads us closer to a one-party monopoly. Thus for the two-party United States, ENPP measures how close to parity the two main parties are, with higher values when Democrats and Republicans have nearly equal vote shares, and lower values when one party dominates. In cross national research, ENPP is often used to measure the number of political parties (e.g. Lijphart 1999). However, in the cross-national panel, because of country level fixed effects, ENPP principally measures the degree to which existing parties are more competitive (have equal vote shares). Once country level fixed effects are included in the panel, we have essentially controlled for the effect of the raw number of parties. At this point variation in the effective number of political parties primarily reflects changes in the size mix among parties. For example, for three parties the maximum value of ENPP is 3, when all three parties hold 1/3 of the seats. If one party is larger than the others, ENPP drops.

index originally constructed by Holbrook and Van Dunk (1993) for the US states. This index focuses on electoral competition.

(H7) Leadership Power

In Chapter 3 we analyzed the index of the speaker's institutional power developed by Clukas (2001). We will include this as an independent variable here. I have not yet been able to discover a version of this index for the speaker of the US House.[84] The US States analysis also includes a variable for the institutional power of the governor (Beyle 2001, 1998, 1994, 1989, 1985, 1980, Schlesinger 1968, 1960).

Control Variables

New Issues

Hinich and Munger (1994) and Poole and Rosenthal (1997, p. 117) among others, suggest that new issues may be less linked to the ideological dimensions. Poole and Rosenthal write:

> "The blending of interests into a bill, either along party lines or via an interparty logroll, need not occur as soon as the issue appears on the national agenda. Indeed, the history of the minimum wage and railroads will illustrate the point that new issues typically fit the spatial model less successfully than mature ones – ones in which enduring logrolls have been constructed." (p. 117)

[84] Hamm and Squire (2001) supply estimates for speakers Cannon and Hastert, but this leaves many gaps. I have not undertaken the labor of coding the speakers myself. Brady et. al. 1979 estimate a series of dummy variables for speaker power. The literature suggests that at the beginning of American history the power of the speaker was minimal, and it gradually increased through the nineteenth century (Keefe and Ogul 1993). In the Reed-Cannon period, the speaker possessed broad, almost unlimited, power. The 1910-1911 rebellion against speaker Cannon substantially weakened the speaker. Some powers were restored in the 1975 reforms. A weak test of the influence of speakers' power would be whether dummy variables estimated for specific decades follow a pattern consistent with this story. Subjectively, figure 6.1 above shows a pattern consistent with a speaker's power explanation. During the Reed-Cannon period a one-dimensional model does quite well. (See figure 4.1). For the long period of weak speaker's power, the fit of the model never climbs above 60 percent, but after the 1970s reforms, APRE1 did increase, eventually climbing above that boundary.

It arguably takes some time for new issues to become linked to the prevailing ideologies, parties or cross-committee logrolls.[85] Whether the latent dimensions result from maintenance of ideological consistency, or from the crafting of logrolls, one would expect new issues to be less structured. Ideology may have to be adjusted, interpreted or extended to accommodate the new issue, while the interests associated with such an issue may take some time to develop a stable linkage with other interests in an 'enduring logroll'. To the extent that new issues are present, the predictive power of the ideological dimension will likely be weakened. I assess the presence of new issues using the change in the size of the active policy space.

Skewness

Skewness is a control used by Wright and Winburn (2003). Recall that skewness is the third moment of a distribution, following the mean and standard deviation. They suggest that more skewness makes for a less-predictable roll call vote, and lower predictive accuracy. Wright and Winburn also examined kurtosis (the fourth moment) but the variable was not statistically significant in any of the nalayses they reported, nor has it been significant in any of my analyses.

Portion of Votes with more than 70 percent Yea

The portion of votes with more than 70 percent of members voting yea (alternately for the US Congress analysis the portion with more than 70 percent voting yea or nay) is another control variable used by Wright and Winburn (2003). They expected that lopsided votes would have lower predictive accuracy. Where this variable achieves significance, I find the same result below.

N-legislators

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[85] Penn's (200?) model provides some intuition here: it takes a series of interactions for players to discern effective 'ideological' positions that provide high returns.

The number of members in the legislature is the number of members who cast at least one roll call vote.[86] It may be that more members make it harder for voters to acquire information, producing stronger incentives for ideological voting, but I have no strong expectation about the effect of this variable.

Divided government

The literature on Congress (e.g. Hurley and Wilson 1989) suggests that the partisanship of the president relative to Congress can influence party unity and cohesion. It isn't clear that this variation in party cohesion should be related to the fit of the ideological dimension – the effect of variation in the 'distance' (partisan or ideological) between president and Congress should work more through shifting where cut-lines fall than in altering the ideological space as such. I include this variable as a control.

Major Change in Control

A major change in party control occurs when the party that had controlled the legislature for the previous three terms looses power. The first new legislative term is coded 1 to indicate that it follows a major change in control. I include this control because of the possibility that such changes in control are associated with expanded opportunities to change policy, and thus with the availability of more active policy space dimensions.

Party Eras

In my analysis of the United States House of Representatives I control in some analyses for the main party eras identified in the literature (Cox and McCubbins 2002).[87] These eras are based, in part, on the realignments literature (Burnham 1974, Sundquist,

[86] In the 19th century House of Representatives, this is correlated with population, but in the 20th it is largely constant. The House data includes members who served partial terms.

[87] The eras are: Federalist/Democrat 1789-1800, Era of Good Feelings 1801-1822, Multiparty Competition 1825-1860, Republican Hegemony 1861-1874, The Gilded Era 1875-1895, Republican Hegemony II 1896-1908, Pivotal Progressives 1909-1910, Democratic Interlude 1911-1920, Republican Hegemony III 1920-32, New Deal Democratic Hegemony 1932-1936, Conservative Coalition 1937-1972, Liberal Hegemony 1973-1994, and Republican Revolution 1995-present.

1983), but they include several other 'critical' changes ignored in the classic realignment perspective. For example, the Gilded Era (1875-1895) is separated from Republican Hegemony (1861-1874), as Mayhew (2002, p. 55-58) suggests it should be.

Empirical Results

We now turn to testing model predictions. To maximize clarity, key results for all three datasets are presented in a single table (table 4.6) with supplemental results presented in a series of supplemental/appendix tables (4.3 for the Congress, 4.4 for state legislatures, and 4.5 for comparative manifestoes). Discussion will focus on table 4.6, with mention of the other tables where relevant. Table 4.7 provides a map of the empirical results -- a brief summary and interpretation of the results for each variable by dataset.

(Insert table 4.6 here). (Additional tables are in the appendix below).

The first two equations of table 4.6 examine sessions of Congress with more time pressure "Sessions Above the Limit"[88], and sessions with less time pressure "Sessions Below the Limit"[89]. Recall from above that the boundary between these categories is a mean-split between longer and shorter sessions of Congress. The strength of particular dimensions is evaluated using the Aggregate Proportional Reduction in Error to assess

[88] The 'above limit' sessions are sessions of Congress with more than the average days in session. These are the 1, 27, 40, 53, 55, 61, 62, 63, 65, 66, 67, 71, 75, 76, 77, 78, 79, 80, 81, 82, 83, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, and 108 sessions of Congress

[89] The 'below limit' sessions are the 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 56, 57, 58, 59, 60, 64, 68, 69, 70, 72, 73, 74, and 84 sessions of Congress.

the predictive success of a model with a particular number of dimensions, with the maximum APRE value at one.[90] Additional analyses are reported in table 4.3.

The next two equations of table 4.6 report analyses of the US State Legislatures 1999-2000 cross section from the work of Gerald Wright. As in the analysis of Congress, the dependent variable is the portion of votes correctly classified by the first dimension as estimated by Poole and Rosenthal's NOMINATE program. APRE1 measures the predictive power of the first dimension of Nominate, here with a maximum value of 100. Additional analyses are reported in table 4.4.

The final equation of table 4.6 reports an analysis of the comparative manifestoes project data (Budge et. al. 2001). This dataset allows us to examine cross-national variation in ideological fit. The dependent variable is the portion of the party manifestoes that fall into the 'left-right' category. The theoretical maximum value is 100. Additional equations estimated with this dataset are reported in table 4.5.

Hypothesis 1: PolicySpace⇓ArtifactualSupply.

We expect that when there is less (or no) time pressure, larger policy spaces will be associated with less predictive ideological dimensions. We find some evidence that when there is little time pressure, larger policy spaces are associated with weaker ideological spaces. Results from the cross national and Congressional data are consistent with PolicySpace⇓ArtifactualSupply, but the hypothesis receives little support in the state legislature analysis.[91]

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[90] APRE is a measure of the percent of variance explained by the spatial model above a basic threshold – the percentage of the votes one would be able to predict successfully with a simple model that guessed all members voted in favor of the more popular position on each bill. An alternative measure is the pseudo R^2. Fleck and Kilby (2002) report similar results with both measures, which is hardly surprising given that both are built upon a relationship between the accuracy of the full model and a simple intercept-only model. A virtue of APRE is that it reduces the degree to which adding uncorrelated dimensions biases fit estimates upward.

[91] Cross-state data do not provide as much support for the hypothesis.

Hypothesis 1 was expected to apply in situations with little time pressure (i.e. T>D). When there is less time pressure on the US House of Representatives (table 4.6 equation 2), the sign for the population variable (one of the policy space proxy variables) is *negative*, and nearly statistically significant (p = .12). Thence, it seems that larger policy spaces, or at least larger populations, are probably associated with weaker ideological dimensions in the absence of time pressure for the US House of Representatives.

The test of hypothesis 1 for the state legislatures received less support. We expect the hypothesis to apply for states in which the legislatures do not use the full legally/constitutionally allowed legislative term. Equation 3 of table 4.6 (equations 10 and 11 of Table 4.4) examine the effect of the size of the policy space for these states. Our expectation is that for these states a larger policy space will be associated with less ideological roll call voting. This expectation received little empirical support. Although the sign does not reverse, government intervention has no significant effect on APRE1 among states with T>D, which seems somewhat consistent with our expectation. By contrast, population has a similar (positive and significant) effect across categories. Thus, in the state legislatures data we find little of support for the PolicySpace$\Downarrow$ArtifactualSupply prediction (hypothesis 1) based on the government intervention variable, and no support from the analysis of the population variable.

The lack of support for PolicySpace$\Downarrow$ArtifactualSupply in the US States cross section might be due to the presence of other effective constraints on the length of legislative terms in the 'below limit' states (i.e. low salaries). Alternately, this result is consistent with the PolicySpace$\Uparrow$Demand interpretation of hypothesis 2. If larger policy

spaces motivate legislators to vote in more ideologically consistent ways, this might obscure or overcome agenda-related difficulties.

The cross-national empirical results are consistent with both hypothesis 1 PolicySpace$\Downarrow$ArtifactualSupply and hypothesis 2 PolicySpace$\Uparrow$Supply. We find that when the policy space is small (The domain of the PolicySpace$\Downarrow$ArtifactualSupply hypothesis) larger policy spaces are associated with smaller ideological dimensions, but when the policy space is comparatively large (PolicySpace$\Uparrow$Supply) larger policy spaces are associated with more emphasis on ideological dimensions.[92]

The strongest support for hypothesis 1 comes in the comparative manifestoes analysis. The hypothesized pattern is apparent for all three of the policy space/issue space variables, including the effective number of issues measure derived from the CMP coding, population, and government intervention (Table 4.5 equation 1). The effective number of issues and population effects are statistically significant at standard levels, and government intervention approaches statistical significance. Combining these three variables in an equal-weighted "policy space index" composed of summed standard scores (plus 5) produces similar results, and retains statistical significance (Table 4.5 equations 2 and 4). Figure 4.5, below, pictures the curve predicted by a multivariate regression with fixed effects by country, while figure 4.6 shows the results of a bivariate

[92] The value of 'T' is rather ambiguous for this data – the data after all is simply a coding of party election platforms or 'manifestoes'. There is no theoretical limit to the elaboration of these platforms, and it isn't clear to me that the practical limit should vary much between countries or over time during this period. I have experimented with controlling for 'T' using using country-level fixed effects interacted with the policy space, but the results of this experiment were (as one might expect given the theoretical ambiguity) ambiguous and contradictory.

regression. These illustrate the effect of the policy space index on the portion in the left-right categories.[93] The pattern is clearly consistent with hypotheses 1 and 2.

(Insert figures 4.5 and 4.6 here)

In sum, the PolicySpace⇓ArtifactualSupply prediction is supported in one dataset (Cross national), and nearly supported in the second (House), with some limited suggestions in its favor in the third (state legislature) dataset. In aggregate, I believe this hypothesis provides a useful, if limited, guide to empirical reality.

Hypothesis 2: PolicySpace⇑Supply (and/or H2a: *PolicySpace⇑Demand)*

Hypothesis 2 is that larger policy spaces lead to stronger ideological dimensions. The supply version of this hypothesis (H2) applies only when there is time pressure. The demand version (H2a) arguably applies everywhere. Hypothesis 2 receives strong support across datasets.

Results for the US Congress support *PolicySpace⇑Supply* (H2). When there is more time pressure (Table 4.6 equation 1), a larger population is *positively* associated ($p = 0.04$) with stronger ideological dimensions. Thus, as predicted, larger active policy spaces (or at least larger populations) are associated with stronger ideological dimensions in the presence of time pressure. As already noted, the sign reverses and approaches statistical significance when there is no time pressure, as anticipated by hypothesis 1. This seems to favor H2 over H2a. By contrast, other analyses of the US House of Representatives data provide support for a role for demand (H2a). In table 4.3 equations

[93] Intriguingly, the policy space index value for the United States varies between 7.5 and 8.7, which suggests that the US policy space is in the size range where the PolicySpace⇑Ideology hypothesis applies, just as suggested by the fact that most contemporary sessions of the US Congress have been 'at limit' in terms of not having much slack time. The estimated policy space region of the United States is consistent between the cross-national panel data and US House of Representatives time-series data. Both sets of results are consistent with the expectation that the United States in a region of the policy space where the PolicySpace⇑Ideology hypothesis applies: there are enough ideologically consistent proposals available (relative to T) that a larger supply of policy dimensions tends to increase the predictive strength of the ideological space. (Table 4.3).

1 and 4, we see that for the US House over the entire time (not segmenting by time limit) period larger district populations, are associated with stronger main ideological dimensions,[94] but larger overall populations are not. This suggests that both PolicySpace⇑Demand and PolicySpace⇑Supply are playing a role. Larger district populations (more directly than larger overall population) may increase the principal-agent uncertainty experienced by electorates, uncertainty that ideology can bridge (see the argument for the demand hypothesis H2a above). Larger national populations (more directly than district populations) may be associated with the size of the national policy space. Thus, where the demand effects should be stronger, we have results consistent with PolicySpace⇑Demand, and where the supply effects should be stronger, we have results consistent with PolicySpace⇑Supply.

In the US States (overall), a larger policy space is typically associated with legislative roll-call voting more structured by a single left-right ideological dimension. This is what we would expect, since most states appear to be in the T<D region (only 9

[94] The statistical significance of this effect depends upon whether the dummy variable for the Cannon Rebellion is included. In some analyses, there appears to be a significant change in the intercept at the time of the US Civil War. Congresses before-the-war have a lower intercept. One interpretation is that this is due to the influence of slavery in the ante-bellum period: slavery and affiliated regional issues famously divided northern and southern factions of the Democratic and Republican parties. Removing this cross-cutting issue increased the fit of the first dimension.

However, another interpretation is that the power of the Federal government expanded substantially during the Civil War, and this led to a larger policy space. The larger policy space created more opportunities for partisan and ideologically-consistent proposals, an interpretation consistent with the PolicySpace⇑Supply hypothesis.

The second interpretation appears to be more consistent with the empirical results. When population (our major proxy for the size of the issue space) is included in the equation, the Civil War dummy variable is not significant. It achieves significance only when population is left out. Thus, the apparent intercept shift in the 1860s may reflect the long-term trend of increasing population (and its political consequences) rather than the impact of the slavery issue and/or party realignment on slavery.

New Deal and Great Society. Both the New Deal and the Great Society were associated with substantial increases in domestic government activity, both in terms of spending, and in terms of the number of programs. Thus, they arguably proxy for changes in the size of the active policy space. The signs on these variables suggest that both events may have lead to a small drop in predictive power for the first dimension, but neither approaches statistical significance.

use less than the full legally allowed legislative term).[95] This effect is apparent in analyses of both of our issue space variables. The natural log of state population is always significant in our analyses, and accounts for a substantial slice of the variance. With this variable included, the adjusted R^2 is 0.634 in equation 4 of Table 4.4. When the variable is omitted (Table 4.4 equation 5) the adjusted R^2 is 0.564. States with larger populations fit the one-dimensional model better. Similarly, the degree of government intervention has a statistically significant positive effect (Table 4.6 equation 3). Again, a larger policy space (less economic freedom) is associated with a better fit for the one-dimensional model. And, as with the population variable, we lose predictive leverage in our model when this variable is omitted. Contrasting equations 3 and 4 from table 4.4 suggests that this variable adds about 0.05 to the adjusted R^2.

The comparative manifestoes analyses also support hypothesis 2: PolicySpace⇑Supply. As already noted in the discussion of hypothesis 1, when the active policy space is sufficiently large, the comparative manifestoes model predicts that larger policy spaces will be associated with more predictive power for the left-right ideological dimension (Table 4.6 equation 5).

Although it seems that both effects are present, the weight of evidence is on arguably on the side of a supply interpretation of this effect.[96] The D=T threshold was important in the US Congress analysis (and to a more limited degree in the US States

[95] Most state legislatures meet for the full legislative session allowed by state Constitution or statute. Thence, presumably, they are using all the time they have available.

[96] I hasten to remind the reader that these effects are not mutually exclusive. The overall results are perhaps most consistent with a combination of supply and demand effects. The demand effect explains why hypothesis 1 receives weaker support than hypothesis 2, but the supply effects are needed to account for the support hypothesis 1 does receive.

analysis as well)[97] and the manifestoes results are inconsistent with a simple linear positive relationship.

In sum, the results of our three datasets strongly support hypothesis 2, with some support for both the supply (H2) and demand (H2a) interpretations of the hypothesis. For the state legislatures, as for the US Congress and the comparative manifestoes data, increases in the size of the policy space are associated with stronger ideological dimensions. When there is time pressure, a larger policy space is associated with more powerful ideological dimensions.

Hypothesis 3. Time Constraints and Ideological Consistency.

We expect (LessTime$\Uparrow$Supply) that more time pressure will typically be associated with more predictive power for the ideological dimensions because this makes it easier to select ideology-consistent issues. Conversely, less time pressure makes it harder to select an ideologically-consistent agenda.

The place where this prediction can be tested most easily is in the state legislature data-set (as noted above). We proxy for time constraints using the admittedly problematic (e.g. because of expertise) legislative professionalism index (King 2000). Legislative professionalism turns out to have a strong positive association with APRE1 (statistically significant at the 0.001 level in equation 11 of table 4.4). When legislatures are more professionalized (even controlling for the size of the policy space) they have more ideologically consistent voting. This runs contrary to the hypothesized relationship, though it is consistent with the competing expertise effect noted above – more

[97] But the effect seems less bounded by the T=D threshold, and thus this data seems fairly consistent with H2a (PolicySpace$\Uparrow$Demand). In addition, results for district populations in the House of Representatives suggest that demand complements supply in the Congress as well.

professional legislators have an opportunity to develop more knowledge about the link between particular policy issues and ideology, leading to less errors.[98]

Assuming that the overall legislative professionalism effect is positive (i.e. due to more expertise or to longer time horizons), there might still be a negative relationship between the degree of time pressure as measured by the number of days left unused by the legislature, and ideological consistency. The more days a legislature leaves unused, the more likely it is that the time limit is not binding – that the legislature has more time available than it has issues to fill that time with. If agenda setting 'works' as an explanation, then legislatures that leave more days on the table should have lower ideological consistency. Table 4.4, equation 13 (and Table 4.6 equation 4) shows that as expected the number of days left on the table has a statistically significant negative effect on ideological consistency. A state legislature that leaves 400 legislative days unused (e.g. Oregon) should have an APRE score roughly 8 points (½ standard deviation) lower than a similar state with no days left unused.

Thus the hypothesis 3 (LessTime$\hat{\Uparrow}$Supply) empirical results are mixed. On the one hand, legislative professionalism seems to be associated with other factors (perhaps expertise or demand for ideological consistency) that improve the predictive power of the ideological dimension. This runs contrary to the hypothesis. On the other hand, voting in state legislatures that fail to use all legally available legislative days is less ideological, consistent with the agenda-setting model, and in support of hypothesis 3.

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[98] In addition, reflection reveals that this result is consistent with a demand-side explanation: professional legislators have more incentive to develop ideological reputations because of longer time-horizons. Better informed and more ideological-image motivated professional legislators will vote in a way more consistent with their ideology.
An alternative explanation is that we have not sufficiently instrumented for the size of the policy space. Since legislative professionalism is positively correlated with the size of the policy space, it is possible that additional measures of the policy space would modify this conclusion. However, the statistical power of the legislative professionalism effect suggests that this is unlikely.

Hypothesis 4: SpecialInterest⇓Supply.

We expected that special interest budget issues would typically fit with the ideological dimension more badly than other issues, particularly in the absence of time pressure. Most analyses (equations 1, 3, 4, 5, 6 and 7 in table 4.3) find a statistically significant negative relationship between the number of special interest budget votes and the fit of the ideological dimension. More special interest budget votes are associated with a weaker ideological dimension.

Consistent with the agenda-selection model proposed above, sessions with more time pressure 'above the limit' show a different pattern. In the 'above the limit' analysis (table 4.6 equation 1, table 4.3 equation 2) the parameter for special interest budget issues is much smaller, and it is statistically insignificant. This is consistent with our theoretical claim that the lower average ideological fit of special interest issues survives agenda selection only when there is little time pressure. When there is more time pressure, such issues must carry their ideological 'weight' – selection seems to eliminate non-ideological special interest budget issues.

Hypothesis 5: Inequality⇑LeftRightDemand

McCarty, Poole and Rosenthal (1997, 2003) suggest that Post World War II ideological polarization in the United States on the main 'liberal-conservative' dimension is due to increased economic inequality. As modified in hypothesis 5 above, we expect this effect to hold only when the main ideological dimension is the economic left-right dimension. That is, inequality should only increase the predictive power of the main

ideological dimension when this ideological dimension is (or incorporates) the economic left-right dimension.[99]

The McCarty, Poole and Rosenthal (1997, 2003) analyses examined the relationship between ideology and inequality for the post World War II US. While there is a strong positive correlation between inequality and the predictive power of ideology for the 1947-1998 period McCarty et. al. (1997, 2003) examined, there is a weak *negative* relationship for the earlier 1913-1946 period (see figures 4.8 and 4.9). Indeed in the earlier period inequality was quite strongly related to the fit of the *second* dimension rather than the *first*. From 1913 to 1932, figure 4.10 shows that increased inequality was associated with a stronger *second* dimension rather than a stronger *first* dimension (R-squared = 0.38).

(Insert Figures 4.8 through 4.10 here)

This reflects changes in the nature of the main ideological dimension in the United States. Arguably the ideological dimension wasn't (primarily) about redistribution and other classic economic 'left-right' issues until the New Deal. Burnham (1986) argues that the system established by the 1896 realignment was "a political matrix which insulated industrial and finance capital from adverse mass pressures for a generation afterward." (p. 269)[100] The results presented in figures 4.9 and 4.10 are consistent with

[99] This could be a tautology – it could be a law that fails to exclude any instances – but it need not be. If we can independently determine whether the ideological dimension is the appropriate economic/redistributive dimension, we should be able to determine the expected direction of the relationship absent knowledge of the empirical relationship. In two of the datasets (House and comparative manifesto) I was able to make this determination. The contra-hypothesis state legislature results suggest that most states do not have redistributive left-right ideological dimensions as their main dimension, but I have not independently verified that this is so. One approach to assaying the ideational content of the state ideological dimension(s) would be to examine the specific issues that fit well with the dimension. I may pursue this investigation at a later time.

[100] Walter Dean Burnham (1986) "Periodization Schemes and 'Party Systems': the 'System of 1896' as a Case in Point" Social Science History pp 269-313. Quoted in Mayhew (2002) page 31.

Burnham's interpretation. Until about 1932, conflict over class-based left-right economic redistribution may well have been relegated to the second (less important) ideological dimension.

The comparative manifestos data provide support for the Inequality⇑LeftRightIdeology hypothesis. Since the left-right dimension on this data is defined consciously (Budge et. al. 2001) as an economic left-right dimension, this is clearly consistent with the hypothesis. When there is more economic inequality, left-right ideology is significantly more important (Table 4.5, equation 4, Table 4.6 equation 5). The GINI index has a positive and statistically significant effect on the portion of manifestoes in the left-right ideology categories.

As noted in the data description, roughly half of the observations of economic inequality are 'net' of taxes (i.e. after the effects of tax-based redistribution) and the other half are based on 'gross' income (prior to taxes). One might expect a weaker effect for economic inequality after-taxes, since this might obscure pressures that led to substantial tax-driven redistribution. There is some evidence for this effect. Table 4.5 equation 4 examines the impact of both pre-tax and post-tax measures of income inequality on the predictive fit of the ideological dimension. The pre-tax measure has a much stronger fit ($p=0.009$ as opposed to $p = 0.14$) although they are in the same direction. Apparently, higher levels of pre-tax inequality are strongly associated with a more predictive left-right dimension, while post-tax measures of inequality are not related to economic inequality as strongly. This suggests that the more theoretically appropriate measure (pre-tax-and-transfer) would likely have an even stronger effect.

In rather sharp contrast, inequality has a negative relationship with the fit of the main ideological dimension in the US states. For the 1999-2000 cross-section, more inequality is not associated with a stronger main ideological dimension. In fact (table 4.6 equation 3) more inequality is ($p < 0.05$) associated with *less* predictive power for the main ideological dimension. Apparently, more inequality *weakens* the main ideological dimension in the US States. This relationship is not due to a difference in definition: the state inequality data, like the data used in the House analyses, are pre-tax, post-transfer data. As with the US House in the 1913-1932 period, more inequality may be associated with more predictive power for the *second* dimension estimated by NOMINATE, but the effect does not achieve statistical significance in the exploratory analyses I have run.[101] It seems plausible that inequality has the opposite effect on the predictive power of the main ideological dimension in the states because the main ideological dimension in state politics is typically not (principally) the economic left-right dimension. One suspects that there is a substantial heterogeneity across states, with a variety of ideological dimensions.[102] Further, the role of federal mandates in shaping state redistributive policy may largely remove such issues from the active policy space – the range of choice by the states is relatively restricted.

These results cast doubt on the primacy of economic inequality as an explanation for variation in the predictive power of dominant ideological dimensions in general, but suggest that inequality does have an impact on the predictive power of the economic left-right ideological dimension in particular. I reiterate: inequality should only increase the

[101] Results available by request from the author.

[102] Worth pursuing in subsequent research is the question of which states have economic left-right first (or second) dimensions and which states do not. Perhaps state political culture codes (and the not yet available issue coding of the 1999-2000 state roll call data) will provide guidance.

predictive power of the main ideological dimension when this ideological dimension is (or incorporates) the economic left-right dimension. As hypothesized, inequality increases demand for left-right ideology, but not for all ideology.

Hypothesis 6: Party Competition

Hypothesis 6 states when political parties are more competitive, ideology gets emphasized. That is, when parties have almost the same number of members in the legislature, or compete in close elections, they will demand stronger ideological dimensions, and have an easier time achieving consensus concerning party programs. Results for all three datasets support hypothesis 6. When parties are less competitive, ideology diminishes.

The hypothesis is supported in all House of Representatives analyses except for one. For the US House as a whole, when the number of Democrats and Republicans is near parity, the predictive power of the ideological dimension is stronger. Intriguingly, the variable is non-significant in the "sessions above the limit" (Table 4.6 equation 1). Perhaps when there is more time pressure, the degree of party competition matters less, consistent with a supply linked interpretation of the impact of the party competition variable.[103] [104]

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[103] In particular, when the parties are near parity, it is easy to show that there are more issues on which the majority party can find agreement. In essence, the portion of issues that are party-ideology consistent is higher. This larger portion of party-consistent issues is particularly important when there are not 'enough' issues to fill the whole potential agenda. By contrast, it matters less when there are already enough issues to fill the whole agenda – at this point the larger party-portion is less relevant because some issues that fit poorly with ideology can be excluded in any case.

[104] One way to frame the within-legislature coalition argument would hold that the results have little to do with demand for ideology by the parties: apparent changes in ideological consistency result not from demand for ideology, but from variation in party unity not related to ideology at all. Although equation 2 suggests that supply is important, we should not go too far. There is evidence that this no-ideology story can be rejected. Supply and demand interpretations of hypothesis 6 diverge in their predictions concerning the impact of lagged values of the party ratio. Demand for ideology as a long term image and constraint suggests that the party ratio for previous sessions of Congress is important – when the parties are consistently unequal, the minority party has more incentive to promote an alternative ideological frame that undermines the existing ideological alignment. Such a heresthetic project is likely to be long-term,

Also intriguing about the 'above the limit' sessions is that the dummy variable that records a major change in party control (when one party takes over the Congress after a three session absence) nearly achieves standard levels of statistical significance (p= 0.056). The change in control variable is otherwise insignificant. This makes sense: in sessions where there is time pressure, the (new) majority party can more readily select ideology-consistent issues it favors. With less time pressure (i.e. fewer issues), the new majority party has less opportunity to construct a new ideologically consistent agenda.

Not surprisingly, given previous results by Wright and Winburn (2003) for the states, we find that more equal within-legislature party ratios (higher ENPP) are associated with more predictive power for the left-right ideological dimension in the US States. When the two major parties are nearly the same size, the ideological dimension predicts more accurately.

As for the state legislatures, (and much of the House), the manifestoes analysis suggests that competitive (equal) parties lead to more emphasis on ideologically consistent issues. A higher expected number of political parties (ENPP) is associated with more party platform statements in the left-right manifesto-categories. In table 4.5, an increase in ENPP is strongly associated (0.01 probability) with a stronger left-right

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requiring extended issue-development and strategizing. An interpretation of the ideological dimensions as the product of same-legislature coalition building/logrolling does not predict a separate effect of the lagged variable, although one might argue that this will capture previous tensions on the party-mediated logroll (Poole and Rosenthal 1997). The results strongly support the view that previous values matter – even then the previous period is controlled for with a one-period lag, the average taken for the previous 5 sessions of Congress is still statistically significant. This suggests that the electoral reputation theory provides better traction here than a simple coalition theory. The relationship between the effective number of political parties and the predictive power of the ideological space should probably be given an ideological interpretation.

ideological dimension. Higher ENPP values are associated with greater importance for the left-right dimension, particularly after including country-level fixed effects.[105]

In sum, party competitiveness has a significant effect on the strength of the main ideological dimension in nearly all of the analyses. Results for the US Congress (Table 4.3 all equations except equation 2)[106], US States (Table 4.4 all equations), and Budge et. al. (2001) manifestoes data (Table 4.5) are all consistent with the hypothesis. When the parties are of similar size: locked in fierce electoral or legislative competition, the main ideological dimension has a higher fit.

Hypothesis 7: Political Leadership

Hypothesis 7 posits that more powerful legislative leaders will steer the agenda to provide more powerful ideological dimensions. The hypothesis fails. Variation in the institutional prerogatives of the leaders who might help provide ideological dimensions does not significantly influence the predictive power of the main ideological dimension in any of the analyses presented here.

The Leadership$\hat{\Uparrow}$SelectionPower hypothesis fails in the US States cross-section. Legislatures with more powerful leadership are not much different from legislatures with

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[105] On the other hand, Taagepera and Grofman (1986) suggested that more issue dimensions will be associated with more political parties. Intuitively, it seems that more parties could 'support' a higher-dimensional ideological space. And yet these analyses suggest that they do not. Why? The key is that these analyses are within-country. In other words, the panel fixed effects are holding constant cross-country variation. Within country, there is relatively little variation in the *actual number* of political parties. Variation in the *effective* number of political parties primarily reflects changes in the portion of the vote won by different parties. When the vote is divided more equally, then the coalition-building incentives and supply issues described in hypothesis four certainly may come into play. In addition, more equal party seat ratios may make parties more willing to attempt competition on the existing dimension rather than attempting risky counter-ideology heresthetics in hope of altering public choices. Fixed effects removed, the expected number of political parties is not correlated with the portion of party platforms accounted for by left-right issues. As is well known, some other measures of issue/ideological dimensionality such as Lijphart's (1999) issue dimensionality estimates are positively correlated with the expected number of political parties – more parties are associated with the presence of more (competing) dimensions.

[106] Results are stronger for the states than for the House, perhaps reflecting the impact of supermajoritarian hurdles in the national legislature (Krehbiel 1998), but alternately, reflecting an agenda-selection limit on this effect in some more time-pressured sessions of Congress.

less powerful leadership.[107] The results suggest that the power of neither governors nor speakers influences the predictive power of the ideological dimensions. Almost without exception, these variables are far from statistical significance in the results reported in table 4.4 and 4.6, often taking the incorrect sign as well.[108]

The Leadership⇑SelectionPower hypothesis receives weak support from analyses of the House of Representatives time series. The dummy variable for the Cannon Rebellion has the expected negative sign in most analyses, but the variable never approaches statistical significance. Similarly, the '1970s reforms' dummy variable has the expected (positive) sign, but is not statistically significant.

In and of itself, leadership power makes little difference for the ideological dimensions. (At least within the range of speaker's prerogatives available in our data.)[109] Instead, what matters are characteristics of the policymaking environment that make it easier or more difficult for the speaker to exercise effective agenda setting power (see chapter 3), and that provide incentives and opportunities for pro-ideological agenda setting. More competitive parties make for stronger ideological dimensions, as does opportunity to select appropriate issues (hypotheses 1,2 and 3). With such variables controlled for, variation in leadership perogatives has little independent impact. This suggests that for speakers ideology may not be a 'normal good'. When the speaker has more power, he or she may prefer to invest that power in pursuit of other goals.

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[107] However the dummy variables for legislature type do approach statistical significance. Springboard and career legislatures appear be more ideological. This is consistent with the notion that such legislatures can impose higher costs on members who break party ranks: breaking ranks in a 'springboard' legislature could reduce one's chance of party support in subsequent campaigns, while breaking ranks in a career legislature could well harm one's career.

[108] I experimented with an alternative measure of leadership power. Francis' (1989) centralization scores were also statistically insignificant, but they always had the appropriate sign, unlike Clucas' 2001 index.

[109] Alternately, leaders may manipulate the agenda to serve other non-ideological motives, as under the Speaker System of Southern one-party legislatures. The goal of maintaining individual power may trump preserving the purity of party ideology.

Control variables: Note in passing that the control variables which consistently achieved statistical significance where those identified by Gerald Wright and coauthors (2002, 2003): Skewness and lopsided votes predict poor ideological fit. The divided government control variable never attains statistical significance, and most of the time period dummy variables also fail to achieve statistical significance. Similarly, electoral system (proportional representation versus plurality) controls had no effect on the predictive power of the ideological dimension in the Comparative Manifestoes data (although this partly reflects the impact of including country-level fixed effects).

Conclusion

Across datasets, some hypotheses have strong support, others less, with support from at least one dataset for all but hypothesis 7. Table 4.7 summarizes these results. In general, the empirical analysis is consistent with the supply and demand claims made above. The theory developed in this chapter led to testable empirical predictions, and for the most part, although not entirely, these predictions were consistent with the empirical results.

(Insert Table 4.7 here).

The two strongest hypotheses are hypothesis 2 and hypothesis 6. Larger policy spaces (once we are in region 2) are almost always associated with significantly increased predictive power for the main ideological dimension. Similarly, across datasets, more party competition (higher ENPP) is always associated with a more predictive ideological dimension (see table 4.7).[110] Also strongly supported, though we had measures in only

[110] Still somewhat unresolved is whether particular variables are important because of 'supply' as opposed to 'demand' effects. For example, does party competition lead to stronger ideological dimensions because this makes it easier for parties to agree on an ideological program (supply), because it makes having such a

one dataset, is hypothesis 4. In the absence of time pressure, more special interest budget issues make for weaker ideology.

Although the results for hypothesis 5 (income inequality) are quite mixed, they are mixed in an interesting and interpretable way. These results help to put the claims of McCarty et. al. (2005) concerning the impact of income inequality on post World War II United States party politics in context. The interpretation is that when the main ideological dimension is an economic/redistributive dimension, more inequality strengthens it. When the main dimension is constructed around some other set of issues and ideas, more inequality weakens this dimension (in favor of the economic/redistributive dimension).

Compared to the above, results for hypothesis 1 were somewhat weaker. The hypothesis received significant support only from the comparative manifestoes data, with near-significant support from the Congress data as well. State legislature results contradict the hypothesis. In aggregate, one cannot make a strong claim for a negative sign on the policy space / ideology relationship in region 1. None-the-less, there is enough support that I think the hypothesis is a reasonable (if partial) guide to empirical reality.

The weakest hypotheses are 3 and 7. Hypothesis 3 (less time pressure makes for weaker ideology) was tested only in the state legislatures dataset, where it was supported for only one of three time variables, and then only when controlling for overall time allotted.[111] Hypothesis 7 was not supported in any analysis. It posited that stronger

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program more important (demand), or because it diminishes the incentive for losing parties to seek a reconfiguration of the choice space (demand).

[111] Unresolved in this paper are issues of expertise and knowledge. The strong positive effect of legislative professionalization on ideology (see discussion of hypothesis 3 above) suggests that more expertise may

legislative leaders would lead to a stronger main ideological dimension. They didn't. Although in particular instances leaders may succeed in transforming the political agenda and reshaping the ideological dimension(s), it seems likely that such success is conditioned on the availability of favorable circumstances.

The model and results of this paper are in line with the case for parties as organizers of the main ideological dimension(s) (Wright and Schaffner 2002, Jenkins 1999, Patty and Penn 2003). A major place to look for party influence on roll call voting is in the selection of issues that structures, even creates, the familiar left-right ideological dimension. For example, a partisan agenda setting model can account for Wright and Schaffner's (2002) result that even though a one dimensional model fit the Nebraska non-partisan unicameral legislature's voting poorly, Project Vote Smart survey data for Nebraska legislatures fits well. In effect the Project Vote Smart survey structures an agenda compatible with partisan commitments. Therefore, models of policy making that are ostensibly party-free, such as Krehbiel's (1998) Pivotal Politics model, may in fact include a major effect of political parties when they assume a one-dimensional issue space, and parties may construct that space with the impact of gridlock intervals in mind.

However, the results and model have an even stronger claim to lay against the normative claims of responsible party government theorists in the tradition of Schattschneider (1950). Briefly, this line of argument associated 'responsible parties' (i.e. ideologically distinctive and cohesive parties), with healthy democracy because such parties provide voters with a clear choice between (ideological) alternatives. If such cohesiveness is the result of genuine ideological structure on the entire policy space, there

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decrease errors for politicians much as it does for individual voters (Goren 2004): apparently more knowledge makes it easier to vote in a way consistent with your ideology. The next chapter will pursue issues closely related to the link between expertise and ideology.

is little to criticize. But suppose that partisan ideological clarity is bought through selecting in favor of ideological issues, as the model and evidence presented above suggest. It is easy to show that value placed on ideological issues will lead politicians to raise some issues that are otherwise less important. At the extreme, important issues might receive no attention because they lack the appropriate ideological credentials, while unimportant but ideological issues dominate the agenda. While the parties in such a system would be 'responsible' for the decisions they make, the omitted non-decisions[112] suggest that the democratic advantages of party responsibility are at times alloyed with the undemocratic disadvantages of policy irresponsibility.[113] Some critics of contemporary (late 1990s, early 2000s) ideological polarization in American politics appear to believe that this is our predicament.[114]

This work also provides an explanation for the post 1930s transition from periodic party realignments to more continuous issue evolution. Larger post-New Deal policy spaces provide parties with more agenda-setting opportunities, making it difficult for a single issue or event to rapidly transform the political landscape in the way that slavery and the Great Depression altered earlier electoral majorities and issue configurations.[115]

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[112] Bachrach and Baratz (1963, p. 641) define nondecisions as follows "The other side of the coin is *non*decisionmaking. When the dominant values, the accepted rules of the game, the existing power relations among groups, and the instruments of force, singly or in combination, effectively prevent certain grievances from developing into full fledged issues which call for decisions, it can be said that a nondecision-making situation exists. This phenomenon is clearly distinguishable from the negative aspects of decision-making (deciding not to act or deciding not to decide), since the mere existence of the "mobilization of bias," to use Schattschneider's phrase, is sufficient to prevent a latent issue from becoming a question for decision."

[113] Thence, the people remain semisoveriegn (Schattschneider 1960) whether under 'responsible party government' or not.

[114] For instance, David T. Canon suggests that Schattschneider's probable evaluation of contemporary party responsibility in American politics would be less than positive because of executive and legislative-leadership agenda control. (Lecture at the AP Government and Politics Reading. June 2005).

[115] Of course the realignment literature has its own problems, even for the earlier periods. Mayhew (2002) offers an insightful critique.

The modeling enterprise and results presented in this chapter provide insight into recent variation in the predictive power of ideology. Since the mid 1970s, the main ideological dimension (liberal-conservative) has become much more important as an explanation for roll call votes taken in the US Congress. This appears to result from the convergence of several factors. The political parties have been highly competitive in this period. Economic inequality has increased, arguably heightening the importance of left-right issues. And increases in the size of the policy space have not been offset by increased Congressional capacity to handle the agenda. Combined, these factors contributed to a substantial rise in the degree to which ideology structured the voting behavior of members of the United States Congress.

Overall, we conclude that the degree to which ideology appears to structure political choices depends upon how motivated individual politicians and parties are to maintain an ideological image, and on their ability to do so – on the supply of and demand for ideology-consistent issues. The degree to which ideology matters in politics appears to vary in relation to size of the policy space relative to time available (H1, H2 and H3), the prevalence of ideological issues in the active policy space (H4), the degree to which certain ideologically consistent dimensions (e.g. redistributive dimensions) are salient (H5), and the degree of party competition (H6). Thus, when ideological issues are plentiful (and more desirable), the main ideological dimension has more predictive power. Understanding where the main ideological dimension 'comes from' clarifies the appropriate interpretation of this dimension, both in terms of its utility in single dimensional spatial models, and the (rather mixed) normative value of ideological consistency.

Chapter 5 is explores a related extension. In this chapter we will examine the consequences of changes in the power of the ideological dimension to motivate a novel reconsideration of the Gilligan and Krehbiel (unidimensional) informational model of legislative committees.

Table 4.1 – Hypotheses

Hypothesis Name	Hypothesis
Hypothesis 1: PolicySpace⇓ArtifactualSupply	Applies in situations where agenda-selection is not possible (i.e. where $T \geq D$). Larger active policy spaces should be associated with weaker ideological dimensions.
Hypothesis 2: PolicySpace⇑Supply	Applies in situations where agenda selection is possible (i.e. when $T < D$). Larger active policy spaces should be associated with stronger ideological dimensions.
Hypothesis 2a: PolicySpace⇑Demand	Applies for all values of T and D, although (see hypothesis 1) it may be more difficult to select more ideological issues when T>D in spite of increased demand for them.
Hypothesis 3: LessTime⇑Supply	Holding D constant, a more restricted time limit will typically be associated with more predictive power for the ideological dimensions.
Hypothesis 4: SpecialInterest⇓Supply	Sessions with more special interest budget issues should have lower overall predictive power for the ideological dimension, particularly when time limits are not binding.
Hypothesis 5: Inequality⇑LeftRightDemand	The predictive power of the left-right economic dimension should be higher when there is more economic inequality.
Hypothesis 6: PartyCompetition⇑Supply PartyCompetition⇑Demand	More competitive party systems will typically produce stronger ideological dimensions.
Hypothesis 7: Leadership⇑SelectionPower	Stronger legislative leadership will be associated with more predictive power for ideological dimensions.

Table 4.2 Estimates of Autocorrelations for Nominate First and Second Dimensions, US Congress 1789 to 1997

Lag	APRE1 (first dimension)	APRE2-APRE1 (second dimension)
1	0.541973	0.532773
2	0.351226	0.257370
3	0.141588	0.110572
4	0.063870	0.066282
5	0.091361	0.139325
6	0.064650	0.113201
7	0.095383	0.100321
8	0.052326	0.231879
9	0.050490	0.183981
10	-0.021592	0.044137
11	-0.029003	-0.070616
12	-0.086316	-0.162660

Table 4.3. The Predictive Power of Nominate First Dimension: AR(1) Model for US House of Representatives. (1 represents perfect predictive accuracy)

	1. All Sessions	2. Sessions Above Time Limit	3. Sessions Below Time Limit
Intercept	0.3203 (1.1261)	-6.5575 (3.3813)+	3.5202 (1.8942)
APRE1LAG	0.2439 (0.1127)*	-0.0053 (0.2673)	0.1248 (0.1549)
Size of Policy Space			
Natural Log of Population	0.0197 (0.0740)	0.4190 (0.1892)*	-0.2004 (0.1258)
Issue Count	-0.004297 (0.002715)	-0.004242 (0.003447)	0.001362 (0.006110)
New Issues			
Change in Population	-1.467E-8 (2.073E-8)	-4.1E-8 (2.0E-8)+	1.8E-7 (9.7E-8)+
Change in Number of Issues	-0.000393 (0.002150)	0.002097 (0.002732)	-0.001139 (0.003652)
Party Variables			
Ratio of Majority Party to Minority	0.1544 (0.0594)*	-0.0134 (0.0812)	0.2511 (0.0883)*
Major Change in Control (3 Congress)	-0.0241 (0.0293)	0.1459 (0.0702)+	-0.0276 (0.0410)
Divided Government	0.007751 (0.0215)	-0.0528 (0.0421)	-0.0160 (0.0324)
Party Leadership			
Cannon Rebellion	-0.1208 (0.2422)	-0.2380 (0.1525)	-0.3348 (0.3709)
1970s Reforms	0.0979 (0.0883)	0.0455 (0.0673)	.
Control Variables			
Portion of Votes in Special Interest Budget Category	-0.3882 (0.1266)***	-0.0583 (0.2936)	-0.4901 (0.1688)**
Number of rollcalls	0.000356 (0.000102)***	-0.000089 (0.000163)	0.000424 (0.000159)*
Percent of votes with more that 70 percent taking one side	-0.5744 (0.1587)***	-1.0628 (0.3762)*	-0.4231 (0.2046)*
Average Skewness	-0.1351 (0.0671)*	-0.2966 (0.1573)+	-0.1017 (0.0927)
Era of Good Feelings 1801-1822	-0.0722 (0.0667)		-0.0180 (0.0776)
Multiparty Competition 1825-1860	-0.1797 (0.0948)	0.3613 (0.2894)	-0.0989 (0.1088)
Republican Hegemony 1861-1874	-0.0702 (0.1378)	0.4234 (0.2236)+	-0.0144 (0.1626)
The Gilded Era 1875-1895	0.0489 (0.1622)	0.0727 (0.1384)	0.0937 (0.1911)
Republican Hegemony II 1896-1908	0.1789 (0.1891)	0.0581 (0.1131)	0.2326 (0.2369)
Pivotal Progressives 1909-10	0.1626 (0.2080)		
Democratic Interlude 1911-20	0.1592 (0.1114)	0.0559 (0.1231)	0.4779 (0.2726)+
Republican Hegemony III 1920-32	0.1765 (0.1126)	0.1273 (0.1188)	0.3598 (0.2133)+
New Deal Democratic Hegemony 1932-1937	0.2295 (0.1306)		0.8198 (0.3828)*
Conservative Coalition 1937-1972	0.1822 (0.0987)	-0.0880 (0.1069)	3.5202 (1.8942)
Fit Statistics			
Regress R-Square	0.63	0.84	0.74
Total R-Square (lag included)	0.70	0.84	0.77
Durbin-Watson	1.78	1.93	1.78
	"+"= p<.10	"*"=p<.05	"***"=p<.01

Table 4.3 (continued) The Predictive Power (APRE1) of Nominate First Dimension: AR(1) Model for US House of Representatives

	4	5	6	7
Intercept	-1.0406	-0.6180	0.5903	0.3452
	(0.6773)	(0.5662)	(0.0611)**	(0.6295)
APRE1 lagged value	0.2109	0.331	0.420	0.4852
	(0.106)*	(0.100)**	(0.0926)**	(0.09217)**
Issue space				
Log of District Population	0.1566	0.1163		0.0161
	(0.0634)*	(0.0535)*		(0.0584)
Ten-year percent change in district population	-0.1948	-0.1762		-0.2115
	(0.0840)*	(0.0802)*		(0.0969)*
Post Civil War dummy variable	0.0193	0.0558	0.1584	0.1048
	(0.0690)	(0.0608)	(0.0374)**	(0.0716)
Post New Deal	-0.0422			
	(0.0440)			
Post Great Society	-0.0652			
	(0.0587)			
Post Reagan 'Revolution'	0.1070			
	(0.0674)			
Portion of votes on 'special interest budget' issues	-0.5806	-0.5275	-0.4087	
	(0.1168)**	(0.1143)**	(0.1047)**	
'Technical' variables				
Number of roll calls	0.0000697	0.0000381	0.0000914	0.000102
	(0.0000623)	(0.0000496)	(0.0000446)*	(0.0000580)+
Portion of roll calls with 70 percent or more taking one position.	-0.6756	-0.6552	-0.6895	-0.6761
	(0.1407)**	(0.1362)**	(0.1367)**	(0.1446)**
Average Skewness	-0.1489	-0.1174	-0.1429	-0.1357
	(0.0549)**	(0.0504)*	(0.0505)**	(0.0541)*
Partisan				
Ratio of majority party to minority party	0.0694	0.0984	0.1068	0.1151
	(0.0530)	(0.0504)+	(0.0497)*	(0.0538)*
Institutional Changes				
Post Cannon Rebellion	-0.1152	-0.1253	-0.0454	-0.0816
	(0.0462)*	(0.0479)*	(0.0383)	0.0588)
1970s reforms	-0.0576			
	(0.0762)			
Fit Statistics				
Regress R-Square	0.5824	0.5393	0.4717	0.4241
Total R-Square (lag included)	0.6562	0.6499	0.6208	0.5864
Regress Durbin-Watson	1.5516	1.3182	1.1302	0.9666
Durbin-Watson	1.8210	1.8549	1.8449	1.8746
	"+"= p<.10	"*"=p<.05	"**"=p<.01	

Table 4.4 Predictive Accuracy of a One Dimensional Spatial Model. Analysis of US State Legislatures Cross-Section 1999-2000 session (n=97)

APRE1: Accuracy of 1-dimensional spatial model
(Standard errors in parentheses.)

	1	2	3	4	5	6	7
Intercept	-3.72	-247	-258	-51.9	-0.542	48.7	-493
	(17.92)	(118)	(136)	(22.2)	(19.8)	(8.56)	(181)
Size of issue space							
Average Economic Freedom Index (1981-2000)	-6.78**	64.2+	65.6+				125*
	(1.69)	(34.3)	(37.8)				(50.6)
Average Economic Freedom Index squared		-5.087*	-5.17*				-9.39*
		(2.45)	(2.70)				(3.61)
LnPopulation 1990 census	6.06**	5.915**	5.78**	5.23**			4.29**
	(1.15)	(1.13)	(1.24)	(1.3)			(1.63)
'Technical controls'							
Number of votes	-0.00209	-0.00155	-0.00225	-0.00226	-0.00114	0.00140	
	(0.00370)	(0.00364)	(0.00406)	(0.00432)	(0.00470)	(0.00456)	
Number of legislators	-0.01767	-0.019	-0.0200	-0.00971	-0.00152	0.00397	
	(0.01919)	(0.0188)	(0.0204)	(0.0217)	(0.0235)	(0.0239)	
Portion of votes with more than 70 percent yes	-0.16108	-0.201	-0.286*	-0.148	0.0377	0.142	
	(0.1308)	(0.130)	(0.140)	(0.145)	(0.150)	(0.152)	
Skewness	15.6**	12.84*	11.8*	19.0**	23.7**	32.4**	
	(5.31)	(5.38)	(5.62)	(5.64)	(6.02)	(6.11)	
Kurtosis	-0.7719	-1.13	-0.906	0.917	0.916	3.09*	
	(1.74)	(1.71)	(1.86)	(1.93)	(2.10)	(1.96)	
Party-coalition							
Divided Government	-1.17	-0.237	1.49	0.514	0.584		0.0438
	(2.34)	(2.34)	(2.79)	(2.97)	(3.24)		(3.78)
Portion Democratic	133*	139*	148*	107*	180*		250**
	(41.3)	(40.6)	(43.1)	(44.8)	(44.5)		(57.6)
Portion Democratic Squared	-135*	-140*	-149*	-101*	-175*		-241**
	(39.1)	(38.4)	(41.9)	(42.8)	(42.1)		(55.5)
Institutional							
Springboard legislature			5.95+	6.56*	6.19+		1.12
			(2.81)	(3.01)	(3.29)		(3.58)
Career legislature			2.01	3.10	5.56+		3.67
			(2.89)	(3.01)	(3.21)		(4.05)
Governors Institutional Power 1998			1.36	3.84	2.49		2.28
			(3.01)	(3.05)	(3.31)		(4.11)
Speaker Appointment Power			1.61	0.0305	1.14		-1.35
			(1.62)	(1.66)	(1.79)		(2.11)
Speaker Committee Power			-0.649	-0.0623	-0.685		0.846
			(0.903)	(0.941)	(1.0134)		(1.22)
Speaker Resources			-0.186	0.755	0.715		0.110
			(0.747)	(0.747)	(0.815)		(1.04)
Speaker Procedural Power			-0.270	-1.59	-0.848		-0.249
			(1.563)	(1.64)	(1.77)		(2.14)
Speaker Tenure			-0.0696	-0.106	0.532		-0.381
			(0.954)	(1.02)	(1.10)		(1.28)
Adjusted R^2	0.677	0.689	0.682	0.634	0.564	0.475	0.372

Table 4.4 continued. Predictive Accuracy of One Dimensional Spatial Model.
Analysis of US States Cross-Section 1999-2000 session

	APRE1: Accuracy of 1-dimensional spatial model (Standard errors in parentheses.)
	9
Intercept	*-7.93119 (25.08397)*
Size of issue space	
Economic Freedom Index 1998	*-6.37479 (2.04082)***
Change in Economic Freedom 1981 to 1998	*1.80068 (1.64154)*
LnPopulation 1990 census	*6.34757 (1.25024)***
Percent Change in population 1990 to 2000 census	*-0.06271 (0.12229)*
'Technical controls'	
Number of votes	*-0.00324 (0.00394)*
Number of legislators	*-0.01385 (0.01955)*
Portion of votes with more than 70 percent yes	*-0.18670 (0.13887)*
Skewness	*15.39842 (5.39530)***
Kurtosis	*-0.48156 (1.79789)*
Party-coalition	
Divided Government	*1.60225 (2.41041)*
Portion Democratic	*122.63921 (42.65873)***
Portion Democratic Squared	*-130.42125 (40.03454)***
Institutional	
Springboard legislature	*5.91007 (3.03925)+*
Career legislature	*3.49928 (2.87899)*
Governors Institutional Power 1998	*0.43676 (3.05033)*
Speaker Power Index	*-0.13623 (0.41705)*
Adjusted R-squared	0.6805

Table 4.4 continued. Predictive Accuracy of One Dimensional Spatial Model. Analysis of US States Cross-Section 1999-2000 session

	APRE1: Accuracy of 1-dimensional spatial model (Standard errors in parentheses.)		
	10	11	12
Intercept	-56.77 (20.13)*	-39.45 (21.87)	-39.76 (22.01)+
Size of issue space			
Government Intervention (States *not* using full legal legislative session)	2.83 (3.41)	2.15 (3.38)	1.00 (3.98)
Government Intervention (States using full legal legislative session)	5.39 (1.79)**	4.98 (1.78)**	1.38 (2.06)
LnPopulation 1990 census (States *not* using full legal legislative session)	3.75 (1.57)*	2.96 (1.61)+	3.45 (1.60)*
LnPopulation 1990 census (States using full legal legislative session)	3.37 (1.44)*	2.56 (1.49)+	3.40 (1.59)*
'Technical controls'			
Number of votes	-0.001 (0.004)	-0.006 (0.004)	-0.003 (0.004)
Number of legislators	-0.016 (0.019)	-0.009 (0.018)	-0.006 (0.018)
Portion of votes with more than 70 percent yes	-0.086 (0.123)	-0.16 (0.12)	-0.21 (0.12)+
Skewness	17.61 (3.87)***	15.66 (3.89)***	13.83 (3.88)***
Party-coalition			
Divided Government	3.37 (3.03)	3.32 (2.95)	2.35 (2.85)
ENPP (Expected Number of Political Parties)	26.95 (6.73)**	25.53 (6.63)***	15.42 (7.78)+
Political (electoral) competition index			0.25 (0.13)+
Economic Inequality			
Economic Inequality (ratio of Top quintile to bottom)	-0.79 (1.89)	-1.17 (1.87)	1.56 (2.00)
Time			
Legislative Professionalism (King 2000)		33.76 (9.70)***	25.32 (10.91)*
Length of Legislative Term	0.023 (0.008)**		
Number of Unused Legislative Days			
Adjusted R-squared	0.71	0.72	0.73

Table 4.4 continued. Predictive Accuracy of One Dimensional Spatial Model.
Analysis of US States Cross-Section 1999-2000 session

	APRE1: Accuracy of 1-dimensional spatial model (Standard errors in parentheses.)
	13
Intercept	-56.63 (20.0)**
Size of issue space	
Government Intervention	5.27 (1.76)**
LnPopulation 1990 census	3.54 (1.48)*
'Technical controls'	
Number of legislators	-0.015 (0.019)
Portion of votes with more than 70 percent yes	-0.10 (0.13)
Skewness	15.02 (5.16)**
Kurtosis	-1.17 (1.65)
Party-coalition	
Divided Government	2.88 (2.96)
ENPP (Expected Number of Political Parties)	27.77 (6.84)***
Economic Inequality	
Economic Inequality (ratio of Top quintile to bottom)	-0.63 (1.88)
Time	
Length of Legislative Term (In Legislative Days)	0.024 (0.0079)**
Number of Unused Legislative Days	-0.028 (0.011)**
Institutional	
Speaker's Institutional Power Index	-0.12 (0.37)
Adjusted R-squared	0.71

Table 4.5 Portion of Manifestoes in Left-Right Categories, 1970 to 1998
(Manifestoes data from Budge et. al. 2001.
Includes Country Level Fixed Effects. Standard Errors in Parentheses)

	1	2	3	4
Mean Left-Right Position	0.1240 (0.058)*	0.17 (0.059) **	0.09734 (0.053) +	0.054 (0.058)
GINI Index (pre-tax)				0.44 (0.17)**
GINI Index (post-tax)				0.28 (0.19)
Plurality	2.9113 (8.0949)		-0.7938 (7.3669)	
Proportional Representation	3.8254 (4.6753)	2.95 (4.82)		3.14 (4.05)
Effective Number of Political Parties	2.374** (0.840)	2.22* (0.86)	2.612 (0.827) **	3.15 (0.86)***
Policy Space Variables				
Government Intervention (10-Economic Freedom)	1.49 (4.55)		-4.020 (2.474) +	
Government Intervention Squared	-0.069 (0.35)+		0.6092 (0.3036) *	
Effective Number of Issues	-1.941** (0.740)			-2.01 (0.78)*
Effective Number of Issues Squared	0.0469* (0.0199)			0.049 (0.021)*
Population (in thousands)	-0.00087* (0.00037)			
Population squared	2.18E-9*** (0)			
Policy Space Index		-5.12 (2.31)*		
Policy Space Index Squared		0.53 (0.23)*		
Change in Policy Space Index		-0.093 (0.74)		
Culture				
Ethnic-Linguistic Fractionalization, 1985	146.3 (159.3)	131 (171)	178.8 (168.2)	34.17 (204.13)
2 Res Log Likelihood	1145.7	1026.2	1168.2	980
2 Res Log Likelihood (fixed effects only)	1285.2	1285.2	1285.2	1285.2

Table 4.6 Predictive Accuracy of One Dimensional Spatial Model. Selected results for US Congress Time Series, US States Cross Section, and Cross-National Panel.

	Predictive Accuracy of 1-dimensional spatial model (SE in parentheses. Bold indicates expected direction.)				
	1. US Congress Sessions Above Time Limit	**2. US Congress Sessions Below Time Limit**	**3. State Legislatures 1999-2000**	**4. State Legislatures 1999-2000**	**5.Manifestoes data (25 countries, 1970-1998)**
Intercept	-6.5575 (3.3813)+	3.5202 (1.8942)	-3.11 (27.27)	-27.35 (25.37)	58.22 (10)**
Hypothesis 1					
Government Intervention. Sessions *not* at full term			2.31 (3.36)		
LnPopulation (Sessions *not* using full term)		**-0.2004 (0.1258)**	*4.09 (1.80)**		
(Effective) Number of Issues		0.001362 (0.006110)			**-2.12 (0.75)****
Hypothesis 2					
Government Intervention (Sessions using full term)			**4.74 (1.95)***	**5.44 (1.73)*[116]**	
LnPopulation (Sessions using full term)	**0.42 (0.19)***		**3.78 (1.67)***	**4.99 (1.59)***	
(Effective) Number of Issues	-0.0042 (0.0034)				**0.049 (0.020)**[117]**
Hypothesis 3					
Legislative Professionalization			*32.34 (10.04)**		
Legislative Term (Legislative Days)				*0.020 (0.0077)**	
Number of Unused Legislative Days				**-0.027 (0.010)***	
Hypothesis 4					
Portion Special Interest Budget	**-0.0583 (0.2936)**	**-0.4901 (0.1688)****			
Hypothesis 5					
GINI Coefficient	**(See figure 4.8)**		*-121.77 (56.33)**	*-108.37 (58.34)+*	**0.40 (0.16)****
Hypothesis 6					
ENPP (Expected Number of Political Parties)	-0.0134 (0.0812)	**0.2511 (0.0883)***	**23.96 (6.614)*****	**25.70 (6.70)*****	**2.62 (0.85)****
Major Change in Control (3 Congresses)	**0.1459 (0.0702)+**	-0.0276 (0.0410)			
Hypothesis 7					
Speaker's Institutional Power Index			-0.09 (0.37)	-0.36 (0.36)	
Cannon Rebellion	**-0.2380 (0.1525)**	**-0.3348 (0.3709)**			
1970s Reforms	**0.05 (0.06)**		**See next page for control variables and fit statistics.**		

[116] Includes all sessions.
[117] Squared Effective Number of Issues.

Table 4.6 Continued

Control Variables					
Number of votes	-0.000089 (0.000163)	0.000424 (0.000159)*	-0.0060 (0.0037)	-0.0019 (0.0035)	
Number of legislators			-0.0055 (0.0181)	-0.011 (0.018)	
Portion of votes with more than 70 percent taking one side.	-1.0628 (0.3762)*	-0.4231 (0.2046)*	-0.15 (0.12)	-0.070 (0.120)	
Skewness	-0.2966 (0.1573)+	-0.1017 (0.0927)	14.50 (3.84)***	16.65 (3.87)***	
Change in Population	-4.1E-8 (2.0E-8)+	1.8E-7 (9.7E-8)+			
Change in Number of Issues	0.002097 (0.002732)	-0.001139 (0.003652)			
Divided Government	-0.0528 (0.0421)	-0.0160 (0.0324)	3.02 (2.95)	2.45 (2.94)	
Era of Good Feelings 1801-1822		-0.0180 (0.0776)			
Multiparty Competition 1825-1860	0.3613 (0.2894)	-0.0989 (0.1088)			
Republican Hegemony 1861-1874	0.4234 (0.2236)+	-0.0144 (0.1626)			
The Gilded Era 1875-1895	0.0727 (0.1384)	0.0937 (0.1911)			
Republican Hegemony II 1896-1908	0.0581 (0.1131)	0.2326 (0.2369)			
Pivotal Progressives 1909-10					
Democratic Interlude 1911-20	0.0559 (0.1231)	0.4779 (0.2726)+			
Republican Hegemony III 1920-32	0.1273 (0.1188)	0.3598 (0.2133)+			
New Deal Democratic Hegemony 1932-1937		0.8198 (0.3828)*			
Conservative Coalition 1937-1972	-0.0880 (0.1069)	3.5202 (1.8942)			
APRE1LAG	-0.0053 (0.2673)	0.1248 (0.1549)			
Mean Position on Left-Right Dimension					0.070 (0.056)
Proportional Representation					2.62 (4.11)
Fixed Effects					Country-level fixed effects included
R-squared	0.84	0.74	0.72 (adjusted)	0.72 (adjusted)	0.28 (Pseudo-R^2)[118]
Total R-Square (lag included)	0.84	0.77			
Durbin-Watson	1.93	1.78			

** indicates statistical significance at the .01 level.
* indicates statistical significance at the .05 level.
+ indicates statistical significance at the .10 level.

[118] Pseudo R squared = 1-[log likelihood (full model)/log likelihood (intercept only)]

Table 4.7: Summary of Results			
Hypothesis Name	**Poole/Congress Dataset**	**Wright/State Legislatures**	**Budge et. al./ Comparative Manifestoes**
Hypothesis 1: PolicySpace⇓ArtifactualSupply	Approaches Statistical Significance (analysis of 'below the limit' sessions.)	Not supported.	Supported
Hypothesis 2: PolicySpace⇑Supply	Supported in 'sessions above the limit' as anticipated by the supply explanation.	Supported, with stronger support in sessions where full time limit was used, as anticipated by the supply explanation.	Supported
Hypothesis 3: LessTime⇑Supply		Supported based on 'time left on the table' analysis but contradicted in analyses based on the legislative professionalism variable.	
Hypothesis 4: SpecialInterest⇓Supply		Supported except in equation 2 of table 4.3 (consistent with agenda selection argument.)	
Hypothesis 5: *Inequality⇑LeftRightDemand*	Supported only for 1947-present. Not significant (and with the wrong sign) in 1913-1946 period. (Fig. 4.9)	Statistically significant effect in *wrong direction.*	Supported
Hypothesis 6: PartyCompetition⇑Supply PartyCompetition⇑Demand	Supported, except in equation 2 of table 4.3 (sessions above limit: consistent with supply explanation.)	Supported	Supported
Hypothesis 7: *Leadership⇑SelectionPower*	Not significant	Not significant (with wrong sign)	

Figure 4.1

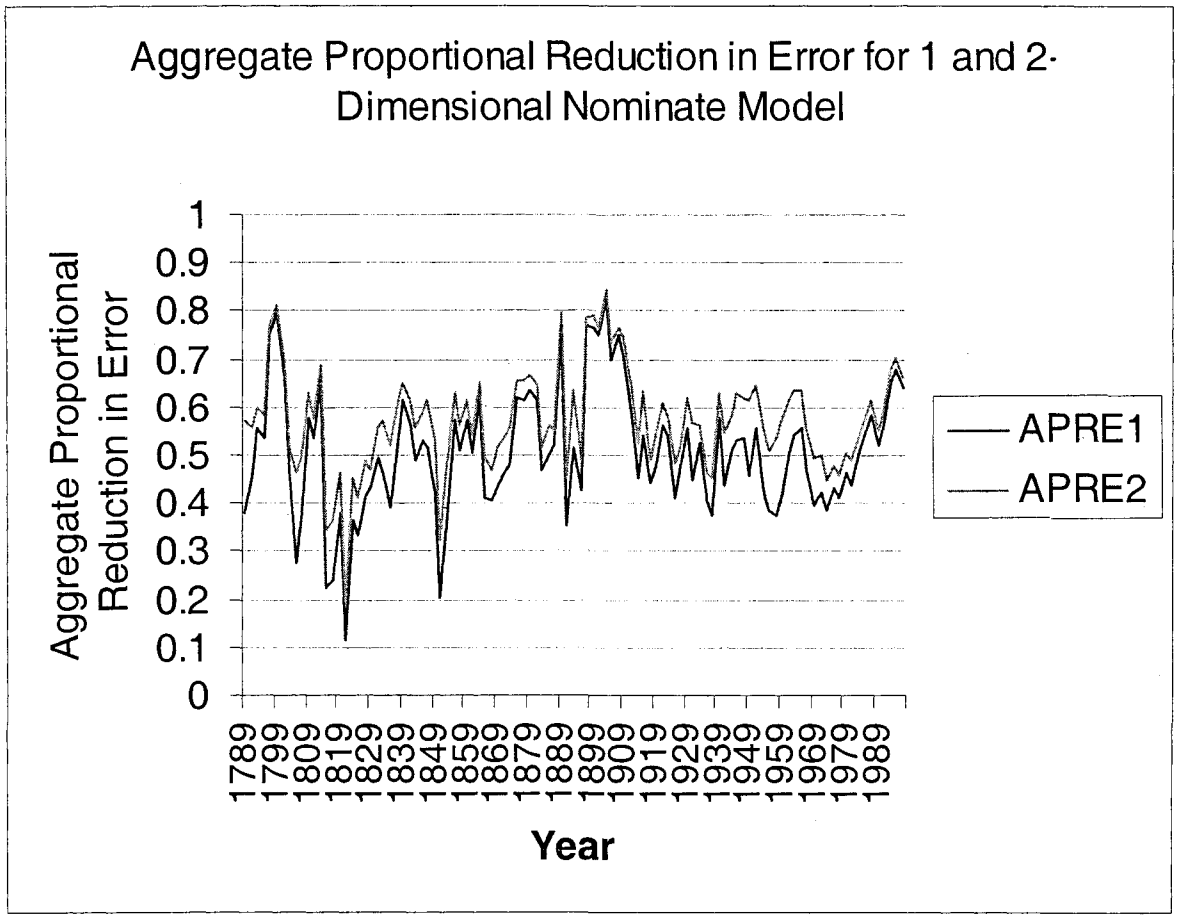


Figure 4.2

Expected Predictive Accuracy of Partisan-Ideological Dimension

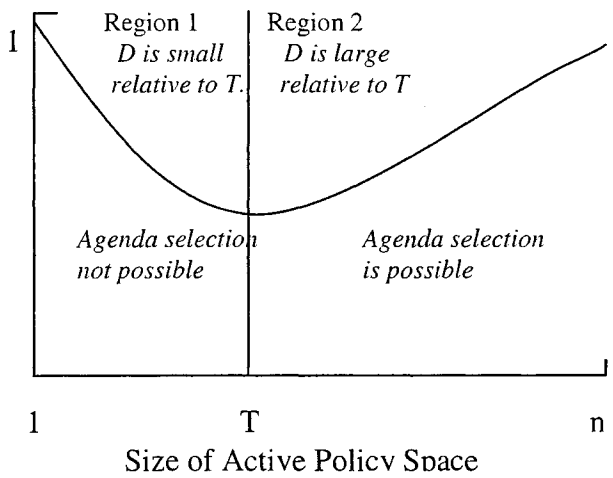


Figure 4.3

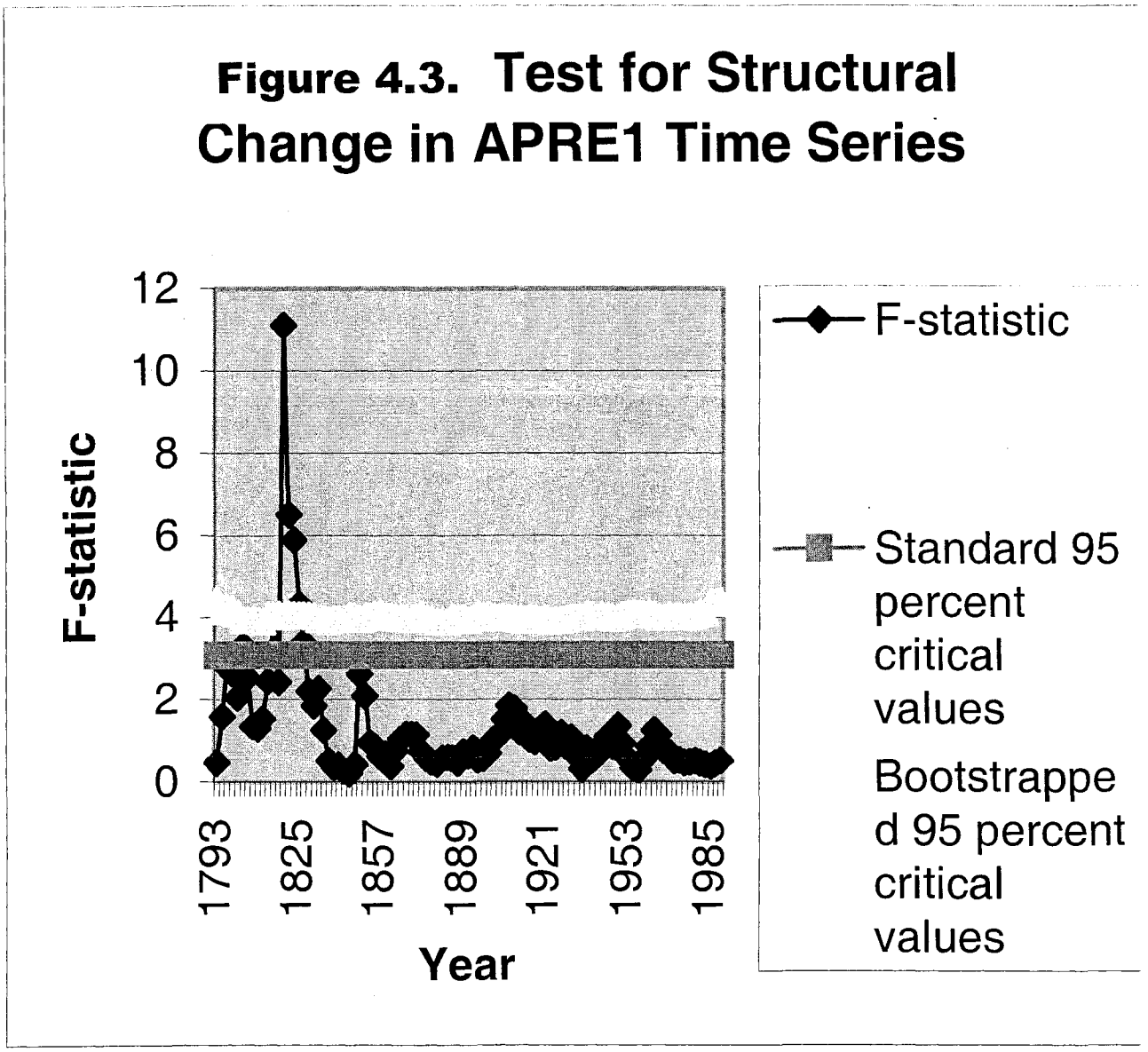


Figure 4.4

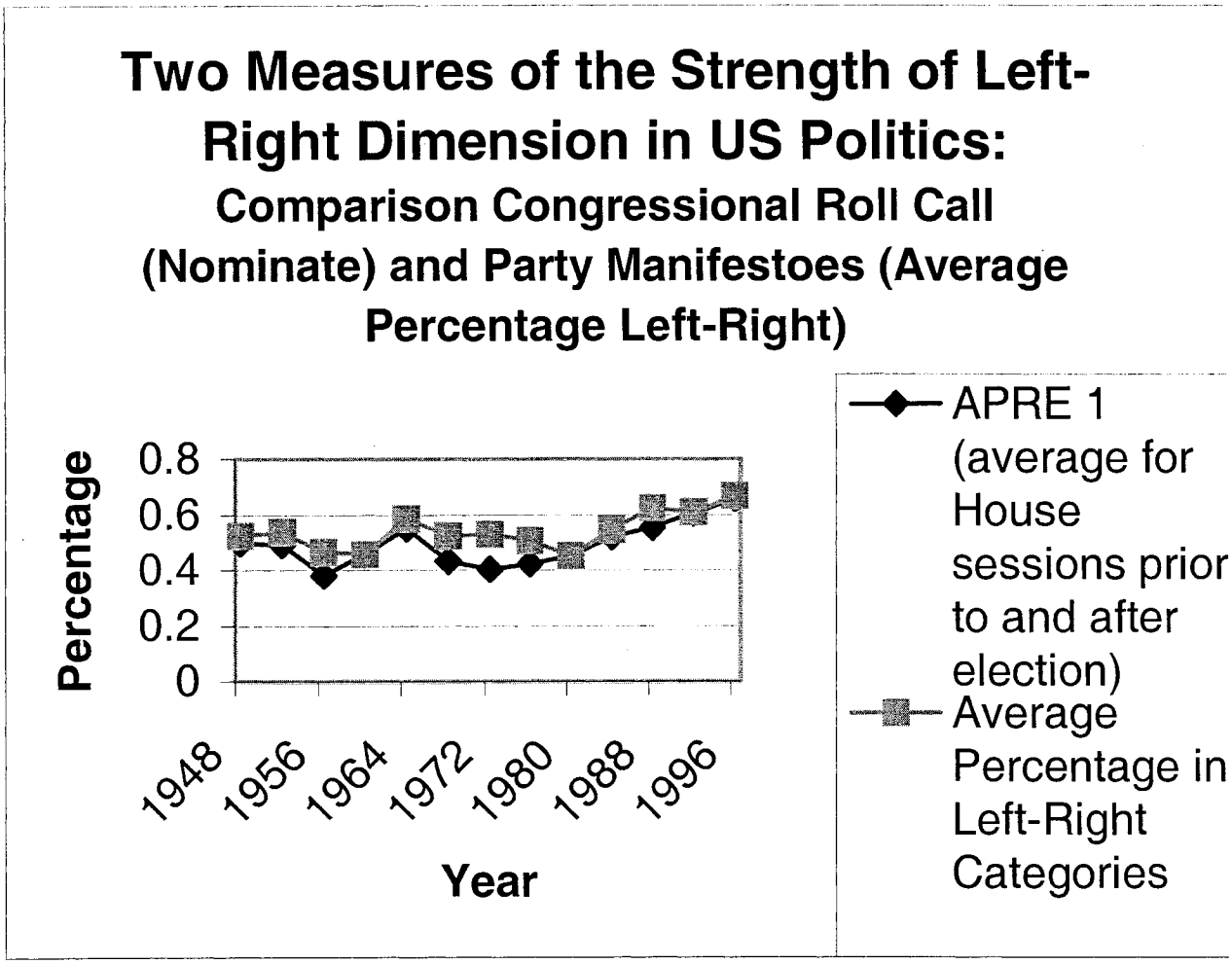


Figure 4.5

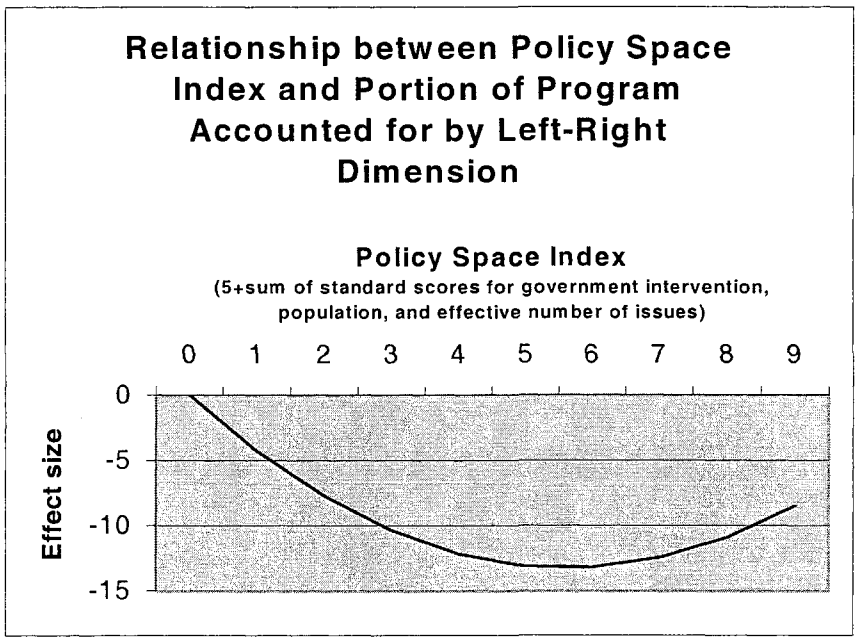


Figure 4.6

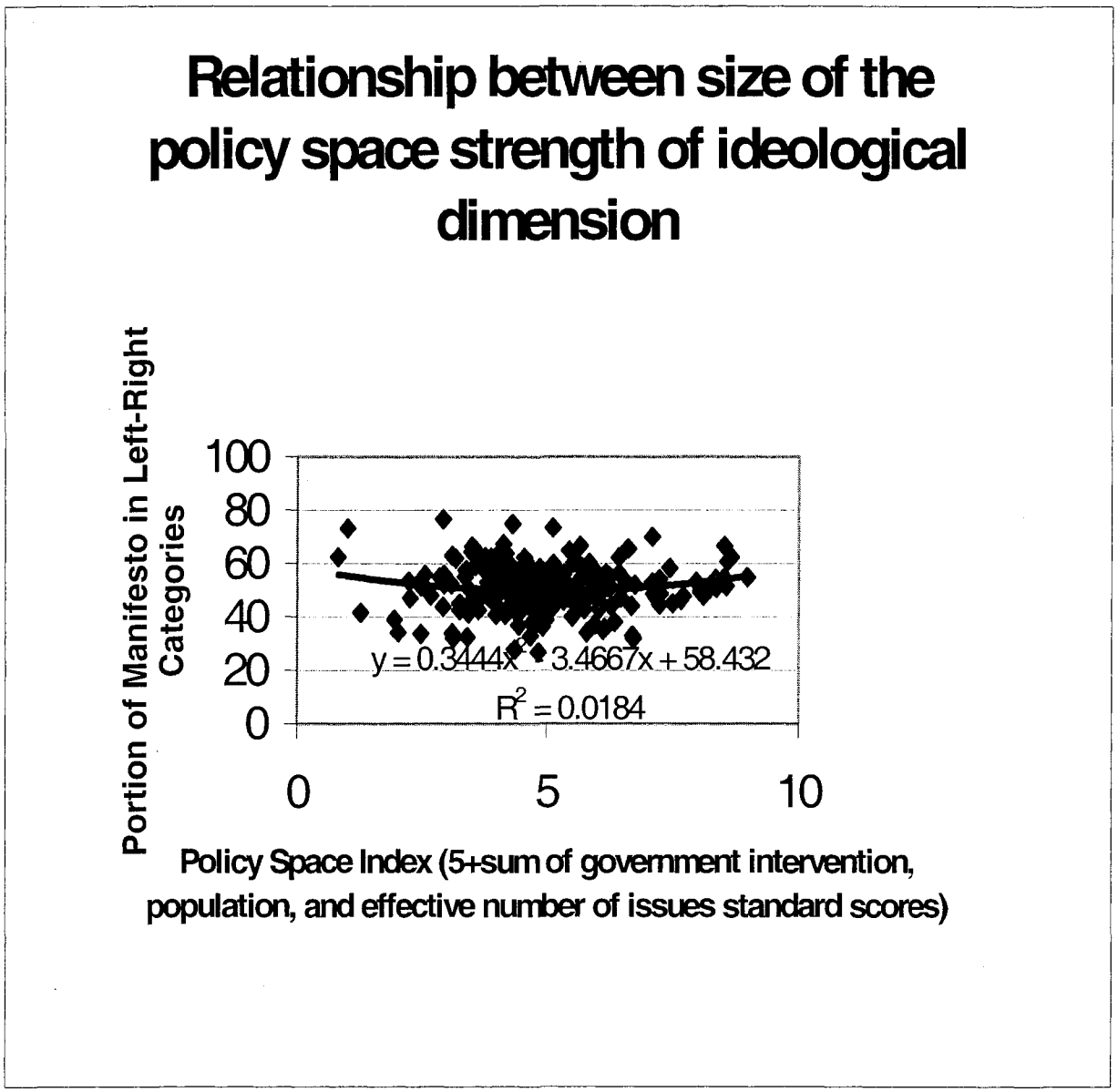


Figure 4.7

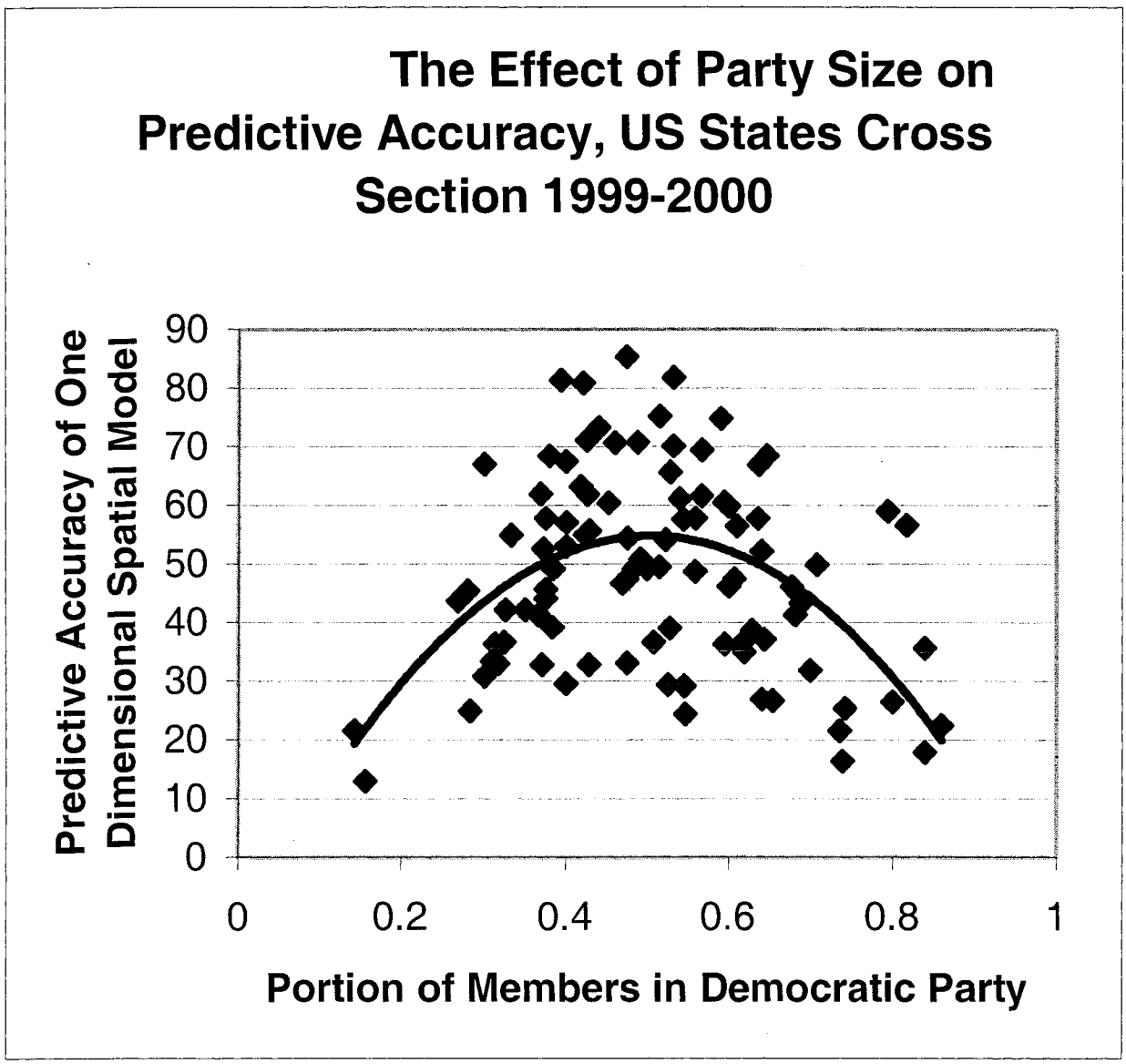


Figure 4.8

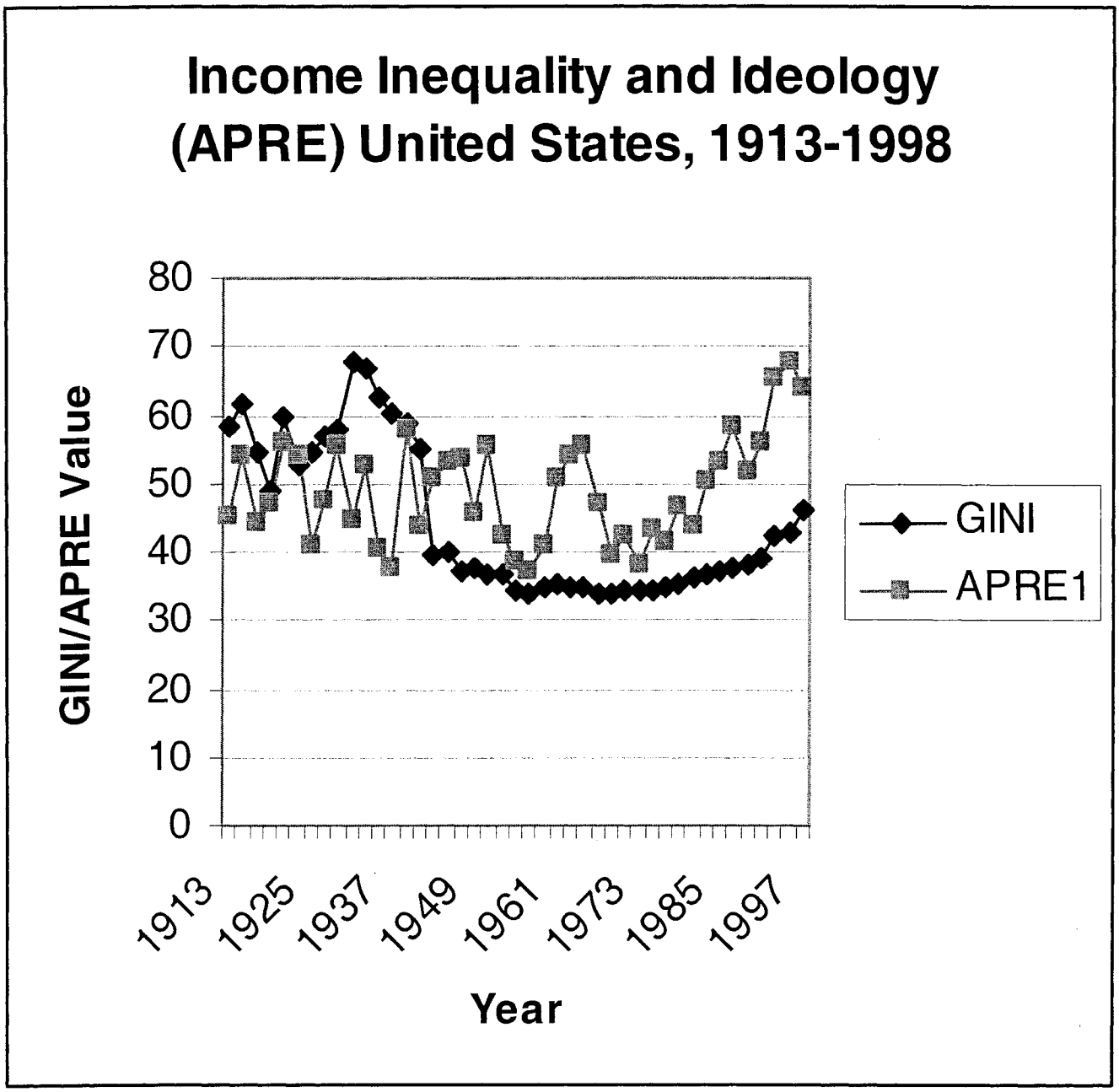
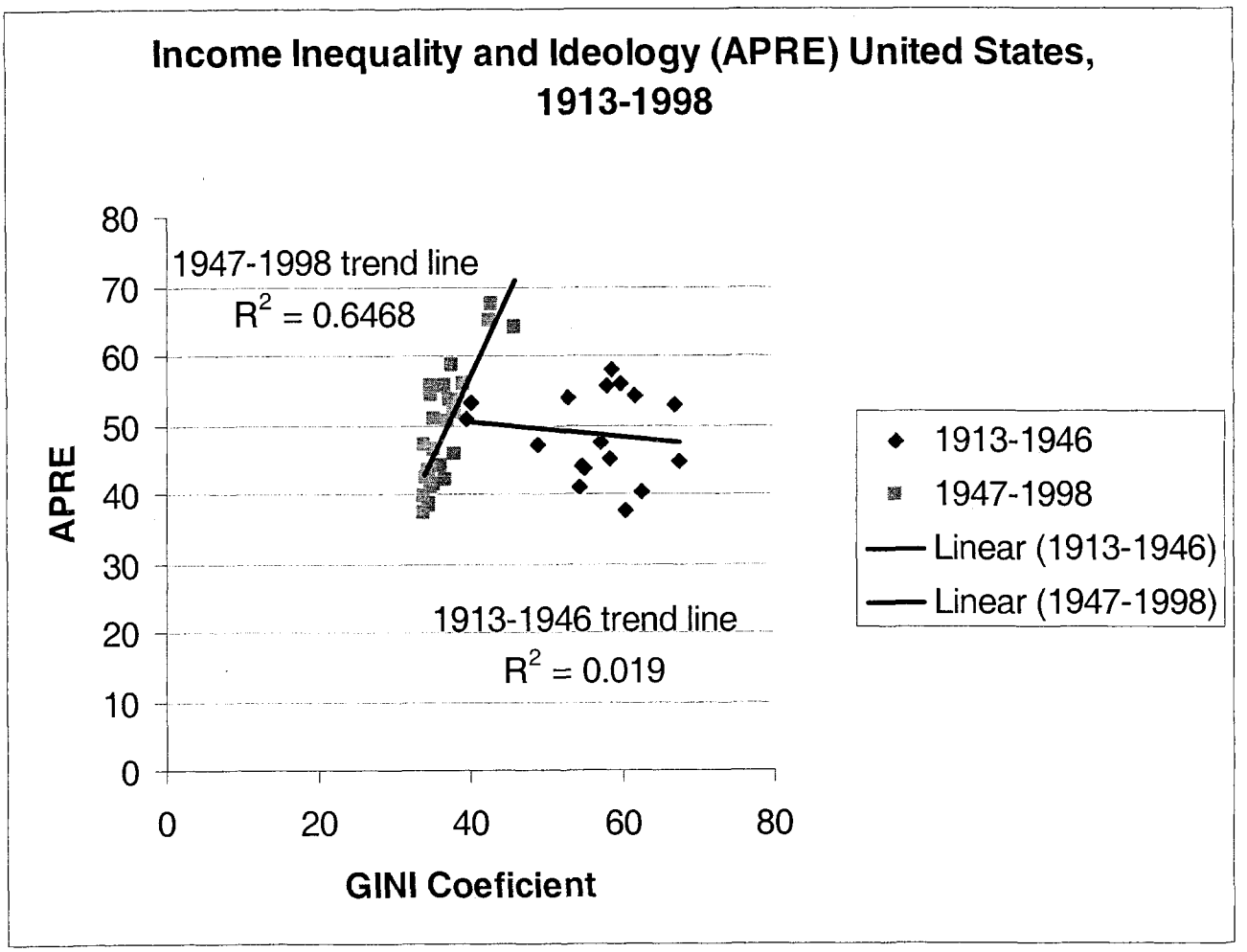
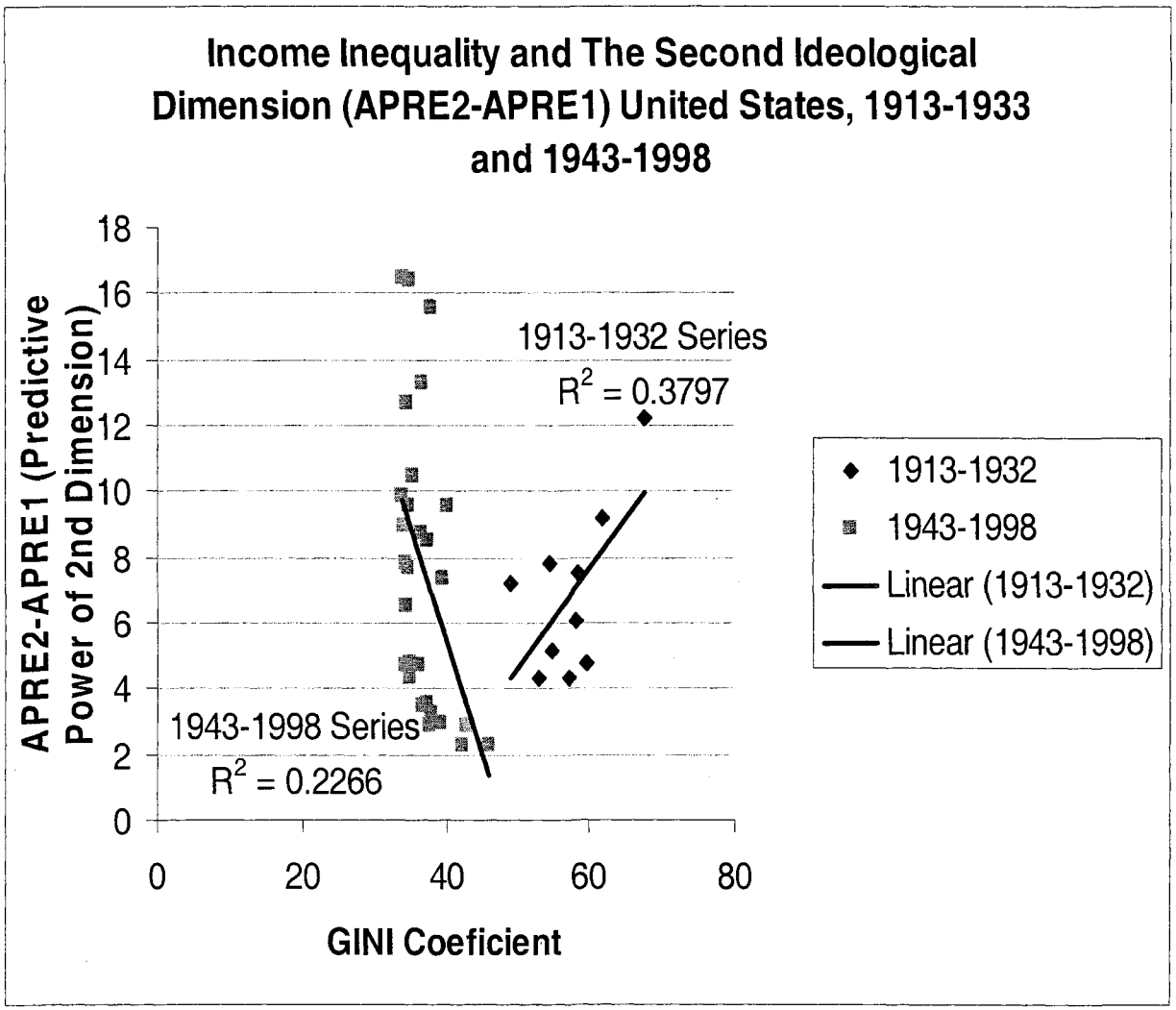


Figure 4.9





Chapter 5

Self Selection by High-Demanders to Informational Committees: Ideological Certainty and the Prevalence of Committee Outliers

Abstract: I synthesize the informational and distributive models of legislative organization to illuminate the boundaries of the informational 'no outliers' prediction. As predicted, when there is more (ideological) uncertainty, more state legislative committees are outliers. However, when the main ideological dimension accounts for more of what goes on in politics, the prediction of no committee outliers commonly attributed to the unidimensional informational model of legislative organization (Gilligan and Krehbiel 1989) applies more accurately.

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> "Heterogeneous preferences, multidimensional outcomes, imperfect information about policy instruments, external effects of policy making, agency costs and benefits – these are the components of the alternative positive theories of congressional institutions. A synthesis will contain them all, whereas, under special circumstances one or another of these components will loom especially large." (Shepsle and Weingast 1994, p. 167)

There are three major theoretical perspectives on legislative organization. The most senior is the gains-from-exchange or distributive approach of Ferejohn (1974, Shepsle (1979), and Shepsle and Weingast (1981).[1] Gilligan and Krehbiel (1989, 1990) provided an alternative informational perspective.[2] A third major strand in this literature is the Cox and McCubbins (1993, 2004) party-centered explanation for legislative organization.

These theories make divergent predictions about the preference composition of committee membership. A principal focus has been on the presence of committee outliers: committees with median (or sometimes mean) preferences divergent from the parent chamber. The distributive model predicts that most committees will be composed of 'high demanders' – legislators with a particular or special interest in the committee policy area – and consequently most committees will be outliers. The informational model predicts that committees will typically have median preferences close to the floor median: few outliers. The years following publication of these models have seen an active literature on committee outliers. Various authors have attempted to assess the frequency and distribution of committee outliers (e.g. Krehbiel 1990, Poole and Rosenthal 1997).

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[1] In these models, committees composed of high-demanders bargained with other committees, similarly composed of high demanders, with the committee system a source of structure induced equilibrium on a multidimensional policy space.

[2] Committees were seen as agents of the floor (median), created to provide information to the floor about the outcomes or consequences of policy choices.

Extending a Congress-focused literature to an exceptionally broad cross-section of US States, Overby, Kazee and Prince (2004, LSQ) collected data on the presence of committee outliers in 45 state legislatures, a sample representing nearly the entire population of state lower houses in the United States. Committee outliers are defined in their work as committees with mean preferences significantly different from floor means, with preferences assessed using National Federation of Independent Business ratings. Their paper sought to document the frequency of outliers – (generally low) and to "test multivariate models designed to account for theoretically relevant patterns in variations in outlier percentages among control and non-control committees." (p. 81) [3]

The models Overby et. al. estimated fit the data poorly. The adjusted R^2 of their model for non-control committees was negative 0.05, and the adjusted R^2 for their control committee estimates was little better (0.09). In light of these weak results, Overby and coauthors concluded that:

> "The fact that our models are such poor predictors of non-representative committees speaks to the idiosyncratic nature of the relatively small percentage of outlying committees in the states. This conclusion, in turn, provides further support for the proposition that representative committees are simply rational." (p. 81)[4]

This paper takes on the failure of Overby et. al. to successfully predict the incidence of committee outliers, along with their claim that "representative committees are simply rational".[5] I will extend a result of Gilligan and Krehbiel (1989) to show that

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[3]Control committees have broad policy/agenda control. For example, the Rules Committee of the House of Representatives is a control committee.

[4] Roughly thirty eight percent of the state lower houses contain any outlier committees, and approximately 51 percent of the state upper houses contain at least one outlier committee in Overby's data. In most cases, the portion of state committees that are outliers is low.

[5] Although I am not sure what Overby et. al. mean when they claim that representative committees are simply rational, whether this type of committee is what one would expect from a model with rational legislators depends a great deal of the structure of the model. Particularly if one relaxes the

the degree of uncertainty experienced by the floor *conditions* the opportunities for self selection by high-demanders into informational committees. When the floor knows less, it will trust a more biased source, creating more opportunity for biased 'high demanders' to shape policy if they join the committee. I will then demonstrate that the major empirical prediction I derive from this model significantly improves our ability to account for the frequency of outliers in state legislatures. As predicted, when there is more (ideological) uncertainty, more state legislative committees are outliers.

The Model

A decade ago, Shepsle and Weingast (1994, p. 175) concluded their survey of positive theories of legislative organization (distributive, informational, and party) with a challenge to synthesis.

> "Central to any effort at resolving the theoretical compatibility among these three approaches is a theoretical model that melds the gains from exchange framework with the informational and party-based approaches in a multi-dimensional setting."

This paper addresses that synthetic challenge in a novel way by embedding the policy dimension and outcomes dimension of the Gilligan and Krehbiel informational model within Hinich and Munger's (1994) two-space model with its one or few-dimensional ideological space, and multi-dimensional policy space. A second (synthetic) modification of the Gilligan and Krehbiel (1990) framework involves committee assignment. Gilligan and Krehbiel assume that this assignment is conducted by the legislature (median). I assume that assignment is influenced by the desire of members of the legislature to serve on committees (Shepsle 1978). Thus, I allow for the possibility of

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unidimensionality assumption of Gilligan and Krehbiel, representative committees are hardly the only alternative that could provide a rational (coherent, equilibrium) organization of the legislature.

self selection based on distributive motives in the context of Gilligan and Krehbiel type informational committees. This gives us leverage on the conditions in which informational incentives constrain the choices of high-demanders as they seek committee assignments. In turn, examination of high demander choices allows us to predict more accurately the incidence of committee outliers.

An alternative approach to the data of this chapter would involve considering a causal argument that is the reverse of the one developed here: arguably outlier committees create weak ideological dimensions. I will examine this alternative explanation below.

Informational Committees with Self-Selection

In the incomplete information model of Gilligan and Krehbiel (1989, 1990), the degree of uncertainty experienced by the floor concerning the outcomes associated with policy choices influences the location of an "upper bound" on the credibility of committees with preferences distinct from those of the floor. I will argue that this creates a restriction on self-selection by high demanders into committees. When the floor cannot learn from the committee's signal, the committee cannot benefit from sending the signal – it has no influence on outcomes. I will show that committees with preferences different from the floor are more likely to be listened to when the floor is less certain. Committee membership is only valuable when the committee is able to influence outcomes (from the standpoint of a member who wants to influence policy). Thus,

committees are more likely to be outliers (preferences distinct from the floor) when the floor is less certain.[6]

To be clear, this project rests on two basic assumptions. (1) Legislators want to effectively influence policy; and (2) Uncertainty makes legislators more willing to heed the advice of committees. The first of these is a hypothesis maintained without proof, but it is obviously a simplification of more complex motives.[7] The essential point for our argument is that there is a desire to influence policy (and make good policy choices). I will examine an alternative explanation based upon other motives in the conclusion. We will begin with a derivation of the second assumption from the Gilligan and Krehbiel (1989, 1990) informational model, and then deduce the empirical predictions.

Gilligan and Krehbiel's informational model involves two entities, a floor (characterized by the preferences of the median voter in a unidimensional policy space) and a committee (with one or more members). Both the floor and the committee members derive utility from outcomes on a single dimensional outcomes space – the payoffs of enacted policy. Floor preferences are a distance X_c away from committee preferences. If $X_c \neq 0$, then committees are to some extent preference outliers. Initially, floor and committee face an information problem. Although they know their ideal outcomes, they do not know quite how to get them. Choosing location x in the policy space will earn you the utility associated with outcome $x + \omega$, where ω is a random

[6] Being an outlier almost always means one is less influential, but the degree of uncertainty experienced by the floor influences the slope of that decline in influence. The more uncertain the floor is, the more gradual the decline. Because high demanders really want influence on committee policy, they will at times accept modestly diminished influence for the committee in exchange for having a voice on the committee.

[7] We are focusing on one of Fenno's famous trio of motives: reelection, influence on policy, power within the chamber.

variable. If the committee develops expertise, they can learn the value of ω. After learning ω, the committee sends a signal to the floor (in the form of a proposal).

The heart of the Gilligan and Krehbiel model is a Bayesian game in which the committee strategically selects its proposal (signal), and the floor interprets the signal (proposal). In the game's separating equilibrium, the floor learns about ω from the committee proposal, and the committee can influence outcomes (often with some ability to derive distributive benefits through misleading the floor about ω). In the pooling equilibrium the committee does not send a signal the floor can use to learn about ω, so the floor remains ignorant of ω when it selects policy, and the committee has no influence on outcomes (hence no possibility of deriving distributive benefits).

The distance between floor and committee preferences influences how much the floor can learn from the committee. Committee expertise about ω is useful to the floor only if the committee can communicate that expertise. If the floor and the committee have identical preferences, then the committee is always credible, and there is no information loss (in the language of Bayesian games this means that there is a separating equilibrium everywhere: the floor can always identify the value of ω). The floor knows that the (specialized) committee prefers what it would prefer, and has recommended what it would itself choose with full information. If, on the other hand, the committee and floor have different preferences, communication can break down. When there is a pooling equilibrium, it is impossible to distinguish types, so the floor is unable to learn about ω from the committee's signal. This insight motivates the well known informational prediction that committees with preferences distinct from the floor will be

rare: distance from the floor introduces information inefficiency. However, simple distance isn't all that matters.

The degree to which a committee with preferences different from the floor can communicate information credibly depends in part upon the degree of common-knowledge variance in the relationship between policy choices and outcomes: on the variance of ω. In other words, it depends upon how uncertain legislators are. When the variance of ω (σ^2_ω) is small, then the floor has less of an informational problem to solve, and only committees with preferences relatively close to the floor median can obtain separating equilibrium in which they communicate information about ω to the floor. When the variance is large, committees with preferences far from the floor median have a better chance of communicating information.[8] Recall that X_c in the model represents the degree to which the committee's preferences deviate from those of the floor median – how much of an outlier the committee is. "For $X_c > 3\sigma^2_\omega$, the equilibrium is pooling for all possible values of ω, thus very extreme committees play no informational role whatsoever." (Gilligan and Krehbiel 1989, p. 471).[9] Thus, the degree to which extreme committees are credible is a function of the uncertainty faced by the floor. When σ^2_ω is larger, outlier committees are able to communicate information more of the time.

Now that we have reviewed the relevant parts of Gilligan and Krehbiel's model, we can turn to self selection, and its consequences for the prevalence of committee outliers. In this discussion, I will assume that members selection choices are only influenced by their desire to influence floor decisions through the use of informative signals. High demanders gravitate to committees to be influential. This leaves out

[8] Basically, the less you know about the state of the world, the more willing you are to trust a biased source.
[9] See also Gilligan and Krehbiel, 1990 (p. 549) for a similar result.

various other motives for committee selection. Constituency/electoral benefits may be independent of outcomes – it looks good if one comes from a farm state and serves on an agriculture committee. Intrinsic individual/constituency interest in the subject might overcome barriers to participation. Further, members might gain from the ability to frame alternatives (Hall and Grofman 1990), although this framing power would seem to be limited if the committee is non-credible. Finally, members might gain from development of expertise, even on an extreme and non-credible committee, if in the future the committee becomes credible.

Since we assume that legislators (only) want to influence policy, rational high demanders (legislators with extreme preferences) only have incentive to self-select when they will be able to influence (that is make information available to) the floor. Thus, rational high-demanders will only self-select when the committee is likely to remain informative for the floor a sufficient portion of the time. Non-informative committees offer no advantage -- credible committees are the only ones worth being on, even (or particularly?) if one has strong and extreme preferences in the committee policy area. Thus, if they have choice, high demanders will self select into outlier committees only when the committee will retain sufficient ability to communicate. Thence, outlier committees arise as high demanders find it effective and worth their efforts (because they can shape policy outcomes) to serve on these committees.[10]

Since the ability of outlier committees to play an informational role is contingent upon the degree to which the floor can accurately perceive policy outcomes (σ^2_{ω}), a measure approximating the floor's uncertainty would provide insight into the

[10] I thank Glen Parker (MWPSA 2005) for comments that helped me to clarify presentation of this point. Note that this follows from assumption 1 stated above.

circumstances under which outlier committees are more or less sustainable for high-demanders. When the floor has relatively accurate perceptions, then there should be few 'outlier' committees because outlying 'high-demand' members have little reason to self-select to them. When the floor experiences high variance, outlying committees are more appealing to high demanders, and there will consequently be more committees with preferences distinct from the floor: more committee outliers. Following this logic, our key hypothesis is that *when the floor has relatively inaccurate perceptions of the link between policy choices and outcomes* (σ^2_{ω} is larger), *outlier committees are more likely to be observed.*

To assess this hypothesis, we will need to assess the degree to which the floor perceives outcomes with error. Empirically, how much informational guidance does the floor think it needs?

Krehbiel's Multi-dimensional Space

Before proceeding, I would like to propose a rephrasing of the language used by Gilligan and Krehbiel (1989). This rephrasing maps their model onto the model developed by Hinich and Munger (1994), and provides an intuitive operational measure of the floor's uncertainty.

The spatial framework used by these two sets of authors is more similar than has been previously noted. Indeed, the formal structure, though not the terminology, of the framework used by Gilligan and Krehbiel (GK) is arguably a somewhat abstracted and simplified version of the ideological space-policy space framework of Hinich and Munger (HM).[11] Gilligan and Krehbiel use two spaces, a single-dimensional 'policy'

[11] Or vice versa, given the chronology. The terminology is confusing, however, since both GK and HM use the term 'policy space' yet these two policy spaces are not necessarily alike.

space[12] and an 'outcomes' space over which members have preferences. Hinich and Munger use two spaces as well, a low-dimensional 'ideological' space, and a multi-dimensional 'policy' space over which voters have preferences. The respective linkage equations are represented in Table 5.1.

Table 5.1. Linkage Equations

	Outcomes Space (GK)	Policy Space (HM and GK)	Ideological Space (HM)	Error in linkage between spaces
Gilligan-Krehbiel	$x =$	$p +$		ω
Hinich-Munger		$\hat{\omega}_\theta =$	$v\,\pi_\theta +$	$e_\theta(\pi)v$

GK's 'policy' space is similar to HM's 'ideological' space in the sense that (1) both are low-dimensional spaces used for political communication, and (2) both are spaces that refer, potentially with error, to a second space on which preferences are based. In the HM model, preferences are associated not with ideological positions, but with the policy space positions that ideological positions imply (with error). In the GK model, too, preferences are not associated directly with 'policy' positions but with the outcomes realized, with error, on the basis of those positions.

There are two fruitful ways to build on this similarity. One approach is to simply equate the HM policy space with the GK ideological space. Another approach is to merge the models to create a synthetic three-space model by equating their policy spaces.

[12] The term 'policy space' has been given other connotations here, and more typically is used to refer to the space of policy alternatives. As used by Gilligan and Krehbiel, however, it can be interpreted as a statement about 'ideological' rather than policy space. Some authors do refer to latent ideological dimensions as "policy dimensions" (Clinton, Jackman and Rivers 2004), but latent dimensions are more typically interpreted within the context of a 'two space' model (Poole 2003, Hinich and Munger 1994, Hinich and Pollard 1981). The latent space is called an 'ideological' space throughout this work.

These approaches are non-exclusive for our purposes: given either rendition of the relationship between GK's two spaces and HM's two spaces, we arrive at the same empirical prediction.

Rendition 1. Much of the literature testing for the presence of committee outliers (e.g. Poole and Rosenthal 1997) implicitly equates GK's policy space with HM's ideological space (as inferred using spatial scalings of roll call data). This direct equation of GK's policy space with HM's ideological space has some theoretical problems that can be resolved by a more accurate rendition of the relationship.

Rendition 2. A more accurate rendition yields three spaces. At the 'top' is an ideological space which is linked to the policy space as described by HM. Each policy space dimension is linked to an outcome dimension as in GK. This more accurate rendition can provide a partial basis for the simple equation of GK's policy space and HM's ideological space proposed above. Viz. uncertainty from the policy-outcomes linkage (ω) will increase uncertainty about the ideology-policy linkage. Formally, we substitute GK's p for each of HM's $\hat{\omega}_\theta$ and rearrange the terms to derive the following outcomes-ideology linkage (Table 5.2). The error rate in the linkage between ideology and outcomes spaces includes both the original HM error and the GK error.

Table 5.2: Revised (combined) Linkage Equation

Outcomes space		Ideology Space		Error terms
x_θ	=	$v\,\pi_\theta$	+	$e_\theta(\pi)v + \omega_\theta$

In rendition one, the informational problem is shifted from the policy-outcomes linkage to the ideology-policy linkage. This change in terms alters our interpretation of

what the uncertainty is, but not the mathematical structure of the model. Uncertainty reflects the degree to which ideological positions dictate policy choices – the degree to which given an ideological position one can accurately anticipate the associated policy. Just as in GK's model a committee with policy preferences farther from the floor is less likely to be able to communicate specialized information about outcomes, so here a committee with ideological preferences farther from the floor is less likely to be able to communicate specialized information. The logic developed above whereby a larger variance in the error term provides more leeway for outlier committees still applies, for the formal structure is essentially the same.

In rendition two, our revised linkage equation has substituted away the policy space to focus on the ideology-outcomes linkage. The error term now has two components. The policy-ideology linkage error $e_\theta(\pi)v$ and the policy-outcomes linkage error ω_θ. Our hypothesis developed above still applies: a committee with ideological preferences farther from the floor is less likely to be able to communicate specialized information about outcomes, and this relationship is still governed by the error term. Interpreting the errors is more complex, however.[13] Although the policy-outcomes linkage error is difficult to assess, empirical applications of the (ideological) spatial model provide a way to assess the policy-ideology component.

We can measure the policy-ideology linkage error using empirical implementations of the ideological space based on Hinich and Munger's model, such as the Nominate program of Poole and Rosenthal (1997).

[13] For example, some policy dimensions may have more error (in either the ideology-policy or policy-outcomes linkages) than others. We would expect outliers to be more frequent for committees that deal with more error-prone dimensions.

Nominate and programs performing similar functions (e.g. Clinton, Jackman and Rivers 2004) infer ideological dimension(s) that appear to guide most vote choices. While these models correctly predict some votes, they also make errors. These errors are instances in which the ideological dimension does not correctly predict votes on particular policy proposals. Interpreted in the context of the HM model, such errors reflect $e_\theta(\pi)v$ -- the error associated with the policy-ideological linkage.[14]

Based upon this empirical extrapolation, we can reframe the hypothesis in a testable form: *Committees are more likely to be preference outliers (in ideological space) when the ideological space predicts votes less accurately.*[15]

The intuition is that when legislators are (ideologically) certain about what the right policy choices are, they feel little need to listen to the (informed) opinions of others. When legislators are (ideologically) uncertain about what the right policy choices are, then they are more open to information, even information from committees with distinct ('outlier') ideological commitments.

In the introduction I noted a third theoretical program, but party-centered explanations for legislative organization have played little role so far in this paper. Although in the background, party theories are potentially quite central to this analysis. Some recent studies suggest that political parties play a vital role in constructing the

[14] It is also possible that these errors reflect a failure of the model itself. For example, if the ideological space contains two dimensions, but we only estimate a model with one dimension, some of the error will simply reflect the omission of the second dimension.

[15] This hypothesis is based on a maintained assumption that equating (rendition 1) or relating (rendition 2) Krehbiel's two spaces to Hinich and Munger's two space model is sensible. Although one can surely argue that voting errors (Hinich and Munger) ought to be associated with the degree to which the outcome space is perceived with error, one might be able to argue the contrary as well. One problem is that when one gets better information, one should experience fewer voting 'errors' suggesting measurement bias.

ideological left-right dimension.[16] Thus, tentatively, we might synthesize further: 'strong' parties may lead to fewer outliers through their influence on the uncertainty associated with the policy-ideology link. Alternately, both the frequency of outliers and the strength of the left-right dimension may both be caused directly by party strength.[17] Thence, party strength might play an important role in governing whether legislatures look more distributive or more informational.

Data

Our data are on the presence of committee outliers in 45 US state lower houses and 42 state upper houses based on National Federation of Independent Business legislator ratings is reported in table 1 of Overby, Kazee and Prince (2004) and Prince and Overby (2005). Overby, Prince and coauthors used NFIB legislator ratings to estimate committee and floor means. They then differenced these means, and assessed whether the distance between floor and committee was statistically significant.

A serious limitation of this committee outlier data is its lack of variance: because the degree to which committees *approach* outlier status is not assessed, much information is lost. A more nuanced measure of committee outliers, such as that used by Aldrich and Battista (2002), would provide a richer data set to explore our hypotheses. However, if politics is the art of the possible[18], empirical analysis is sometimes the art of the

[16] Perhaps the most striking result is that of Wright and Schafner (2002) who found that absent party organization, Nebraska's unicameral legislature has no left-right dimension, in spite of the fact that legislator's preferences, as assessed using Project Vote Smart surveys *are* organized in accord with this dimension.

[17] Overby et. al. failed to find statistical support for their party-related hypotheses. As we will see, my replication of their results does not uncover much additional support for their hypotheses, with the partial exception decision centralization.

[18] "Politics is the art of the possible." Remark attributed to Otto Von Bismarck, August 11, 1867. http://www.quotationspage.com/quote/24903.html

available. In addition, we want to retain comparability with the results of the previous paper. We shall have more to say about the limitations of this data below.

Our measure of the predictive accuracy of a single ideological dimension in state legislature roll call voting is drawn from the work of Gerald Wright and coauthors (Wright and Winburn 2003, Wright and Osborne 2002), and is based upon their reported fit statistics for one dimensional implementations of Poole and Rosenthal's Nominate program.[19]

We also include independent variables posited by Overby, Kazee and Prince (2004) and Prince and Overby (2005):

Region/culture is a dummy variable that records whether the state was part of the Confederacy or not, with Southern states coded as 1.

Our measure of legislative professionalization is based on data reported by King (2000) for the 1993-94 legislative sessions.

Majority Party Control is a dummy variable coded 1 if the legislature is controlled by Democrats, and 0 otherwise.

Locus of Power (Francis 1989) codes the degree to which state legislators answering a survey in the 1981 perceived significant decision making loci to be centralized (e.g. in the office of presiding officers or the governor) or decentralized (e.g. in committees or subcommittees). There are five values in this ordinal scale, with a value of 1 representing the highest level of centralization, and 5 representing the least.

In a two-party context, the Effective Number of Political Parties (ENPP) measures the degree to which party delegations are of equal size, with the highest value (2)

[19] I focus on the one-dimensional ideological space because the informational model has not been extended to multi-dimensional settings, and the NFIB data used by Overby et. al. 2004 and Prince and Overby 2005 is one-dimensional.

occurring when party legislative delegations are of equal size. ENPP is the inverse of the Herfindahl Index.[20]

Finally, we include the Number of Non-Control Committees as reported by Prince and Overby (2005). This variable was not reported in Overby et. al. (2004) and I coded it independently for the lower-chamber data.

Testing the Model

Our main empirical test involves state legislatures, and the outliers data of Oberby et. al (2004), and Prince and Overby (2005). We will show that including information on the degree of ideological certainty improves the predictive accuracy of their model. Committee outliers are more frequent when the ideological space predicts votes less accurately.

Figure 5.1 below shows a scatter-plot with a fitted OLS regression line relating the frequency of non-control outlier committees to the predictive accuracy of the left-right dimension.[21] The adjusted R^2 value obtained is 0.095. Although this may not seem particularly large, it is a substantial improvement on the *negative* 0.05 adjusted R^2 obtained by Overby et. al. (2004). In addition, this association is statistically significant with a two-tailed t-test at the $p = 0.022$ level.

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[20] The Herfindahl index is a measure of market concentration. For a description of the index and its uses in that field, see http://www.oligopolywatch.com/2003/08/15.html. Consider the two party case for a moment. When the parties are exactly equal, the ENPP measure is at 2. As one party attains a larger majority, the measure shrinks (more 'market' concentration leads us closer to a one-party monopoly. Thus for the two-party United States, ENPP measures how close to parity the two main parties are, with higher values when Democrats and Republicans have nearly equal vote shares, and lower values when one party dominates.

[21] For theoretical reasons based upon the Cox and McCubbins (1993) party model, Overby et. al. considered the prevalence of outliers in control and non-control committees separately. Control committees were expected to have fewer outliers.

Figure 5.1. Committee Outliers are More Likely When Voting is Less Structured by the Left-Right Ideological Dimension in US State Legislatures (Lower House Non-Control Committee Data Only)

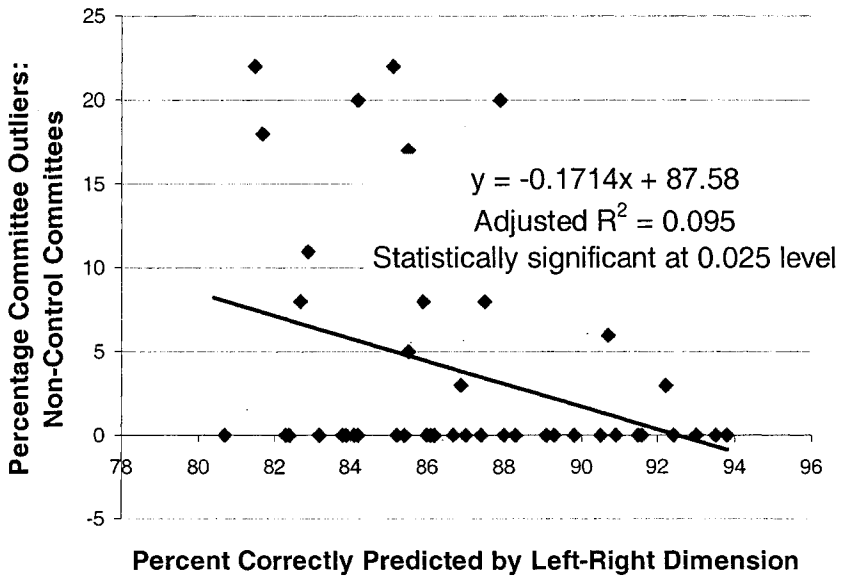
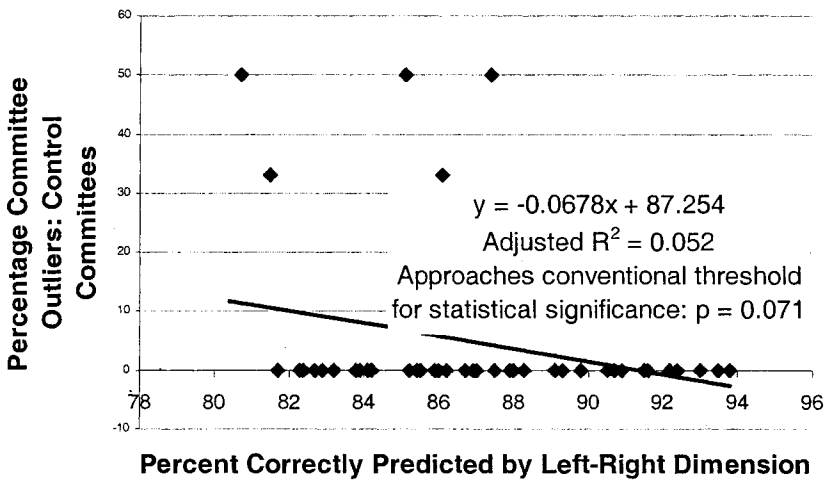


Figure 5.2, below, extends this analysis to lower house control committees. For control committees, the fit achieved by the ideological dimension is somewhat lower than the adjusted R^2 achieved by Overby et. al. (2004): 0.09 versus 0.052.

Figure 5.2. Committee Outliers are More Likely When Voting is Less Structured by the Left-Right Ideological Dimension in US State Legislatures (Lower House Control Committee Data)



We now proceed to analyses that include variables identified by Overby et. al. (2004) and Prince and Overby (2005). As remarked earlier, the Overby and coauthors had little success predicting the frequency of committee outliers. We will examine and address three reasons for this poor fit. First, the sample size is small. Second, the assumptions of OLS regression do not match known properties of the data generating process. Finally, the ideological fit (uncertainty) variable was not included.

We begin with the sample size problem. In particular, the total sample size is 45 for the lower houses, and 42 for the upper houses. With the independent variables from the previous paper, and our new ideology-fit variable as well, this leaves us with an uncomfortably small ratio between observations and independent variables – roughly seven observations per independent variable. This ratio becomes even more uncomfortable when one considers that in more than half the states, there are no

statistically significant outliers, and thence there is no variance in the dependent variable among these states. Leaving out these states, our ratio is only about four observations for each independent variable. One approach is to explore the results of iterated elimination of variables that are not enhancing the explanatory power of the model.[22] Another approach is to merge our analysis of upper and lower houses. I will report a merged analysis below.

The second problem has to do with the outlier measure used in the Overby et. al. (2004) and Prince and Overby, 2005) papers. The outlier data is discrete count data – the number of committee outliers in a legislature with a given number of committees, but the previous analyses treated this data as if it was continuous. Overby and coauthors analyzed the percentage of outliers using OLS. Because some state legislatures have many more committees than others, the set of potential values varies by state as a function of the number of committees. For example, a state with five non-control committees can have outlier percentages of only 0%, 20%, 40% and so forth, while a state with 25 non-control committees can have values of 0%, 4%, 8%, etc.[23] In addition, the dependent variable can only have values between 0% and 100%. By contrast OLS assumes that the variable can take any value. Thus, OLS will almost always predict values which are *impossible* given the data. Furthermore, a legislature with several committees that are *almost* statistically significant outliers will rank at zero -- lower than

[22] In results not reported here, I explored selection methods to reduce the number of variables. The ideological variable was often the most preferred alternative. It always ranked among the top two or three variables. Through variable selection, one can substantially improve the statistical fit of the equation. In other results not reported here, I replicated Overby's OLS analysis, and experimented with adding an ideological fit variable. Results resembled those from Overby's paper in the sense that the model seemed to be getting no traction on the data. Given the problems with running OLS on this data, such a result is hardly surprising.

[23] Overby et. al. (2004), and Prince and Overby 2005) included a measure of the number of committees, but this cannot control for the problem.

a legislature with one outlier committee and no others that remotely approach outlier status. A better approach would maintain a continuous variable that reflects the degree to which committees are outliers (as in Aldrich and Battista 2002, Battista 2005) in the context of a hierarchical model with committee and state-level data. Given the data we have, we will take two alternative approaches. One solution is to collapse the dependent variable to a binary measure: one if committee outliers are present, and zero if they are absent. An even better model is an event-count model such as the negative binomial model. The dependent variable for the negative binomial model is simply the number of outliers per state. The number of committees is automatically built into this model as the 'period' or duration of the test.

(Insert Table 5.3 here).

Table 5.3 reports logit analyses of a binary dependent variable: the presence of outliers in lower and upper chamber committees, and a pooled analysis of both chambers. In the pooled House and Senate analysis, the ideological variable is statistically significant at the 0.05 level, and the variable approaches statistical significance in the upper house analysis as well. With the exception of the dummy variable for legislative chamber, other variables do not approach statistical significance, even in the pooled upper-and-lower-chamber analysis. This supports the idea that 'ideological' uncertainty is associated with the presence of outliers.[24]

[24] Some limitations of the theory and empirical analyses developed here provide opportunities for further investigation. Note that Overby et. al.'s test of committee outliers assumes that the high demanders will be high demanders on all dimensions (i.e. the National Federation of Independent Business dimension) as opposed to merely high demanders on the particular dimension they favor. By contrast, it might be rational for high demanders to make their extremism less obvious by taking moderate or consensual stands on issues they care less about: a high demander with a reputation for ideological centrality is more credible. A better measure of the presence of high-demanders and outlier committees would take account of the incentives to develop ideological camouflage.

(Insert Table 5.4 here).

Table 5.4 reports negative binomial maximum likelihood estimates. The dependent variable is the number of committee outliers in the state. In substance, these results are very similar to the logit results reported above. Once more the pooled analysis yields a statistically significant effect (.05 level) for the ideological variable.[25] Thus, negative binomial regression results once more support our hypothesis: outliers are more frequent when there is more ideological uncertainty.

One contrast with the previous results is that 'decision centralization' is statistically significant in the pooled analysis. This suggests that decentralized legislatures are more likely to have outlier committees, a result consistent with the expectations originally developed by Overby and coauthors, but one little supported in their earlier OLS application. Thus, more centralized (party) leadership produces fewer committee outliers. This result is consistent with the ideas suggested above concerning the role of parties: powerful central leadership can prevent outliers.

Alternative Explanations

It isn't logically clear or unambiguous that ideological uncertainty causes committee outliers, and not the other way around. Although we have approached synthesis from the direction of the informational theory, there is the possibility of reverse

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Along a related line, it is possible that the relationship identified here between the predictive accuracy of the ideological space and the presence of committee outliers is a statistical artifact. In particular, imagine that committee and floor medians are always in fact equal. Now suppose that we perceive the ideological location of the committee and floor with error. The more error in our perceptions, the more likely that they will appear to take different ideological positions. If our estimates of committee outlier status are not adjusted to reflect the uncertainty with which we have estimated ideological locations, we may make the mistake of finding outliers when there are none. If the results presented here reflect such a statistical artifact, then they point to a serious problem with much of the literature on committee outliers. Outliers assessed using "conventional hypothesis tests" (to quote Krehbiel 1990, p.149) are not measured correctly. The (ideological) committee outlier literature should thus be re-evaluated using correct standard errors such as those provided by the method of Clinton, Jackman and Rivers (2004).

[25] In addition, the ideological variable is also statistically significant in univariate negative binomial models for both chambers.

causality and a synthesis from the direction of the gains-from-exchange approach. Outlier gains-from-exchange committees might produce an 'ideological' dimension through logrolls. Poole and Rosenthal (1997) suggest that party mediated logrolls produce the main left-right dimension found by NOMINATE. When cross-committee logrolling is working well, committees will not appear to be outliers when preferences are assessed using roll call votes.[26] When inter-committee bargaining breaks down, committee members would be more likely to appear to be preference outliers, and the ideological dimension will probably be weaker.[27]

Causality tests might provide a way to distinguish between theories. The informational self-selection and committee logroll explanations posit almost opposite causal paths. In the informational case an (exogenous) change in ideological uncertainty alters the degree to which outlier committees will be respected, and thence creates opportunities for self selection to create more (or fewer) outliers. In the logroll case, a bargaining break-down reduces inter-committee cooperation, making more committees appear to be outliers, and reducing the fit the ideological dimension. Given the causal differences, causality tests (for all their limitations) might provide insight into which interpretation of the relationship between uncertainty and outliers is more accurate. I leave this for subsequent study. We might note in passing that the reduced credibility of Congressional committees in the face of increased ideological certainty seems more consistent with an informational story than with a logroll story.[28]

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[26] The logic is as follows: when the logroll is functioning well, members of each committee (in fact high-demander-outlier) support each other's proposals. This support produces the illusion that the policies are moderate and ideologically central.

[27] This bargaining break-down might well be related to failed coordination by party leadership.

[28] But this does not eliminate the possibility of an underlying partisan mechanism, as posited above

Conclusion

We have demonstrated that the major prediction of our synthesis of the informational and distributive models provides empirical leverage on the prevalence of committee outliers. When the ideological space provides more certainty, outlying committees are less viable, and consequently less frequent.

The theory developed here provides insight into the shifting power of committees and party leadership in the US Congress. For example, various observers (Cohen 1993, Sinclair 2000) suggest that floor deference to committees declined in the 1980s and 1990s. As one would expect, this diminished deference occurred at a time when ideological uncertainty was shrinking. The improved fit of the left-right ideological dimension coincided with diminished deference to committees. Leveraging the model, we should anticipate that committees in Congress will regain influence with the floor to the extent that (1) the committees come to have preferences that more closely resemble those of floor medians, or (2) the fit of the ideological dimension deteriorates.[29]

In sum, high-demander or outlier committees are neither 'simply rational' nor 'simply irrational'. Instead, a more complete treatment appreciates that the presence of high demand outlier committees is only rational in an informational framework when these committees are able to retain credibility on the floor, and that this credibility depends in part upon the degree of uncertainty experienced by the floor. When the floor is uncertain, it is more likely to listen to biased committees. This creates an opportunity

[29] An example of such revitalization: in 1990 George Brown (D-CA) became chairman of the Committee on Science, which had lost much of its influence, and was perceived as an outlier dominated by members representing NASA and Department of Energy facilities. Brown managed to replace many committee members, restoring members with a more diverse set of constituencies, restoring respect for the committee on the floor. (King, 1997, p. 138).

for high demanders to self-select into committees and shape policy outcomes. When outlier/high-demand committees are credible, they are more likely to exist.

Table 5.3. Determinants of Committee Outliers in American State Legislatures (Logit Model Estimates)			
	Pooled Upper and Lower Houses	Upper Houses Only	Lower Houses Only
Intercept	14.82	20.83	11.90
Percent of Votes Accounted For By First (Nominate) Dimension	-0.18 (0.09)*	-0.29 (0.16)+	-0.15 (0.13)
Region (Confederacy = 1)	0.77 (0.63)	0.49 (1.06)	0.56 (0.84)
Legislative Professionalism	2.74 (2.04)	4.79 (3.49)	- 0.04 (3.15)
Decision Centralization	0.46 (0.27)+	0.73 (0.44)+	0.42 (0.37)
Majority Control (Democrat = 1)	-0.58 (0.51)	-1.19 (0.83)	-0.49 (0.74)
Expected Number of Political Parties	-0.39 (1.62)	0.24 (2.90)	-0.49 (2.16)
Number of Non Control Committees		0.09 (0.07)	
Chamber (Upper = 0)	-1.12 (0.49)*		
Percent Concordant	74.5	79.1	72.5
Percent Concordant Absent Ideological Variable	70.9	70.7	73.1

Note: Cell entries are LOGIT coefficients from a model of the likelihood of observing an outlier. Standard errors are in parentheses.
* indicates statistical significance at the .05 level.
+ indicates statistical significance at the .10 level.

Table 5.4. Determinants of Committee Outliers in American State Legislatures (Negative Binomial Model Estimates)			
	Pooled Upper and Lower Houses	Upper Houses Only[30]	Lower Houses Only
Intercept	4.59 (3.70)	5.04 (4.08)	7.96 (7.76)
Percent of Votes Accounted For By First (Nominate) Dimension	-0.10 (0.048)*	-0.098 (0.053)+	-0.15 (0.097)?
Region (Confederacy = 1)	0.12 (0.33)	0.36 (0.39)	-0.11 (0.57)
Legislative Professionalism	0.43 (1.19)	1.82 (1.41)	-1.71 (2.44)
Decision Centralization	0.39 (0.16)*	0.37 (0.20)+	0.41 (0.26)?
Majority Control (Democrat = 1)	-0.24 (0.30)	-0.33 (0.37)	-0.18 (0.52)
Expected Number of Political Parties	-0.29 (0.92)	-0.35 (1.18)	0.089 (1.53)
Chamber (Upper = 0)	-0.82 (0.27)**		
Dispersion	0.26 (0.22)	0.06 (0.16)	0.59 (0.57)
Log Likelihood	-65.4	-27.1	-34.7
Log Likelihood, ideological variable only	-73.2	-30.9	-36.2
Log Likelihood, intercept only	-77.4	32.5	-40.2

Note: Cell entries are coefficients from a negative binomial model. Standard errors are in parentheses.
** indicates statistical significance at the .01 level.
* indicates statistical significance at the .05 level.
+ indicates statistical significance at the .10 level.
? indicates statistical significance at the .15 level.

[30] The Kansas Senate is excluded from these analyses. This chamber has an extraordinarily high number of committee outliers: 10 out of 16 committees are outliers. (Roughly 62 percent of the chamber.) This is more than twice as many outliers as any other chamber. The Mississsippi Senate has 29 percent outliers, and the South Carolina House has 27 percent. Inclusion of the Kansas Senate substantially diminishes the fit of the negative binomial model. The logit analyses reported in table 3 include the Kansas Senate.

Conclusion

This project analyzes conditions under which strategy and preferences are more likely to produce particular kinds of outcomes. I believe that I have shown that the dimensionality of the policy space, and the fit of the main ideological dimension are levers that political scientists can use to understand what is likely to happen in certain political circumstances. Two theory chapters, and three modeling and empirics chapters have delved into several entwined questions – what issue dimensionality is, why it varies, and why it matters in terms of institutions and choices. After describing the spaces and why they vary, we explored the impact of changing policy spaces on the power of political leaders (chapter 3), the relationship between the policy space and ideological space (chapter 4), and the relationship between ideological 'certainty' and committee outliers (chapter 5). I will summarize the chapter results, and show how the overall argument builds on chapter-level results.

Section 1 examines the policy space and ideological space: what they are, why they vary, and how they are measured.

In Chapter 1 we examined the formal definition of the policy space: the fundamental space in the two-space model. I have argued (i.e. through extension of the 'amendment anomaly') that correlation in voters' preferences is irrelevant if we want to have a non-arbitrary empirical characterization of policy space dimensions. Leveraging the multidimensional spatial model to clarify definitions in a very muddy literature, we constructed an empirical definition of the policy space consistent with the formal model. Each issue ω that can be changed without simultaneously changing other policies in the issue space represents at least one unique dimension. Building on my empirical

definition of the policy space, Chapter 1 proposed several proxy measures of the active policy space (what Riker called the 'feasible set'), including the level of government intervention, population, and the effective number of issues based on issue typologies. These measures are not perfect measures, but the fact that they tend to move in the same ways when explaining the data encourages me to believe that they are in fact associated with variation in the size of the active policy space.

This chapter has applications to a range of literatures. For example, a common example of question framing in the study of public opinion concerns the disjunction between public evaluations of (and support for) welfare, as opposed to public assistance to the poor. The term welfare elicits a much more negative reaction. As conventionally posed, the interpretation is that how questions get asked can change how people respond to survey questions. I used to see this as an example of the fickle unreliability of public opinion – the difficulty of ascertaining just what public attitudes toward the welfare issue are. Now I see it differently. When surveys pose the two questions, they are not asking about the same issue. More properly, both are general questions that cover many issue dimensions. And the public response may be quite coherent, even reasoned, when approached from this perspective. The general question of whether the government should spend more to help the poor contains a broad set of issues, while the 'welfare' question arguably leads/lead many to think in particular of a subset of those issues. It need not be surprising that opinions differ on substantively different sets of issues. Perhaps the real surprise is that I (and many others I suspect) misinterpreted these results as an example of framing *distorting* or shaping opinion when they are in fact merely an example of expression of opinion about frames that include *different* sets of issues. Many

respondents did not like 'welfare' – means-based cash assistance programs that some thought lead to dependence on the government, welfare motherhood, etc. – but they would like to help the poor in some other way(s).[1] Properly conceived of, the policy space is large. There is no single 'welfare' issue, there are dozens. It is altogether fitting that preferences should be different across the broad spread of such issues. Misguided attempts to see structure can distort our understanding (as with my previous view of the welfare framing example). We should acknowledge the variegation, the richness of the policy space. Pretended simplicity distorts understanding. There is no non-arbitrary single-dimensional welfare issue, and no single-dimensional welfare status quo.

Chapter 2 outlined a theory of ideology and presented the formalization of the ideology space that was used in chapters 4 and 5. Although they do not necessarily evaluate distinct issues identically, people do tend to simplify across issues. If I know a friend favors parental notification when minors receive an abortion, I might guess with better than chance accuracy that she also opposes partial birth abortion. Faced with the complexity of policy choice, most politicians, voters and journalists turn to simpler frameworks – to heuristic ideational structures that facilitate decision making even as they abstract away from the richness and detail of the policy space. The simplicity such ideological frameworks provide is not dictated by some predetermined structure – it is constructed, potentially manipulable. Voters and politicians 'learn' to associate positions with values, values with parties. More ideological issues (or issue framings) may be favored by agenda setters. The consequences of this simplification are important, but not simple.

[1] Of course this does not guarantee that there is/was a majority in favor of any particular way of helping the poor, merely that the broader subset included issues that more found appealing. The alternative, and non-exclusive conventional explanation is that 'welfare' frames activate different sets of attitudes or values.

Section 2 includes three models with empirical applications. Each chapter answers a substantive question in a novel way by leveraging variation in the predictive power of the ideological space and/or the dimensionality of the policy space.

Chapter 3 characterized the relationship between the size of the policy space, the time available to consider political issues, and the agenda-power opportunities available to political leaders. Mapping variation in the size of the policy space substantially improves our ability to explain why some legislative leaders have more power than others.

The conditional party government literature has claimed that party leaders have more power when they represent a party with compatible/similar preferences which are distinct from opposition party preferences. But this literature had not resolved the endogeneity problem this posed: since party leadership might *produce* apparent preference consistency within party and apparent preference divergence between parties, there was a risk of overestimating the effect of preference homogeneity on party leadership. Thus, this argument tends toward tautology. We break the causal/logical knot.

Party leadership is stronger when there are better opportunities for party leaders to construct an agenda *on which* party members have homogenous preferences. Given such opportunities, party members are more likely to cede power to party leaders. By examining plausibly exogenous size of the policy space effects on the agenda opportunities available to party leadership, I provide support for a revised concept of conditional party government. The empirical analyses suggest that the dimensionality of the policy space is a key influence on the power of political leadership. Larger policy

spaces, relative to time available, are strongly associated with more powerful speakers in US State Legislatures.

I believe that *Chapter 4* is the most sustained and comprehensive effort in the political science literature to explain variation in the predictive power of political ideology in legislatures.[2] The degree to which ideology appears to structure political choices depends upon how motivated individual politicians and parties are to maintain an ideological image, and on their ability to do so – on the supply of and demand for ideology-consistent issues. I test seven hypotheses across three major datasets: a cross section of US State Legislatures, a time series of the US House of Representatives, and a panel of party manifestoes from 25 established democracies.

The degree to which ideology matters in politics appears to vary in relation to size of the policy space relative to time available. There is evidence for the anticipated non-linear relation with a reversed sign at the full-agenda T (time) = D (number of dimensions) threshold. When the policy space is small relative to the size of the potential

[2] Paul Rubin (2004) writes in the Encyclopedia of Public Choice that "Ideology is a thorn in the side of public choice. The discipline would be more powerful and more useful if it were not true that ideological factors were important in explaining political behavior. This is true for at least two reasons. First, public choice applies economic methods and theories to political behavior. But economic theory has no theory of ideology and no room for ideological factors, and so the application of public choice is weakened by the importance of factors that are outside economics. Second, a key tenet of public choice theory is that people operate in the political realm in about the same way as in the economic realm. But in normal economic behavior, there is little room for ideological aspects of behavior. Although people may try to boycott South African products or to purchase recycled paper goods, consumption decisions of this sort are marginal and fairly unimportant. But as shown below, ideological factors are much more important in politics. Nonetheless, empirical evidence indicates that ideology is an important part of political behavior, and scholars must take the world as we find it." (p. 291). Rubin closes with a call for research along lines pursued here. "Constituent ideological preferences do have impacts of legislative outcomes, and the profession should devote its efforts to determining the source and nature of these beliefs. The recent work of Nelson (1994) is a good attempt at beginning this effort, and future research on ideology should focus on this issue.... In addition, the factors that make the issue space unidimensional and unimodal are worthy of attention because these factors serve to eliminate problems in cycling and instability. Finally, the work of North (1990) tells us that the underlying structure of ideology is itself of crucial importance in ordering an economy, and we have no good theory to explain this structure." With the exception of North's argument (which suggests that the economic freedom proxy for the policy space is causally problematic), Rubin's argument lays out substantial portions of the agenda pursued here.

agenda, larger policy spaces tend to diminish the fit of the main ideological dimension. When the policy space is large relative to the size of the potential agenda, larger policy spaces allow for more selection of ideologically consistent issues.

The predictive power of the ideological space is also a function of the prevalence of ideological issues in the active policy space, the degree to which certain ideologically consistent dimensions (e.g. redistributive dimensions) are salient as a result of economic inequality, and the degree of party competition.[3] When ideologically consistent issues are plentiful, easier to select for, (and more desirable), the main ideological dimension has more predictive power.

Chapter 5 developed a synthesis of the informational and distributive models of legislative organization. When a more predictive ideological space makes policy decisions simple for politicians, this reduces their willingness to learn from others with divergent ideological viewpoints. The presence of high demand outlier committees is only rational in an informational framework when these committees are able to retain credibility on the floor.[4] That credibility depends in part upon the degree of uncertainty experienced by the floor. When the floor is uncertain, it is more likely to listen to biased committees. This creates an opportunity for high demanders to self-select into committees and shape policy outcomes. When outlier/high-demand committees are more likely to be credible, they are more likely to exist. When the ideological space

[3] Some of the results in this chapter were weak, particularly hypotheses 1, 3, and 7. It is important to keep in mind that (particularly for H1 and H3) I am using imperfect measures of the theory concepts. Therefore, weak or inconsistent results for some variables do not necessarily undermine the theory – they may simply indicate that the particular variable is not well constructed.

[4] Recall that I am explicitly not modeling other non-policy reasons to be on a committee. Some outliers may result from the presence of politicians who have other, non-policy goals. If your constituents principally cared about science policy because they were NASA and/or DOE researchers, then being on the House Committee on Science was arguably a smart thing to do, even though the committee (circa the mid 1980s) had little credibility with the House.

provides more certainty, outlying committees are less viable, and consequently less frequent in a cross section of US state legislative chambers.

This project is at once an answer to, and an elaboration of, Riker's (1980) characterization of political instability and its consequences for institutions. I claim that variation in the characteristics of the 'spaces' in which politics is played influences politics and political institutions. Variation in the spatial context is important because changes in the space change the game, and changes in the game alter the desirability and sustainability of particular institutional and 'ideological' arrangements. Larger policy spaces (relative to time available) make it easier for legislative leaders to build support for leadership institutions (chapter 3). Larger policy spaces (past the T=D threshold) make it easier to construct an ideologically consistent agenda (Chapter 4). A more predictive ideological space reduces legislators' willingness to heed the advice of 'biased' committees. Understanding the spaces on which politics is being played lets us anticipate the outcomes more accurately, and helps us model politics more appropriately.

Riker (1980) claimed that instability results of 1970s social choice theory suggested that political science is the 'true' dismal science, rather than economics. In his later works, Riker began to explore the creative potential of instability – the political use of heresthetic(s). Building on Riker (1986), the structure induced equilibrium tradition (Shepsle 1979), and Hayek (1944) we have discovered that variation in the opportunities for political manipulation (even as imperfectly measured by our proxies for the size of the policy space, and our ideological-space fit statistics) provides insight into three substantive questions: why the power of (legislative) leaders varies, why the predictive

power of the ideological dimension(s) varies, and why some legislatures have (more) outlier committees. Complexity, uncertainty, and potential 'chaos' provide opportunities for creative construction of powerful leadership institutions, simple ideological spaces, and influential committees. Contra Riker (1980), but in line with Riker (1986), the art of political manipulation can often answer the threat of political disintegration.

However, the models and results do not support a simplistic positive reading. There are costs inextricably linked to the opportunities for constructive manipulation. The agenda control models of chapters 3 and 4 suggest that stronger leadership and more predictive ideology, although desirable from various standpoints[5] are bought at the cost of keeping minority and non-ideological issues off the legislative agenda. In both cases, agenda selection could preclude consideration of policies that would arguably serve the public interest.

Future Work

There are several directions in which this work could be expanded. The most direct set of extensions would involve refining the methods and measurements of this project – developing additional datasets to test project hypotheses. Particularly interesting would be extending the research to a more diverse selection of countries. The data I have used have been principally US data, and they are almost entirely data drawn from established, stable, democratic regimes. Since one of the longstanding suppositions of the social choice literature is that larger policy spaces lead to more 'chaos' or

[5] Stronger leadership might facilitate responsible party government, and could overcome collective action problems to prevent cycling and force resolution on important policy questions. More predictive ideological spaces arguably reduce the informational burdens faced by voters, making it easier to them to assess the value of candidates or policy choices. They also may prevent cycling, and solve some principal agent problems (i.e. monitoring hidden actions).

instability, it would be intriguing to examine the counter-instability hypotheses of this work in contexts in which democratic institutions are less established and less stable. Focusing on long-term democracies arguably conditions in favor of 'stability'. Another project that derives from this work is building better measures of the policy space (perhaps through more detailed issue coding), measuring the ideological dimensions more accurately, and exploring variation in the degree to which policy issues are perceived in 'ideological' ways by voters.

A second direction research could take would be to test the predictions of the model presented in chapters 3, 4 and 5 in settings that allow for better causal control. One approach is to run laboratory experiments that include the critical factor of time constraints which preclude consideration of all spatial dimensions. In addition, it might be worthwhile to leverage the model in chapter 4 to provide instruments for two stage least squares simultaneous equations modeling to explore the causal direction of the results presented in Chapter 5.

Moving beyond incremental suggestions, I offer two closing speculations.

Dynamic Model with potential issue exhaustion. Imagining the trajectory of pro-ideological issue-selection over time gives some additional insight. Assume that issues which are raised for consideration get addressed by shifting policy to the median. Suppose, further, that ideologically consistent issues are more likely to be shifted in this way. If the status quo on these issues remain at their new locations, then over time ideologies (and presumably the parties linked to them) will exhaust their potential agenda – there will be little left to do. Perhaps this pattern underlies partisan realignments. For example, this seems to be what happened to the Jacksonian Democrats after Polk

achieved their policy program (Skowronek 1997), as they were no longer able to suppress the slavery question. In addition, this may help account for the failure of the realignments literature to discover conclusive 'realignments' after 1930 (Mayhew 2002). The New Deal (and World War II) arguably expanded the active policy space. When the policy space is larger, issue exhaustion is less likely. Because of the larger space, parties have been better able to incorporate new issues and/or de-align on old issues without rapidly altering either the ideological space or their positions on it. An empirical model of the issues available to the parties and their alignment with contemporary party coalitions could be an intriguing contribution.

Extending this dynamic model, we can answer another question. Why the main ideological dimension in most developed countries has something (but not everything) to do with economic left-right issues of redistribution, regulation, and taxes. In brief, the argument would run as follows. Since not all status quos remain at the new choice point, those issues which need to be revisited frequently because the choices must be made over and over seem most likely to anchor ideological dimensions over time. This accounts for the primacy of something like a left-right economic dimension across so many developed countries because such policies are more likely than others to require regular reconsideration. Budget choices in the welfare state must be reauthorized in periodic fiscal appropriations. To some extent appropriations revert to a zero status quo (though the last-year's appropriations are arguably an important reference point). Redistributive left-right issues are important for the choice space mostly because once resolved they do not stay resolved: there is always another budget to be fought over, even if median preferences have not shifted. Put another way, there is a new clean air bill to be passed

only when the status quo has 'drifted' some distance from policy preferences. For example, a major impetus for the 1990 Clean Air Act Amendments was the failure of the 1970 Clean Air Act to address acid-rain-linked sulfur dioxide emissions, a problem that emerged in the 1980s, more than a decade after the original act. By contrast, so long as the government stays in the social welfare business, the budget for AFDC (even renamed TANF) is always with us.

Appendix 1. Relevance of Economic Freedom Index Components for Government Intervention Index

AREA I	Size of Government	Relevant	
Area I-A	General gov't consumption as share of total consumption	Relevant	
Area I-B	Transfers and subsidies as a share of GDP	Relevant	
Area I-C	Gov't enterprises and investment as a share of gross investment	Relevant	
Area I-D	Top marginal tax rate	Not Relevant	
AREA II a b	Legal System & Property Rights		
Area II-A	Judiciary independence	Relevant	
Area II-B	Impartial courts	Relevant	
Area II-C	Protection of intellectual property	Maybe relevant	
Area II-D	Military in Politics (out of 10)	Not Relevant	May be conditioning on dependent variable!
Area II-E	Law and Order (out of 10)	Not Relevant	
AREA III	Sound Money		
Area III-A	Avg. growth of money (last 5 yrs) minus growth of real GDP (last 10 yrs)	Not Relevant	
Area III-B	Standard deviation of annual inflation (last 5 yrs)	Not Relevant	
Area III-C	Annual inflation (most recent yr)	Not Relevant	
Area III-D	Freedom of citizens to own foreign currency bank accounts (domestically and abroad)	Relevant	
Area IV-A	Tarrifs		
Area IV-A(i)	International trade tax revenues (% of trade sector)	Not Relevant	
Area IV-A(ii)	Mean tariff rate	Not Relevant	
Area IV-A(iii)	Standard deviation of tariff rates	Relevant	
AREA IV b	Freedom to Trade with Foreigners		
Area IVB	Regulatory Trade Barriers	Relevant	
Area IVB-(i)	Hidden import barriers	Relevant	
Area IV-B(ii)	Costs of importing	Not Relevant	

Area IV-C	Actual vs. expected size of trade sector	Not Relevant
Area IV-D	Difference between official and black mkt exchange rates	Relevant
Area IV-E(i)	Access of Citizens to foreign captial markets/foreign access to domestic capital markets (GCR)	Relevant
Area IV-E(ii)	Restrictions in Foreign Capital Market Exchange/Index of capital controls among 13 IMF categories	Relevant
AreaIV-E	International Capital Market Controls	Relevant
AREA V b	Regulation	
Area V-A	Credit Market Regulation	
Area V-A(i)	Ownership of banks	Relevant
Area V-A(ii)	Competition in domestic banking	Relevant
Area V-A(iii)	Extension of credit	Maybe relevant
Area V-A(iv)	Interest rate regulations (leading to neg. rates)	Relevant
Area V-A(v)	Interest rate controls	Relevant
AreaV-B	Labor Market Regulations	
AreaV-B(i)	Impact of minimum wage	Relevant
AreaV-B(ii)	Hiring and firing practices	Maybe relevant
AreaV-B(iii)	Labor force share with wages set by centralized collective bargaining	Relevant
AreaV-B(iv)	Unemployment insurance	Not Relevant
AreaV-B(v)	Use of conscripts	Not Relevant
AreaV-C	Business Regulations	
Area V-C(i)	Price controls	Relevant
Area V-C(ii)	Administrative Conditions/Entry of New Business	Relevant
Area V-C(iii)	Time with government	Relevant

	bureaucracy	
Area V-C(iv)	Starting a new business	Not Relevant
Area V-C(v)	Irregular payments	Not Relevant

Appendix 2: Issue Codes and Categories Used in Congress Analysis
(Downloaded from the Voteview website http://www.princeton.edu/~voteview/).

*****CLAUSEN CATEGORIES*****

1. Government Management
   Environmental control; government regulation of business; natural resource management; government ownership of business; government control of the economy; budget balancing; tax policy; interest rates; management of the bureaucracy; etc.
2. Social Welfare
   Social security; public housing; urban renewal; labor regulation; education; urban affairs; employment opportunities and rewards; welfare; medicare; unemployment; minimum wage; legal services; etc.
3. Agriculture
   Price supports and subsidies; commodity control; acreage limitations; etc.
4. Civil Liberties
   Civil rights; equality; criminal procedure; privacy; guarantees of the Bill of Rights; slavery; Hatch Act; etc.
5. Foreign and Defense Policy
   International policy; foreign aid; aid to international organizations; armament policy; defense procurement; international trade; military pensions; etc.
6. Miscellaneous Policy
   Unclassifiable or unidentifiable votes; all votes concerned with internal organization of Congress; procedural motions.

*****PELTZMAN CATEGORIES*****

1. Budget General Interest
   Debt limit; budget targets; revenue sharing; unemployment insurance; tax rates; continuing appropriations; etc.
2. Budget Special Interest
   Authorization/appropriations for agencies, departments; public works; subsidized housing; NSF; parks; food stamps; etc.
3. Regulation General Interest
   General tariffs; minimum wage; gasoline rationing; auto emissions; water pollution; etc.
4. Regulation Special Interest
   Union regulations; coal mine regulations; export/import controls; fish and wildlife; etc.
5. Domestic Social Policy
   Abortion; school prayer; busing; criminal code and federal courts; immigration; gun control; Hatch Act; veterans preference;

Legal Services Corporation; voting rights; slavery; etc.

61. Defense Policy Budget
Authorization/appropriations for military; military pensions.

71. Defense Policy Resolutions
Number of Army divisions; duties of officers; etc.

62. Foreign Policy Budget
Authorization/appropriations for State Department and international organizations; etc.

72. Foreign Policy Resolutions
Condemn/thank foreign nations; Taiwan relations; disapproval of apartheid; etc.

8. Government Organization
Setting up new agencies/bureaus/commissions; civil service regulations; government reorganization; Federal Election Commission; constitutional amendments; admission of States; census; etc.

9. Internal Organization
Election of Speaker; party ratios on committees; creating committees; procedural rules; disputed elections; congressional pay; etc.

10. Indian Affairs
Indian treaties; appropriations for Indian Department; Indian lands and reservations; etc.

11. D. C.
All votes dealing with the District of Columbia.

*****SPECIFIC ISSUE CODES*****

1. Gasoline rationing/allocation
2. Fish & Wildlife
3. Tax rates
4. Budget resolution
5. Women's Equality
6. South Africa/Rhodesia
7. Amnesty (all wars)
8. Unemployment/Jobs
9. Emergency Fuel Assistance
10. Union Regulation/Davis-Bacon/Situs Picketing
11. Coal Mining Regulation/Strip Mining/Black Lung
12. Arms Control
13. U. N.
14. Panama Canal
15. Food Stamps/Food Programs
16. Human Rights
17. Pollution and Environmental Protection
18. Welfare

19. OSHA
20. Civil Rights/Desegregation/Busing/Affirmative Action
21. Abortion/Care of deformed newborns
22. Homosexuality
23. B-1 Bomber
24. Shipping/Maritime
25. Agriculture
26. Minimum Wage
27. Breeder Reactor
28. Neutron Bomb
29. Consumer Protection Agency/Consumer Protection
30. Taiwan (1979-80)
31. SST
32. MX Missile
33. School Prayer
34. Nuclear Power
35. Selective Service (The Draft)
36. Vietnam War
37. Public Lands
38. Impeachments & Investigations
39. Alien and Sedition Laws
40. Religion
41. Election of House Officers
42. Civil Service and Patronage
43. Election of the Speaker of the House
44. Presidential Impeachment
45. Education
46. Parks and Conservation
47. Banking and Finance
48. Campaign Contributions/House Ethics/Lobbying/Campaign Laws
49. Electoral Votes
50. Tariffs
51. Constitutional Amendments
52. Slavery
53. National Bank
54. Disputed Elections to Congress
55. Military Pensions/Veterans Benefits
56. Mediterranean Pirates
57. Whiskey Rebellion
58. Treaties
59. Immigration/Naturalization
60. Public Works
61. Voting Rights
62. Ratio of Representatives to Population
63. Congressional Pay and Benefits
64. States Rights vs. Federal Government

65. Supreme Court
66. Humanitarian Assistance (foreign)
67. Exchange Rates
68. Nullification/Secession/Reconstruction
69. Temperance and Liquor
70. U.S. Currency
71. Science and Technology
72. Workplace conditions/8 hour day
73. Minorities (non-black)
74. Judiciary
75. Impeachment of President
76. Public Safety
77. Interstate Commerce/Anti-trust/Restraint of Commerce
78. Children (aid, infant mortality, etc.)
79. WWI
80. Public Health
81. Narcotics
82. Firearms
83. Radio/Television/Motion Pictures/Telecommunications
84. Airlines/Airports/Airline Industry
85. Peace Movements/Pacifism/Anti-Military
86. Social Security
87. Communists/Communism/Unamerican Activities
88. Housing/Housing Programs/Rent Control
89. Price Controls
90. Debt Ceilings
91. Nuclear Weapons
92. CIA/Spying/Intelligence
93. Korean War
94. Space Exploration/NASA
95. Handicapped
96. Energy
97. Central America
98. Iran
99. Railroads

Appendix 3: Variable Names and Descriptive Statistics.

A.3.1. Menu of Symbols	
N	Denotes the issue space (likely infinite). Active policy dimensions are a finite subset of this space.
D	Denotes the active policy space – the space from which policies dealt with by the political process are drawn. Also, the number of dimensions in the space.
ω_d	A dimension of the active policy space.
Π	Denotes the ideological space.
π	A position in ideological space.
T	Time available to consider policies. If T = 1, then only one policy dimension can be dealt with.
L	Number of legislators
Θ	The largest possible majority in favor of a new amendment.
Φ, sq	The status quo.
c	Cost of making non-party-unity proposal
P+	A proposal with a support coalition that maintains party unity.
P-	A proposal with a support coalition that does not maintain party unity.

A.3.2. Cross-National Data – Variable Descriptive Statistics					
Variable	**N**	**Mean**	**Std Dev**	**Minimum**	**Maximum**
Fit of Left-Right Dimension	207	50.5167057	8.8106922	26.8247837	76.6293790
MEANPOSITION	207	-1.8309732	12.7664546	-34.0096635	39.8527303
Intervention	207	3.6080670	1.3581842	0.8796711	7.4688374
Interventionsq	207	14.8539006	11.0103680	0.7738212	55.7835316
Changeintervention	168	-0.2879201	0.5120845	-1.9460841	1.2356749
PLURALTY	195	0.4820513	0.5009639	0	1.0000000
PR	195	0.8307692	0.3759208	0	1.0000000
ENPP	207	3.5555725	1.4187079	1.6912443	8.4291073
Lnpop	209	16.1211576	2.1855701	0.0252825	19.4137288
lnpopsquared	207	267.2024267	48.5977928	149.4720262	376.8928656
Populationchange	168	1187.21	2479.82	-604	14233
EffectiveNumberofIssues	209	19.2587928	4.7608106	4.6741658	34.2611329
Effectivenumberofissuessquared	207	395.3490871	183.4098238	45.0455925	1173.83
Effectivenumberofissueschange	182	0.0920763	3.9360822	-13.4962972	11.3049126
Policyspacepos	207	5.0000000	1.5424074	0.8369952	9.0100641
Policyspacesq	207	27.3675276	16.4977068	0.7005609	81.1812557
Policyspacechange	182	-0.1075432	0.9139765	-2.8874237	2.6902597
GINI	194	33.2205510	5.4980389	23.0000000	51.0000000

A.3.3. US States Cross Section Variable Descriptive Statistics					
Variable	**N**	**Mean**	**Std Dev**	**Minimum**	**Maximum**
APRE of 1st Dimension	97	48.1247423	16.8865148	13.0000000	85.3000000
APRE of 2nd Dimension	97	6.6525773	3.7555540	0.6000000	19.3000000
Career Legislature	97	0.2474227	0.4337561	0	1.0000000
Deadend Legislature	97	0.4329897	0.4980633	0	1.0000000
Decision Centralization Scores	99	3.0101010	1.0151400	1.0000000	5.0000000
Divided Government	96	0.8541667	0.3547918	0	1.0000000
Expected Number of Political Parties	96	1.8492827	0.1723375	1.3171760	2.0000000
Extra days	99	51.8037518	126.7293676	0	421.4285714
GINI Index 1999	99	0.4462222	0.0213243	0.4020000	0.4990000
Government Intervention 1980-2000 average.	97	2.9100258	0.6348679	1.8925000	4.4350000
Government Intervention 1981 to 1994	97	2.9339838	0.6511168	1.8750000	4.5142857
Government Intervention Squared	96	4.4628851	5.2449492	0	19.6692250
Governor's Institutional Power Index 1998	97	3.3927835	0.4376184	2.7000000	4.1000000
Govtintervention at limit	99	2.2970455	1.2964539	0	4.4350000
Govtintervention not at limit	99	0.5541919	1.2063816	0	3.8600000
Immigration 1998	99	13033.95	28477.22	159.0000000	170126.00
Kurtosis	97	2.6552887	0.8820838	1.2090000	6.0230000
Legislative Professionalism 1993-94	99	0.2603232	0.1479256	0.0610000	0.9000000
Ln Population	97	15.0889253	1.0163025	13.1098494	17.3380889
Lnpopulation at limit	99	12.0956250	6.1883406	0	17.3380889
Lnpopulation not at limit	99	2.6884735	5.7419499	0	15.9010973
Lopsided Greater Than 70 Percent Yes	97	51.0237113	16.2871868	12.0000000	81.7000000
Majority Control	96	0.5000000	0.5026247	0	1.0000000
Number of Bills	97	380.123711	275.0804904	24.0000000	1227.00
Number of Control Committees	86	1:8023256	1.1148175	0	4.0000000
Number of Legislators	97	77.8453608	55.2181922	20.0000000	409.0000000
Number of Non-control Committees	87	17.1379310	8.6725609	3.0000000	42.0000000
Number of Outliers	86	0.9302326	1.3787522	0	9.0000000
Outliers Present	88	0.4886364	0.5027355	0	1.0000000
Outliers Present Control	88	0.1022727	0.3047431	0	1.0000000
Outliers Present Non-control	88	0.4318182	0.4981680	0	1.0000000
Outliers. Portion in Control Committees	87	5.9310345	19.1741063	0	100.00000
Outliers. Portion in Non-control Committees	87	6.2413793	10.0948588	0	64.0000000

Percent change in population 1990 to 2000.	97	13.9848218	11.3559923	0.5322480	66.2674431
Percent of Votes Accounted for By One Dimension	97	86.6938144	3.8479111	74.9000000	95.0000000
POLCOMP Index	95	38.9882105	11.3870291	9.2600000	56.5800000
Population	97	5748096.46	6203055.89	493782.00	33871648.00
Population squared	97	7.1121836E 13	1.8002011E14	243820663524	1.1472885E15
Portion Democratic	96	0.5074979	0.1528732	0.1428571	0.8600000
Portion Democratic Squared	96	0.2806809	0.1626654	0.0204082	0.7396000
Ratio Top Quintile to Bottom	99	3.9374114	0.6190751	2.8871327	5.7072984
Region (South = 1)	99	0.2222222	0.4178554	0	1.0000000
Session Length per 2 Years	99	200.049062	162.1220022	42.8571429	521.4285714
Skewness	97	-0.5131443	0.4722719	-1.8880000	0.6690000
Speaker Appointment Power	96	3.1458333	0.8457842	1.0000000	5.0000000
Speaker Committee Power	96	3.5833333	1.3271788	0	5.0000000
Speaker Procedural Power	96	3.8229167	0.6843328	2.0000000	4.5000000
Speaker Resources	96	3.2916667	1.6020820	0	5.0000000
First Four Elements of Index (excludes tenure)	96	13.8437500	2.6079963	6.5000000	18.5000000
Speaker Tenure	96	4.4166667	1.2453422	1.0000000	5.0000000
Speaker Institutional Power Index	96	18.2604167	3.0157300	7.5000000	23.5000000
Springboard Legislature	97	0.3092784	0.4645972	0	1.0000000

A.3.4. US House of Representatives Time Series Variable Descriptive Statistics					
Variable	**N**	**Mean**	**Std Dev**	**Minimum**	**Maximum**
APRE of 1st Dimension	106	0.5031947	0.1302630	0.1150000	0.8260000
APRE of 2nd Dimension	105	0.0688667	0.0390737	0.0110000	0.1920000
Average Absolute Value of Skewness	105	0.8726881	0.2935401	0.3082417	1.6285016
Special Interest Budget (Portion of Votes)	106	0.3037620	0.1024021	0.0104167	0.5472527
Change in Population	106	2617860.49	1788296.83	0	6540824.80
Change in Population per District	105	5382.83	8139.59	-20307.56	33288.99
Divided Government	106	0.3396226	0.4758310	0	1
District Population	106	225054.20	166395.88	37965.08	624730.91
Issue Change	99	0.3333333	4.8508362	-12.0000000	14.0000000
Issue Count	100	25.0000000	14.0108183	6.0000000	72.0000000
ln District Population	106	12.0019753	0.8617966	10.5444222	13.3450763
ln Population	107	17.7352179	1.2780049	15.1839500	19.4553674
Major Change in Control 3 Congresses	105	0.1142857	0.3196839	0	1
N-legislators	106	331.2075472	118.8131560	66.0000000	458.0000000
N-rollcalls	105	368.9428571	280.2764373	68.0000000	1217.00
Over Limit Population	107	7.7098491	9.2821962	0	19.4553674
Over Limit Population Change	107	1660947.69	2233692.20	0	6540824.80
Percent Lopsided more than 70 percent	105	0.3016525	0.1195808	0.0357143	0.5451977
Population	107	92092646.58	82183204.87	3929214.00	281422426
Population Squared	107	1.5172012E16	2.0806576E16	1.5438723E13	7.9198582E16
Ratio majority to minority party	106	0.6710444	0.2119118	0.1618497	0.9955752
Ratio majority to minority lagged	105	0.6684194	0.2111895	0.1618497	0.9955752
Ratio majority to minority 10 yr average	105	0.6679315	0.1273574	0.3316248	0.8583288
Session Length	108	429.1296296	152.4264243	234.0000000	712.0000000
Squared ln District Population	106	144.7830981	20.5002707	111.1848390	178.0910613
Ten year percent change population	102	0.2288790	0.0941449	0.0727415	0.3638324
Ten year percent change district pop.	101	0.1442766	0.1473110	-0.2584707	0.6980128
Total votes	106	413.1132075	331.1292172	69.0000000	1540.00
Under Limit ln Population	107	10.0253689	8.4569894	0	18.9063408
Under Limit Population Change	107	932446.81	1170134.92	0	5599475.40
Federalist/Democrat 1789-1800	109	0.0550459	0.2291232	0	1
Era of Good Feelings 1801-1822	109	0.1009174	0.3026107	0	1
Multiparty Competition 1825-1860	109	0.1743119	0.3811298	0	1
Republican Hegemony 1861-74	109	0.0642202	0.2462771	0	1

The Gilded Era 1875-1895	109	0.0917431	0.2899963	0	1
Republican Hegemony II 1896-1908	109	0.0642202	0.2462771	0	1
Pivotal Progressives 1909-10	109	0.0091743	0.0957826	0	1
Democratic Interlude 1911-1920	109	0.0458716	0.2101728	0	1
Republican Hegemony III 1920-1932	109	0.0550459	0.2291232	0	1
New Deal Democratic Hegemony 1933-1936	109	0.0183486	0.1348285	0	1
Conservative Coalition 1937-1972	109	0.1651376	0.3730197	0	1
Liberal Hegemony 1973-1994	109	0.1009174	0.3026107	0	1
Republican Revolution 1995-present	109	0.0550459	0.2291232	0	1
CivWar	105	0.6571429	0.4769408	0	1
NDEAL	105	0.3142857	0.4664573	0	1
Gsociety	105	0.1619048	0.3701302	0	1
ReaganRev	105	0.0857143	0.2812843	0	1
CannonRebellion	107	0.4299065	0.4973922	0	1
1970sreforms	107	0.1308411	0.3388135	0	1

Appendix 4 – Party Unity and Ideological Fit

Party unity is associated with more ideological consistency. Thus, party-unifying agenda setting will increase the portion of votes that can be accounted for by a single latent dimension.

For two parties α and β, define subsets of the space of potential proposals, the union of which is equal to the whole space, such that $\alpha+$ denotes that party α is unified, and $\alpha-$ indicates it is not. On each proposal, a given party may be either unified or not, yielding four possible pairings when there are two parties: $P = \alpha+,\beta+ \cup \alpha+,\beta- \cup \alpha-,\beta+ \cup \alpha-,\beta-$.

Because c is greater than zero, $\alpha-,\beta-$ proposals are less likely: neither party achieves unity on these proposals. These proposals are ones that reveal divisions within both parties. With such proposals removed, fewer within-party divisions should be revealed. This drives the increased fit of the ideological dimension: these are the proposals with the worst fit.[1]

$\alpha+,\beta+$ proposals: leaving aside error, it is obvious that votes on these proposals can all be accounted for with a simple model in which members of the same party are all on the same side of a cut point. In terms of the APRE[2] measure, these votes should score at 100 percent.

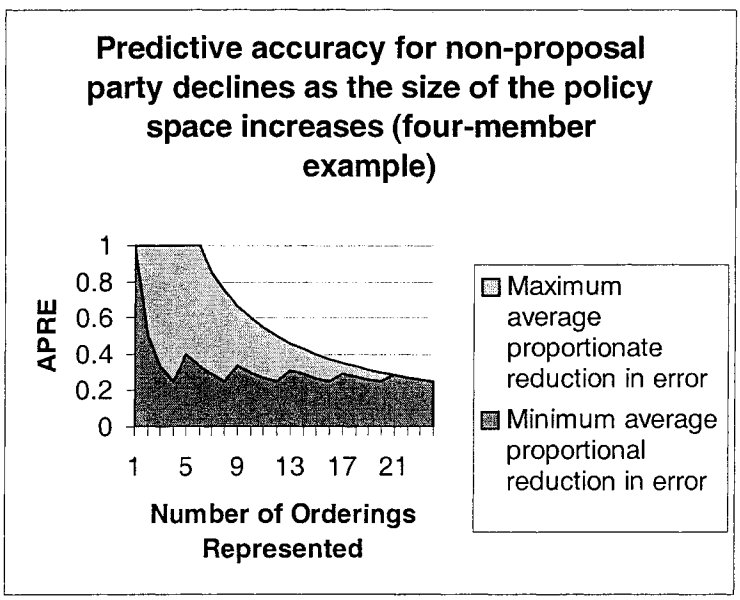
$\alpha+,\beta-$ proposals: since party α members always vote together on these proposals, all party α votes can be predicted correctly by locating all party α members on the same

[1] The relative frequency of the $\alpha+,\beta+$ proposals as compared with those proposals which split one party cannot be determined based upon the assumptions made here. Depending upon various factors (e.g. electoral images, etc.) parties might choose to emphasize or de-emphasize issues that split the other party. Members of the minority party (β) will never make $\alpha+,\beta+$ proposals, since these proposals always involve a loss for the minority party.

[2] Aggregate Proportional Reduction in Error.

side of the cut point. Members of party β can then be predicted with chance accuracy at least (i.e. predict that all will vote with the majority). Ability to predict votes by they non-proposing party (β) depends upon the distribution of proposals over the possible orderings in $\alpha+,\beta-$. Consequently, for a given number of represented orderings, the predictive accuracy can take on a number of values. Figure 4.2 shows these values for a four-member party in which the right-most member of a given ordering (this isn't always the same person) is always the member who votes against his or her party.

Figure 4.2



The best predictive accuracy is achieved when only one ordering of β party members is represented in the proposals, or when the orderings represented are similar enough that one ordering can perfectly predict the other given cut-point locations. In this case, the

overall APRE should be 1. Adding a second ordering will diminish the predictive accuracy, but the APRE will remain above the proportion of votes held by α. Even if positions on the two orderings are completely uncorrelated, one can be predicted accurately, or both partially, producing an APRE of 0.5 for party β. Increases in D (the size of the active policy space), provided that this leads to inclusion of additional orderings, will tend to reduce the fit of a one-dimensional model. With an infinitely large policy space (and a very large T), the APRE for β party members should approach zero (Poole, Sowell, and Spear,1992). Note that the APRE value in this case will still be positive – we are still correctly predicting the votes of all members of party α.

α-,β+ proposals: same as above.

α-,β-: With pro-party unity agenda setting, these proposals should never or almost never be observed. This exclusion removes orderings that are least structured by a single latent dimension. The predictive accuracy of a latent dimensional model on this space will be lower than for any of the other cases discussed above: now both parties are in the weakly-predictable condition that at most only one party was in above. If all possible distributions of preferences are represented equally, the average correlation[3] between individual locations will (obviously) be zero. Including all α-,β- issues on the agenda would drive the APRE to zero eventually, as shown by Poole Sowell, and Spear (1992)[4]

[3] Correlation between rankings.

[4] The predictive 'accuracy' of single latent dimension need not be zero, however. Depending upon the kind of tweaking used in the spatial model of the latent dimension, the APRE could be quite high, even with equal representation of all dimensions. The argument is similar to that concerning predictions of the non-proposal party's votes, and the predictive accuracy expected is similar. It is easy to show that half of the possible orderings will be positively correlated with the ordering that defines the one-dimensional 'order' of the single dimensional model, and half will be negatively correlated. The average correlation among the

A three legislator example illustrates the logic developed above. Assume that A and B be members of the same party (C is a member of the opposition party),[5] with the status quo (sq) equally likely to fall between any two voters (but not outside of the set of voters), and strong party agenda setting such that party members always include each other in their coalitions. From the party unity assumption, it follows that A and B will only make proposals where the *cut-point* dividing yeas from nays will put A and B on the same side. These proposals can be perfectly predicted by a single ideological dimension as noted below, and they will be proposed 2/3 of the time based upon the actions of A and B alone. Suppose C selects coalition partners with equal probability, (i.e. based upon the advantage for a particular issue derived from the random distribution of the status quo). Leaving out the trivial case of unanimity, C will form a coalition with B half the time, and a coalition with C half the time.

Party unity makes a one-dimensional partisan-ideological dimension fit better. Note that all proposals from A and B will have a coalition structure of A and B against C. Thus, a simple linear model with A and B at the same position, and C some distance away (as in figure 4.3) can account for two thirds of the votes.

Figure 4.3: single dimensional model able to perfectly predict at least 2/3 of the votes: 3 voter case with high c_p.

AB C

positively correlated orderings is 0.5, and among the negatively correlated, -0.5. But when estimating a single dimensional model one can negate the negative correlations, leaving only positive correlations.

[5] A and B will prefer issues where a partisan coalition is more easily obtained: issues where their ideal points are relatively close together. In terms of orderings, the party members would tend to prefer issues that induce orderings ABC or BAC, and will generally avoid issues with ordering ACB (equivalently BCA). This holds unless the status quo is outside of the set of voters and I will leave that possibility out in the calculation below. If the status quo is outside of the set of voters, then even orderings on which members of party A are at both extremes on the policy proposal may still achieve party unity with an appropriate proposal.

In addition to the 2/3 of the votes this model perfectly accounts for because of party unity, at least half of the remaining votes (1/6 of the votes) can be accounted for in this case (though the percentage will diminish with more legislators). Proposals made by party C divide party members A and B. If the probability of division is equally split, half of these votes could be well accounted for by assuming C is closer to B (alternately to A) on the line. The ordering given in Figure 4.3 would let us account for votes in which B joined with C to pass legislation opposed by A. The only votes we could not account for would be those where C joined with A to pass legislation opposed by B. Thus, at least 5/6 of the roll calls in the three-player case can be accounted for perfectly by a one-dimensional spatial model because of the effect of party unity.[6]

[6] Recall that where *p* is the proposal location, and *sq* is the location of the status quo. Note that 2/3 of the proposals will be on orderings structured as either:
A B *p sq* C,
or
B A *p sq* C.
The coalitions in both cases will be A and B versus C. With a cut-point that separates A and B from C, these can be perfectly predicted. C is on the nay side of the cut point, B and A on the yea side.

The remaining 1/3 of proposals (made by voter C) will involve either A or B in a non-partisan coalition with C. These coalitions are: C and B versus A, or C and A versus B. Since we did not need to assume an ordering of B and A to perfectly predict above, we can now assume that A and B are ordered in a way that rationalizes the most common coalition. For example, if C chooses B as a coalition partner, we can rationalize this by placing the three voters on a line with A on one extreme, and C on the other: A B C. To account for the BC coalition, we draw a cutting line between A and B. If C chooses A and B with equal probability, then each will be selected ½ *1/3 = 1/6 of the time for a non-partisan coalition, and we will be able to perfectly account for one of these. Thus, where party-unity costs are high enough that A and B always make party unity proposals, the three voter case allows us to predict with perfect accuracy a minimum of 2/3+1/6 = 5/6 of the votes.

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