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"Judicial Politics and the Econometrics of Preferences"

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JUDICIAL POLITICS AND THE ECONOMETRICS OF PREFERENCES

by

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I - INTRODUCTION

That the Supreme Court is a powerful policymaker can simply be seen from the effort politicians devote to the selection of Justices. Political scientists, journalists and more recently economists and business scholars have devoted much effort into understanding the Court's role in America's policymaking process. In particular, an interesting debate has emerged over whether the Court's contribution to policy can be understood without a comprehensive understanding of how Justices behave strategically. Such strategic behavior can occur both in the Court's internal games and in games with its companions in America's separation of powers: Congress, the President, and the agencies.

On one side of the debate lies the strategic school, whose modern version first emerged from the non-strategic paper by Marks (1988). This camp has since moved on to develop simple but empirically implementable models of the separation of powers (Gely and Spiller 1990; Spiller & Gely 1992; Epstein and Walker 1995) and later to refine and extend the model to games within the Court (Schwartz 1992; Epstein and Knight 1997).[1] The explicit assumption in all these models is that Justices, as humans, are strategic players. As it relates to their external game with other policymakers, the assumption is that in making their decisions, Justices consider the potential reaction of their policy competitors. If the Justices collectively prefer a policy outcome that Congress and the President would join to overturn, they would strategically devise a Court decision that would not prompt a congressional action to implement an alternative less desirable policy outcome. Thus, Congress's and the President's preferences can be important factors in predicting the Court's final decisions.

The attitudinal approach to judicial decision making, which has a long and distinguished history in political science, occupies the other side of the debate. The central hypothesis in this approach is that Justices make their decisions based exclusively on their individual ideological preferences. They are unmoved by the preferences of either their fellow Justices or other political actors. The attitudinal approach can be traced back to the work of Schubert (1965) and has continued through to Segal and Cover (1989), Segal and

1 Previous "strategic" approaches to judicial decision making can be found in Murphy's (1964) book on judicial strategy in the Taft Supreme Court and in Dahl's (1957) suggestion that the selection process of Supreme Court Justices caused judicial decisions to reflect the public's policy preferences since voters elected

Spaeth (1993), and Segal, Epstein, Cameron, and Spaeth (1995). Recently, Segal (1997) presented an empirical challenge to the assumption of strategic school. Employing a comprehensive data set reflecting congressional ideologies, Supreme Court ideologies, and Court decisions, he develops an empirical test to argue that individual Justices act unconstrained by Congress's and the President's policy preferences. His conclusion challenges the basic foundation of the strategic separation-of-powers model. In particular, it questions whether results found in Spiller and Gely (1992), concerning the Supreme Court's decisions in the National Labor Relations Board cases, can be generalized to other domains of policy making.[2]

The question that Segal (1997) as well as Spiller and Gely (1992) attempt to answer is whether the Supreme Court strategically adapts to constraints imposed by the preferences of other relevant political actors and, correspondingly, adjusts its decisions. It is difficult to resolve such a debate when different sides employ contrasting data sets. Here, we move towards resolving such inconsistent results by applying the econometric model put forth by Spiller and Gely (1992) to the data from Segal (1997). In doing so, we also show that Segal's (1997) conclusions result from using a flawed econometric model, as it is theoretically biased towards rejecting the strategic behavior hypothesis.

II - RATIONAL CHOICE MODELS – REVISITED

Both the strategic and the attitudinal approach to judicial decision making sharply contrast with the perspective employed in traditional legal studies. Whereas legal scholars look to formulaic legal interpretations to predict Court outcomes, both the attitudinal and the strategic approach emphasize the role of Justices' ideological preferences. These models argue that, similar to microeconomic theory that assumes individuals have stable but differing consumer preferences, Justices have an assortment of stable but contrasting ideologies. When on the Court, they vote on cases with the aim of enacting policies that best

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the judge-appointing politicians. See also Funston's (1975) analysis of the disagreements between the judicial and legislative branches during "change-over" periods of the Court.

[2] Indeed, Spiller and Gely (1992) found that in labor-relations cases in 1949-1988, the Supreme Court was constrained by Congressional policy preferences and, holding constant Court composition, Court decisions became increasingly more liberal (conservative) as relevant members of Congress became more liberal (conservative).

reflect their ideological preferences. In essence, their ideologies parallel a utility function, and their utility is maximized when resulting policy matches their preferences.

Rational choice theories on judicial decision making are divided into two leading camps, the attitudinal approach and the strategic approach. [3]

II.1 – The Attitudinal Model

The attitudinal model posits that Justices vote strictly according to their individual ideologies. This is the simplest and most straightforward application of rational choice theory. No strategic or institutional considerations constrain Justices from voting their sincere preferences, and decisions are unfiltered reflections of the Court's ideology. Accordingly, subscribers of the attitudinal model claim that Justices' ideologies are the only significant predictors of Supreme Court rulings (Segal and Cover 1989, Segal and Spaeth 1993, Segal 1997).

In a unidimensional ideological space, for example, stretching from liberal to conservative, each Justice would occupy a particular "ideal point". Individual Justices would cast votes with the aim of enacting policy that is closest to their ideal point (a form of utility maximization), and the Court's decision would ultimately reflect the median Justice's ideology. Segal (1997) illustrates such a one-dimensional policy space in the following manner. Consider a court composed of three Justices, *A*, *B*, and *C*, with the ideal points shown in Figure 1, who are to review four policies that lie along the ideological policy space. The attitudinal model suggests that while Policy 3 would win over Policy 1 and Policy 4, Policy 2 would, assuming symmetric preferences, likely win over Policy 3. Predictably, the median Justice, *B*, would cast the vote that would determine the policy outcome.

Conservative ----------*A*--------|----------|----*B*--------|--------|----------*C*----- Liberal

Policy 1 Policy 2 Policy 3 Policy 4

[3] As it relates to the external game faced by the justices, the latter approach has been coined the "separation of powers" approach. See Eskridge (1991).

Figure 1: Three Justices and four policies along an ideological spectrum

Although all rational choice models share the same utility maximization orientation, the attitudinal model considers *only* Justices' preferences when predicting Court outcomes. Other models, like the separation-of-powers model, consider additional institutional constraints, and then assume the Court is sufficiently sophisticated and strategic to adapt.

II.2 - The Strategic or Separation-of-Powers Model

The key argument behind the attitudinal model is that Justices vote their sincere preferences and act unconstrained by institutional filters. This is where the strategic approach differs. The strategic approach shares the premises that individual Justices have stable policy preferences along an ideological spectrum and that Justices cast votes with the aim of enacting policy as close as possible to their ideal policy preferences (their ideal points). The strategic model, however, views Justices as more far-sighted maximizers who are wary of their counterpart players in American policy making. Specifically, the strategic model posits that Justices would not want to pass down a decision that would be overturned by an act of Congress that enacts a policy which, in the Court's view, leads to an inferior outcome. Under this view, the Court holds a sophisticated understanding of both the legislative process and congressional policy preferences. Correspondingly, it passes down decisions that, in general, Congress would not overturn.[4] The addition made by the strategic model, then, is the consideration of congressional preferences. Supreme Court Justices know congressional preferences and adjust their decisions to them.

Consider again the example from Figure 1. Similar to the attitudinal model, the median Justice's ideal point represents the preferences of the Court. However, once Supreme Court Justices consider congressional preferences, they may not enact their most desired policy outcome by simply voting their sincere policy preferences. For example, in Figure 2, if Justices *A*, *B*, and *C* passed a decision that enacted Policy 2, as the attitudinal model would

[4] Spiller and Tiller (1993) offer a model where the Court provokes a congressional reversal as a way to improve upon its policy outcome. This model appropriately follows the strategic school, as it assumes a sophisticated

predict, then the House and Senate, whose ideal points are denoted by *H* and *S*, would be inspired to act. Both *H* and *S* are closer to Policy 3 and Policy 4 than to Policy 2, so an act of Congress that replaces Policy 2 with either Policy 3 or Policy 4 would be Pareto- improving for members of Congress.[5]

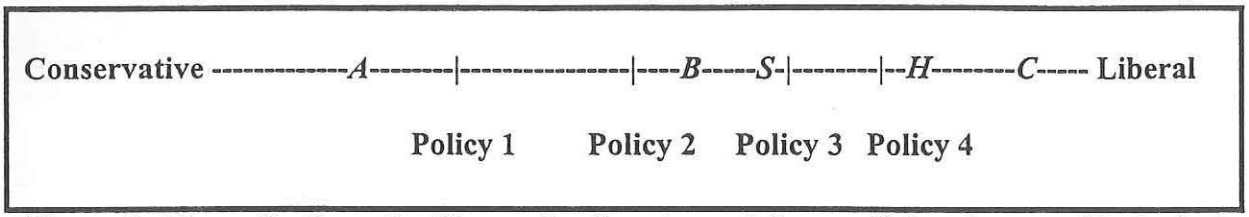

Figure 2: Three Justices, the House, the Senate, and four policies along an ideological spectrum.

The strategic model assumes that the Court knows which decisions would prompt Congress to act.[6] The Court would know that if it passed Policy 1 or Policy 2, Congress would replace it with a policy closer to Policy 3 or Policy 4. Policy 4, however, is less preferred by a majority of the Justices than either Policy 2 or Policy 3. So Justices *A*, *B*, and *C* – though now we may speak only of Justice B, the median Justice, as a proxy for all three – would be better off choosing Policy 3 instead of Policy 2. Congress would not overturn Policy 3, whereas it may replace Policy 2 with a policy closer to Policy 3 or Policy 4. Thus, while the attitudinal model would predict Policy 2 to be the outcome of the three Justices game, the strategic model would predict Policy 3.

The important difference between Policy 2 and Policy 3 – i.e. why Congress would overturn the former and not the latter – is that Policy 3 falls within Congress's Pareto set. The Pareto set contains all possible policies for which a movement away from that policy would make either the House or the Senate (or both) worse off. Thus, Congress' Pareto set consists of all those policies that Congress would not be able to overturn. All policies outside

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and far-sighted Court that aims to maximize its ideological utility, but it presents an alternative mechanism that the Court can employ to accommodate its ideological preferences.

[5] For simplicity, we assume away the ability of the President to veto legislation. We will consider this in more detail below.

[6] An assumption about uncertain preferences is easily implementable. See, for example, Spiller (1992), or Schwartz, Spiller and Urbiztondo (1996).

the Pareto set would be overturned by Congress and replaced with some other policy within the set.

Construction of Congress's Pareto set, then, is a critical element of the model, as it functionally represents Congress's preferences. According to the strategic model, the Supreme Court's relationship with Congress is determined by where the Court's ideal point (represented by the median Justice's ideal point) is in relation to Congress's Pareto set. If the Court's ideal point, SC_i, lies outside Congress's Pareto set – which is the case in both Regime 1 and Regime 2, shown in Figure 3 below – then any decision that reflects the Court's sincere preferences would be overturned by Congress. Consequently, in these cases, the Court will act strategically and pass decisions – such as D_1 or D_2 – that lie within the congressional Pareto set but are as close as possible to its ideal point. If, however, the median Justice's ideal point falls within Congress's Pareto set, as is the case in Regime 3, then the Court is unconstrained and can vote its own preferences, i.e. its decisions reflect exclusively the median Justice's ideal point. Thus, only under Regime 3 do the attitudinal and strategic models yield the same predictions.

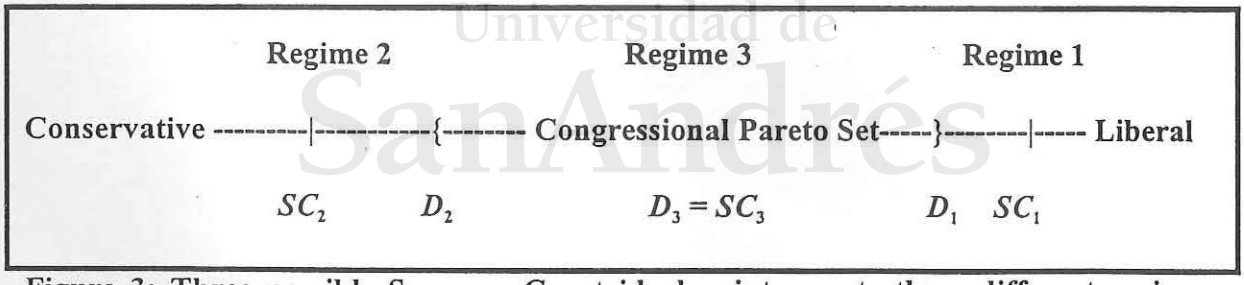

Figure 3: Three possible Supreme Court ideal points create three different regimes, each with its own predicted Court decision. If the Court's ideal point is in Regime 1, then the predicted decision is D_1. Similarly, an ideal point in Regime 2 or Regime 3 would lead to D_2 and D_3 respectively.

Another important implication from the strategic model is that, for any given regime, the Court's predicted decisions are dependent, in the margin, on a single political actor. In Regime 1, the Court's actions are determined by the member of Congress who defines the most liberal end of the Pareto set. In Regime 2, the member of Congress who defines the

most conservative end of the Pareto set decides the predicted outcome.[7] In Regime 3, the outcome is the median Justice's ideal point. Thus, in each regime there is a distinct relevant actor who determines where on the ideological spectrum the predicted decision will fall.

Empirical tests can readily compare the efficacy of the attitudinal and strategic models. Note that both predict that the Court would vote its own preferences if its ideal point lies within Congress's Pareto set. However, if the Court's ideal point lies outside the Pareto set, then the models yield different predictions: the attitudinal model argues that the Court will continue to vote its sincere preferences and the strategic model forecasts a decision that lies just within Congress's Pareto set. Such an empirical test requires sound measurements of both congressional preferences and Supreme Court ideologies, and a model of the legislative process that maps out a compelling congressional Pareto set.

III – THE ATTITUDINAL MODEL - REVISITED

The attitudinal model articulated by Segal (1997) contains several methodological problems separate from the larger debate between the attitudinal and separation of powers approaches. Given that Segal (1997) is a mainstay of the Attitudinal School, and that Segal (1997) claims to have rejected the alternative approach, then any analysis of the attitudinal model must begin with a detailed critique of the particular methodology used in Segal (1997).

Segal's (1997) methodology has major flaws in five particular areas: first, his translation of congressional preferences to Court preferences; second, his econometric implementation that rely on an imputed variable reflecting political constraints; third, his statistical characterization of the different regimes; fourth, the legislative models he employs to derive Congress's Pareto set, and finally, his unit of analysis. We describe each problem seriatim.

III.1 - Congressional and Court Preferences

Measuring the ideological positions of either members of Congress or Supreme Court Justices is a daunting task, and positive political theory has generated various methods for quantifying both. Use of ratings devised by congressional watchdogs, such as Americans for

[7] The task of identifying those relevant members of Congress is discussed in the following section.

Democratic Action (ADA), has become a standard for quantifying congressional preferences, and ADA ratings are particularly useful for our purposes here since they are available for every year under study. ADA scores, however, are not without their faults, particularly since they are calculated based on a small set of roll call votes, they tend to use narrow majority votes, and a "no-vote" is equivalent to a vote in favor of the conservative position.[8] Nonetheless, they are a consistent and widely known scoring system, and in any case, such rating systems will necessarily be imperfect. Segal (1997) fairly relies on ADA's 0-100 scale to measure congressional preferences, and we follow suit here.

Measuring Supreme Court Justices ideologies, however, is a less developed task, though a task to which Segal has made major contributions. Segal (1997) employs two different measurements for judicial preferences. The first, the Segal-Cover scores (Segal and Cover, 1989) use newspaper editorials to infer the ideology of an individual Justice, but Segal (1997) acknowledges that these scores contain measurement error (Epstein and Mershon, 1996) and proceeds to develop a second, more direct "constitutional" rating of Justices' ideology. He constructs these constitutional scores by first calculating each Justice's percent of pro-liberal votes in non-unanimous constitutional cases for each year and then executing time-series regressions on those "raw" liberal percent scores to arrive at predicted percents.[9] These predicted values for each year then serve as his constitutional scores.[10]

Segal (1997) arrives at constitutional scores for individual Justices that range from 5 (Renquist) to 93.3 (Douglass).[11] Since these constitutional scores, like the ADA scores, seem to reflect a 0-100 scale, he places them along the same dimension as the ADA scores and uses this same dimension to compare Congress's and the Court's ideologies. In other words, a Justice with a constitutional score of 25 is assumed to have the same ideological preferences

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[8] ADA ratings also have a bimodal distribution, which is at odds with other measurements of congressional preferences. See, Snyder (1992).

[9] Because these constitutional scores rely on votes that Justices cast during their terms, they may suffer from endogeneity. We review this issue further below.

[10] For a further discussion of the calculation of these constitutional scores, see Segal (1997) pp. 35-36.

[11] See Segal (1997 page 36). However, his raw data contain some scores (for individual Justices in particular years) that rise above 100 and some that dip below 0. This is especially problematic since the 0-100 spectrum is supposed to cover all possible ideologies and calls into question the appropriateness of his method for calculating Justices' ideologies. This error does not affect our results, however, since we use only the median Justice's score, which is always within 0-100.

as a member of Congress with an ADA score of 25. Here is where Segal (1997) enters shaky waters.

While both ratings reflect liberal-to-conservative ideologies rankings, and both are measured on a 0-100 scale, they rely on fundamentally different data. ADA scores are a percent of pro-liberal votes cast by each member of Congress on non-constitutional issues that are specifically selected by the ADA.[12] On the other hand, Segal's (1997) constitutional scores are an index based on the percent of pro-liberal votes cast by each Justice in Supreme Court constitutional cases. While both may be similarly designed and constructed to fit into the same 0-100 range, they are extracted from wholly different population samples and are imputed by human selection criteria (ADA scores by the political lobby, constitutional scores by Segal). They simply do not share the same common denominator. Furthermore, congressional and Supreme Court votes have entirely different statistical properties and come under very different institutional pressures, so their scores would naturally reflect ideology differently.[13]

Consequently, the ADA and the constitutional scores are not easily comparable. In principle, one could imagine a transformation that brings one score into the dimension of the other (after all, both are liberal-conservative scores), but the selection of such a transformation cannot be an arbitrary decision. There is no empirical reason why the final constitutional scores span the entire ideological spectrum from 0 to 100 instead of occupying a small slice from, say, 50 to 75. Furthermore, there also is no reason why a linear transformation would necessarily be more correct than a nonlinear one. For example, Segal (1997) transforms his scores into 0-100 by undertaking a linear transformation, but one could have used any other arbitrary transformation as long as it was one to one. Consider the following nonlinear transformation: call Segal's scores S, and let S' be a one-to-one nonlinear transformation of S that also spans (0, 100). It is possible to find a transformation where for

[12] Because members of Congress vote on these issues, they are by nature non-constitutional.

[13] For example, ADA scores are heavily bimodal while Segal's constitutional scores are unimodal. For a discussion about the ADA ratings' "artificially extreme" bipolar distribution, see Snyder (1992). Making a direct comparison requires that either both are drawn from the same statistical distribution, which is not the case, or that both are translated into a common space.

the interval (0, 50), $S' < S$ and for the range (50, 100), $S' > S$.[14] This transformation has the effect of making most S' be closer to its extreme values. As a consequence, holding the congressional preferences constant, the values arising from S' will tend to be closer to the boundaries of the congressional Pareto set than the values arising from S. As we discuss below in detail, different transformations have very different implications for whether the strategic or the attitudinal model is a more appropriate representation of judicial decision making. Hence the choice of transformation is crucial, and there is no reason why Segal's (1997) transformation is the appropriate one.

Recall that Segal's (1997) model attempts to determine to which regime each Supreme Court Justice belongs, in relation to congressional preferences, by matching the Justice's score along a Pareto set constructed in terms of ADA ratings. Thus, if a Justice is to the "left" of the Pareto set, the Justice is in a different regime than those who are either to the "right" of or within the Pareto set. Segal (1997) later bases his regressions on a simple equation that assumes that the congressional Pareto set is based on the same measurement units as a Justice's constitutional score. Given the important differences in the data upon which both scores are based, conflating the scores in either of these mathematical exercises is inaccurate. Segal (1997) acknowledges these difficulties and consulted with public law scholars to confirm that the constitutional scores created an accurate ideological spectrum (Segal 1997, pg. 36). While approval from these scholars should indeed be comforting, and while there genuinely is no ex-ante method to conform the two scores to each other, Segal's (1997) simple linear one-to-one translation is statistically disingenuous.

We overcome such problems by using Segal's (1997) constitutional scores as the basis for a normal distribution of essentially unknown Supreme Court ideal points in the ADA metric space. We let $\overline{SC}$ be a latent variable transformation of a justice's constitutional score into an unobserved ADA ideal point. Our model asserts for each Justice that: $\overline{SC} = g + d * SC + u$, where SC represents the constitutional scores as developed by Segal (1997), g and d are parameters to be estimated, and u is a normally distributed error. The resulting $\overline{SC}$ is a latent variable that represents the ideal point of the Justice in the ADA

[14] An "s-curve" transformation would achieve such an outcome.

dimension and, as such, can be used as a latent variable in defining the relevant regimes in the econometric model.[15] This equation essentially lets the data perform the transformation from judicial constitutional scores to judicial ADA scores. Thus, different values of g and d will represent different transformations.[16] So while the constitutional scores still serve as a basis to determine the ideologies of Supreme Court Justices, the model overcomes the basic problem in reconciling the constitutional scores with the ADA ratings. The transformation allows a direct comparison between the judicial ideological values and the ADA legislative scores. Furthermore, our approach also avoids the problem of relying on a given value to reflect an essentially unobservable judicial ideology, as our model instead offers a probability distribution of ideal points for the Supreme Court along an ADA scale.

III.2 - Political Constraint Variable

Segal (1997) uses for his econometric analyses an independent variable he calls a "constraint variable". The constraint variable serves as an indication of where a Justice's ideology is in relation to congressional preferences. It is defined by the equation:

$$Constraint = \begin{cases} Max - SC_i & if \quad SC_i > Max \\ Min - SC_i & if \quad SC_i < Min \\ 0 & if \quad Min > SC_i > Max \end{cases} \qquad (1)$$

where Max is the upper (most liberal) boundary of Congress's Pareto set, Min is the lower (most conservative) boundary, and SC_i is Justice i's constitutional score.

Segal (1997) calculates a constraint variable for each Justice for each year to test if a Justice acts as if she is politically constrained. Note that those Justices who have ideological scores within Congress's Pareto set, according to both the attitudinal and the separation of powers models, are free to vote their sincere preferences, and the constraint value of zero reflects the lack of strategic constraints. For those who have a non-zero constraint, those in Regimes 1 and 2, Segal (1997) uses the constraint score as the explanatory variable in his

[15] See Spiller and Gely (1992) for a fuller discussion of constructing this latent variable.

[16] For simplicity of the estimation, we restrict to linear transformations. But in principle, it could be possible to estimate a general polynomial transformation.

regression to test whether those Justices' votes in statutory cases reflect the political constraints imposed by the congressional Pareto set. The regression model he uses is represented by equation (2):

$$PL = a + p * Constraint + e, \qquad (2)$$

where PL is the probability of casting a pro-liberal vote on a statutory case, a and p are parameters to be estimated, and e is an error term. Segal (1997) argues that if the strategic model is true, those Justices in Regime 1 – who are more liberal than Congress and have a negative constraint value – are less likely to vote pro-liberal the farther Congress's Pareto set drifts from their ideal point. Conversely, those in Regime 2 – who are conservative and have a positive constraint value – are more likely to vote pro-liberal the farther the Pareto set's lower boundary drifts from their ideal point. Therefore, Segal (1997) argues, if the strategic model should hold, the parameter b would be positive and statistically significant.

Closer scrutiny shows, however, that Segal's approach biases the estimated p coefficient towards zero. As a consequence, his findings, which ascribe no statistical significance to the p coefficient and thus support the attitudinal model, are inconclusive. To see the bias, substitute, in the case of Regime 1, equation (1) into (2). Rearranging terms yields equation (3):

$$PL = a + p * Max - p * SC_i + e. \qquad (3)$$

Recall that Justices in Regime 1 are more liberal than Congress and, according to the strategic model, would cast votes at the most liberal end of the congressional Pareto set. The *Max* variable, which represents that most liberal endpoint, appropriately reflects the constraint imposed by Congress and should, according to the model, produce a positive statistically significant coefficient. That is, the more liberal Congress's Pareto set's endpoint is – i.e., the higher the value of *Max* -, the more liberal the votes of Justices belonging to Regime 1 will be. The SC_i variable measuring a Justice's sincere preferences, however, is

independent from political constraints and should, in equation (3), produce an estimated coefficient of zero. But since in equation (2) by construction, and hence in (3), *Max* and SC_i share the same coefficient, the regression averages the coefficients of the two variables (*Max* and *SC*) and consequently biases the estimated parameter p towards zero (the theoretical value of the coefficient of *SC*).

Segal's regression may reflect a misunderstanding of the strategic model. According to the model, a Justice's ideal point, SC_i, is the explanatory variable *only* in Regime 3. In Regimes 1 and 2, the explanatory variables are *Max* and *Min* respectively and SC_i should not matter. Consider Figure 4. When the Court's ideal point is in either Regime 1 or 2, the separation-of-powers model predicts that the Court would strategically alter its decisions so that they would not fall outside Congress's Pareto set. Consequently, the probability of a pro-liberal decision would never rise above $a+p*Max$ and never fall below $a+p*Min$, regardless the value of the Court's ideal point. So in Regime 1 and 2, the probability would change exclusively with *Max* and *Min*, while in Regime 3 it changes exclusively with SC_i. In no regime does it change with both, as Segal's (1997) regressions indicate.

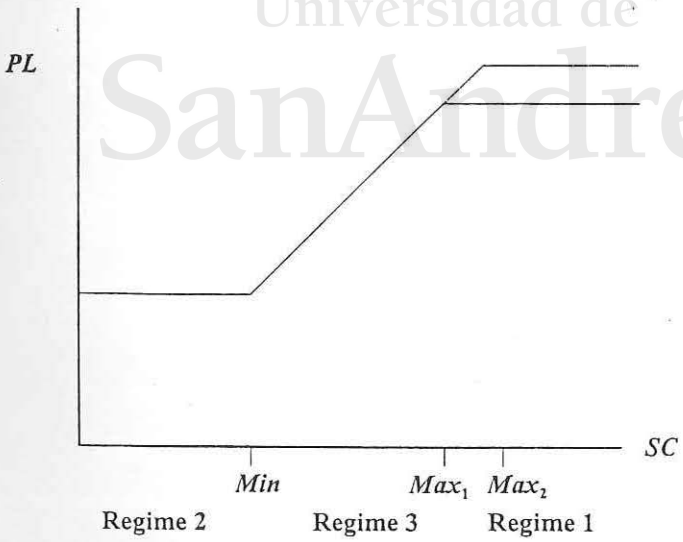


Figure 4: Probability of a liberal decision along possible values for SC. Observe that the probability changes according to SC_i in Regime 3 and according to *Max* (note the shift from Max_1 to Max_2) in Regime 1.

For a Court that finds itself in Regime 1, the correct regression should be equation (4):

$$PL = a + p^{*}Max + e, \qquad (4)$$

and for Justices in Regime 2 *Max* should be replaced by *Min*, showing again the bias towards zero in the estimated p coefficient. Thus, Segal's (1997) use of his imputed political constraint variable biases the estimated value of p towards zero and hence his results, finding a statistically insignificant p parameter, are not definitive. More work is needed to separate between the separations of powers and the attitudinal hypotheses.

III.3 - Likelihood of Different Regimes

In the preceding section, we identified the different explanatory variable for each regime. Subsequently, predicting the probability of a pro-liberal outcome involves unique regressions for Courts in different regimes. The analysis, however, can not be that simple as the actual regime is unknown. Even when our imputed score for the Court's ideal point is higher than the upper boundary of Congress's Pareto set, as in Figure 5, the likelihood of measurement error cautions us to assuming that the Court is in Regime 1.

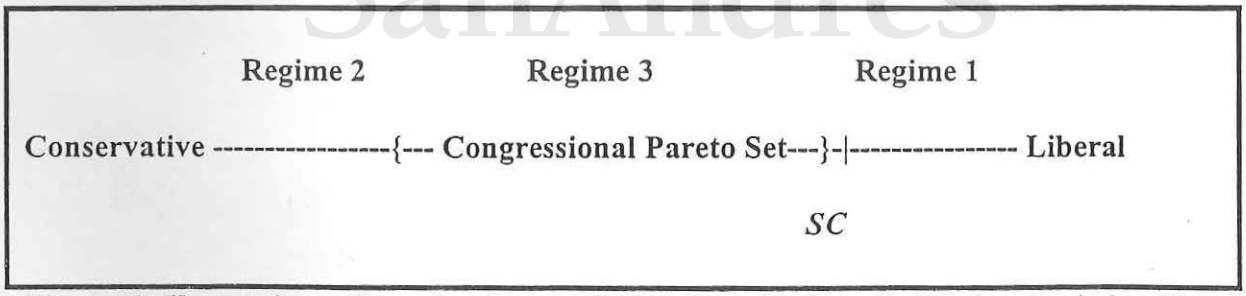


Figure 5: Uncertainty allows for the possibility that the Court's ideal point is in either Regime 1 or Regime 3.

We handle this problem by using the distribution of the Court's ideal point and Congress's estimated Pareto set to estimate the probability of each regime. The model then implicitly runs the regressions for all three regimes jointly and weights them accordingly by

their probabilities. This comprehensive analysis accounts for the inherent uncertainty in identifying the correct regime.[17]

III.4 - Legislative Models

Segal (1997) discusses three alternative models of the legislative process, the Committee Gatekeeping (CGK), Multiple Veto (MV), and Party Caucus (PC) models, and uses each to derive a particular congressional Pareto set. While each model makes specific assumptions about the legislative process, they all rely on the same analysis and underlying logic. Each legislative player has a particular ideal point (which is defined by his/her ADA score), and congressional action relies on a series of approvals from important players within the House and Senate Committees, Democrat and Republican Parties, and the President. The congressional Pareto set then reflects the set of policies that would not be overturned by Congress given the identity of those members who are positioned to prevent legislative action and their corresponding ideological preferences. Consequently, each model creates its unique congressional Pareto set according to its assumptions about the legislative process. The models produce different Pareto sets only by attributing veto power to different political players.

An example is illustrated in Figure 6. For the years 1947 and 1948, the three legislative models each produce different Pareto sets. The Multiple Veto predictably has the largest Pareto set for both years since it ascribes veto power to the largest number of players in the legislative process. According to that model, a large number of legislators, each with his/her own ideal point, must be appeased in order for Congress to act. Consequently, it predicts that Congress is able to act on only extreme policies along the ideological space, and a great number of Court decisions would not be overturned. In the case of 1947, the Multiple Veto model ascribes vetoes to conservative legislators that the Congressional Gatekeeping and Party Caucus models do not, so while the upper boundary is the same for all three models, the Multiple Veto model has a lower lower boundary. Similarly, the Congressional Gatekeeping model gives a veto to a liberal Member in 1948 that the other two models do

[17] For a more detailed discussion of this point, see Spiller and Gely (1992).

not, thus making that Pareto set extend farther towards the liberal extreme than the sets generated by the other two models.

	Congressional Gatekeeping	Multiple Veto	Party Caucus
1947	25 – 60	-32.5 – 60	1.5 – 60
1948	23 – 54.5	-33.5 – 50	-3.5 – 50

Figure 6: Segal's Congressional Pareto sets for the three models for 1947 and 1948.

A significant problem that is evident in Figure 6 is the existence of Pareto sets that extend into negative territory. Similarly, several Pareto sets for other years during the period under consideration also extend beyond 100. This is a serious problem as the ideological space lies along the 0-100 spectrum. Recall that the variables in this model – ADA ratings, constitutional scores, and the dependent variable, statutory decisions – are all percentages that clearly can not dip below 0 or rise above 100. The congressional models used here, however, use the standard symmetry assumption and, because they have multiple veto players, will tend to generate Pareto sets that extend beyond the realm of feasible preferences.[18]

Although one could correct the tendency to go beyond the [0-100] range simply by setting all negative scores to zero and all scores over 100 to 100, such imputation, as well as leaving the Pareto sets as they are, would overstate Congress's inability to act. Recall that if a Pareto set extends beyond 100, the implication is that even the most liberal policy possible would not be overturned. It is hard to imagine any Congress paralyzed by such gridlock.

Nonetheless, Pareto sets that extend beyond the feasible space are common in Segal's (1997) legislative models. For 32 of the 46 years studied, the Multiple Veto model produces Pareto sets that *both* have a lower boundary below zero and an upper boundary above 100. The implication is that Congress would not be able to overturn any Supreme Court decision, no matter how radical, for nearly 2/3 of all post-WWII years. But we ca say something even more striking about this result: since these are essentially legislative models, they say that Congress would not be able to legislate at all during 2/3 of all post-WWII years, as any status

[18] Asymmetric utility preferences, ones that curve fast as they approach the boundaries of the ideological space, would avoid this problem.

quo would fall within the "gridlock" area.[19] Such a prospect seems not only unlikely but is factually wrong. Similar implications from the other models make them less than compelling.

Relying on models that overstate Congress's Pareto set has very important statistical implications. Recall that testing the appropriateness of the strategic versus the attitudinal model rests on instances when the Court's ideologies lie outside of Congress's Pareto set. If Segal's (1997) models overstate Congress's gridlock area, three substantive and statistical errors would emerge. First, several Supreme Court Justices who may have actually held ideologies outside Congress's Pareto set would not have been included in Segal's (1997) analysis, so his data set would have been inappropriate. Second, Pareto sets that span inappropriately large majorities of the ideological spectrum obscure ideological conflict that Justices may in fact have with Congress. Segal (1997) laments that very few Justices actually have constitutional scores that lie beyond the congressional Pareto sets that his models generate, and he naturally is drawn to the conclusion that Justices are hence largely unconstrained. Third, and perhaps most significant, Segal's (1997) choice of unit of analysis makes his methodology even more highly biased against the strategic hypothesis.[20] Since his unit of analysis is the ideology of each *individual* Justice, then the only Justices left outside the excessively large Pareto sets are the ones who are most ideologically extreme. These extreme Justices, by their ideological nature, are less inclined to submit to political constraints and are more likely than moderate Justices to cast dissenting votes, in which case they have no role in affecting policy and thus are not concerned with a possible override by Congress. Segal's (1997) calculations of Pareto sets would largely neglect moderate Justices, who often cast the deciding votes in non-unanimous decisions and are more likely to consider political realities.

Although Segal's (1997) legislative models employ the same logic used by most of the positive political theory literature , they do not seem to be models that legislative scholars tend to favor, perhaps because the models rely on misleading vetoes in the legislative process. A particularly compelling alternative has one been recently offered by Krehbiel (1998). He develops a "gridlock" approach to legislative decision making based on the power

[19] See Krehbiel (1998).

[20] This is in addition to the biases discussed in the section above.

of the floor, the power of the Presidential veto and the filibuster rule in the Senate. Krehbiel's (1998) "gridlock" area is indeed a Pareto set, and its boundaries are set by the Senate's filibuster and the presidential veto. In other words, he views the veto and the filibuster as the two chief hurdles to congressional action, and any legislative initiative must muster sufficient support to overcome both.

This Filibuster-Veto (*F-V*) model is readily translated into a unidimensional policy space, and using the same ADA scores used by Segal (1997), both the presidential veto and the filibuster can assume defined values. A bill can override a presidential veto if it has support from 2/3 of both the House and the Senate, so Congress would confidently be able to overturn Supreme Court decisions if 2/3 of members of both chambers would prefer an alternative policy. This is the relevant boundary when Congress tries to overturn a decision that the President supports and is defined by the member at the 67th percentile of the ideological position shared by the President. So for a Democratic President, the veto boundary is defined by the Senator occupying the 67th percentile in liberal ideology in the Senate (100th percentile is the most liberal) or the Congressperson at the 67th percentile in the House, whoever is more liberal. For a Republican President, the veto boundary is similarly defined by the more conservative among the members occupying the 67th percentiles in conservative ideologies in each chamber, or alternatively the 33rd percentile in liberal ideology.

The filibuster boundary is similarly delimited. Since 3/5 of the Senate is required to bring cloture to a debate, any legislative action that has the President's support must also receive support from 3/5 of the Senate. It follows that the filibuster's boundaries are defined by the Senator at the 40th percentile with the ideological position opposite the President. For a Democratic President, the filibuster parameter is set by the Senator at the 40th percentile in conservative ideology – or the 60th percentile in liberal ideology, and for a Republican President the Senator at the 40th percentile in liberal ideology. This filibuster-Veto model constructs the congressional Pareto sets shown in Figure 7 when using an index, like ADA scores, where low values are conservative and high values are liberal.

For a Democratic President:

Conservative ----------F\{------ Congressional Pareto Set---\}V---------- Liberal
S_{40} $Max(S_{67}/H_{290})$

For a Republican President:

Conservative ----------V\{------ Congressional Pareto Set------\}F---------- Liberal
$Min(S_{33}/H_{145})$ S_{60}

Figure 7: Congress's Pareto sets for Democratic and Republican Presidents. Numbers are assigned according to increasing liberal members. For example, S_{60} indicates the 60th most conservative Senator and H_{145} represents the 145th most conservative member of the House.

In our analyses below, we use Krehbiel's (1998) framework to test the attitudinal and strategic approaches.

III.5 - Unit of Analysis

As is mentioned above, Segal (1997) uses individual Justices as his unit of analysis. His regression tests whether Congress's Pareto set can influence the probability an individual Justice will cast a pro-liberal vote.

Segal's (1997) analysis, however, misses the importance of strategic games within the Court. If the strategic model is correct and Justices strategically consider constraints imposed by Congress, then the Court would pass decisions only within Congress's Pareto set. But this does not mean that all Justices have to modify their voting behavior. Consider the model illustrated in Figure 8 with an ideological spectrum occupied by a panel of five Justices, each with a unique ideal point. Observe that any decision that is desirable to Justice 2 (with ideal point SC_2) would be replaced with a more liberal decision by Justices 3, 4, and 5. Similarly, Justices 1, 2, and 3 would replace positions desirable to Justice 4 or 5 with more conservative outcomes. Yet no majority could agree on a replacement for the median Justice's ideal policy. Consequently, the median Justice, Justice 3, will determine the location of the panel's final decision.

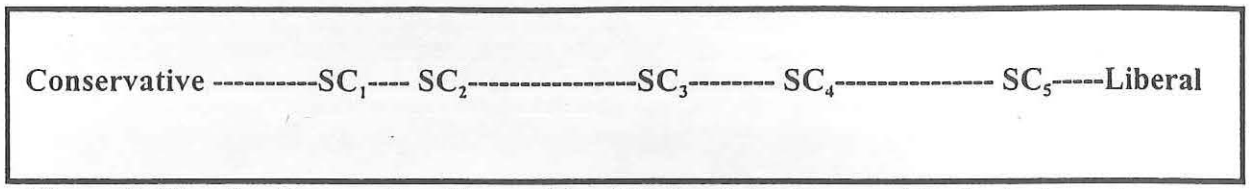


Figure 8: Five Justices, each with a unique ideal point, along an ideological spectrum.

If the location of SC_3 is the only ideal point that determines the outcome, then the locations of SC_1, SC_2, SC_4, and SC_5 are immaterial so long as none of them become the median position. Connecting this back to the separation of powers model, we learn that only Justice 3 (in the full Court, of course, the median is the 5th Justice) has to adhere to congressional constraints since SC_3 alone determines the decision that Congress will scrutinize. Since the ideological positions of the other Justices have no impact on the Court's outcome, they are under no strategic incentive to alter their ideological positions. They may vote their sincere preferences, and their ideal point has much weaker statistical significance in predicting the Court's final decision.

According to this understanding of the Court, those Justices who hold extreme ideologies will seldom cast deciding votes, and as a consequence, their voting patterns will not reflect congressional preferences. Only for votes cast by moderate Justices, and in particular the median Justice, could congressional constraints serve as significant explanatory variables. Thus, any analysis that focuses on individual Justices as the unit of analysis would again bias the results in favor of the attitudinal hypothesis. The unit of analysis, then, should be the whole Court, for which the median Justice can serve as a proxy.

This problem is further exacerbated by the legislative models that Segal (1997) employs. In the above discussion, we noted that Segal's models overstated Congress's Pareto sets, and only Justices with extreme ideal points entered into his regression. These Justices are all the more unlikely to be the median Justice. Thus he is left with Justices who have no incentive to accommodate to congressional preferences.

Our model below relies on the median Justice's preferences, so we use his ideal point as the ideological score that represents the Court's ideal point. This acknowledges the fundamentally different strategic incentives that the median Justice encounters versus the

incentives facing outlying Justices. It also recognizes the particular influence the median Justice exerts over the Court's final decisions. Since it is critical to treat the whole Court as the unit of analysis, and it is thus important to reflect the preferences of the entire Court, we believe that the median Justice's ideal point serves as a sturdy proxy for the Court's ideologies.

IV - ECONOMETRIC MODEL

In this section, we develop a model to predict the Supreme Court's decisions in statutory cases. This econometric analysis is based on the model devised by Spiller and Gely (1992) and designed to accommodate the data gathered by Segal (1997). The model begins with establishing a one-dimensional policy space assigning all possible outcomes a value between 0-100, 0 representing the most conservative possible outcome and 100 the most liberal. The dependent variable is the Supreme Court's percent pro-liberal decisions in statutory cases in any given year, and the explanatory variables are Congress's ideologies, guided and filtered by the legislative process, and the Court's ideologies.

It is unreasonable to assume that there is a one-to-one relationship between an individual's ideology measure, whether a member of Congress or a Supreme Court Justice, and his/her most preferred probability for a pro-liberal Supreme Court decision. We therefore characterize the ideal preferences of a player in either of these bodies for pro-liberal decisions with equation (5):

$$E^*_{ka} = q + bP_{ka}, \qquad (5)$$

where E^*_{ka} represents individual a's most desired probability for a pro-liberal decision by the Court in case k, P_{ka} reflects that individual's liberal ideology, and q and b are parameters to be estimated, with the model predicting that $b \geq 0$. So our model bases an individual's preferences for pro-liberal decisions, which is unobservable, on their observable ideologies. E^*_{ka} should then be an unbiased predictor for the individual's preferences for a pro-liberal judicial decision.

Let the actual decision on case k be represented by E_k. Then the relationship between the decision and the relevant individual's preferences (belonging to the relevant member of the House, Senate, or the median Supreme Court justice, depending on the pertinent regime) is represented by

$$E_k = E_{ka} + e_{ka}, \tag{6}$$

where a reflects the relevant political player and e_{ka} is an error with mean zero. Substituting equation (5) into (6), we obtain:

$$E_k = q + bP_{ka} + e_k, \tag{7}$$

where P_{ka} represents the political ideology of the relevant player. Note, however, that Segal (1997) does not predict the individual case but the percentage of pro-liberal decisions in a given year. So we average equation (7) for each year to obtain:

$$E_t = q + bP_{ta} + e_t, \tag{8}$$

where the subscript t implies that the values are the average for time period t. Since the composition of the Court is stable within a year, the average of P_{ka} is simply P_{ta}.

We now turn to the regime selection problem. Note again that E_t is the Supreme Court's actual percent of pro-liberal decisions during period t and P_{ta} is the ideology in period t, reflected by the ideal point of the relevant political player. The strategic model articulates who the relevant political player is. When the Supreme Court's ideal point is more liberal than all points within Congress's Pareto set (circumstances we call Regime 1), then the key player is the member of Congress who determines the uppermost boundary of the Pareto set. When the Court's ideal point is less liberal than all points within Congress's Pareto set (circumstances we call Regime 2), then the key player is the member of Congress who determines the lowermost boundary of the Pareto set. When the Court's ideal point lies within

Congress's Pareto set (circumstances we call Regime 3), the Court is free to act on its true ideology and the median Justice becomes the key player.

Consequently, each regime produces a different value for the political variable P_{ta}. Substituting the different political variables into equation (8), our econometric model articulates the three regimes as follows:

(9a) Regime 1: $E_t = q + b*Max\,(H_t, S_t) + e_t$ when $SC_t > Max\,(H_t, S_t)$

(9b) Regime 2: $E_t = q + b*Min\,(H_t, S_t) + e_t$ when $SC_t < Min\,(H_t, S_t)$

(9c) Regime 3: $E_t = q + b*SC_t + e_t$ when $Min\,(H_t, S_t) < SC_t < Max\,(H_t, S_t)$

As is discussed above, Krehbiel's model defines the boundaries of Congress's Pareto set by F and V, where all points beyond F can overcome a Senate filibuster and all points beyond V can override a presidential veto. So, according to Krehbiel's model, equations (9a), (9b), and (9c) can be rewritten as:

(9d) Regime 1: $E_t = q + b*Max\,(H_{2/3t}, S_{2/3t}) + e_t$ when $SC_t > Max\,(H_{2/3t}, S_{2/3t})$

(9e) Regime 2: $E_t = q + b*(S_{2/5t}) + e_t$ when $SC_t < (S_{2/5t})$

(9f) Regime 3: $E_t = q + b*SC_t + e_t$ when $(S_{2/5t}) < SC_t < Max\,(H_{2/3t}, S_{2/3t})$

under a Democratic President, and under a Republican President as:

(9g) Regime 1: $E_t = q + b*(S_{3/5t}) + e_t$ when $SC_t > (S_{3/5t})$

(9h) Regime 2: $E_t = q + b*Min\,(H_{1/3t}, S_{1/3t}) + e_t$ when $SC_t < Min\,(H_{1/3t}, S_{1/3t})$

(9i) Regime 3: $E_t = q + b*SC_t + e_t$ when $Min\,(H_{1/3}, S_{1/3}) < SC_t < (S_{3/5})$.

If we could perfectly measure the ideological preferences of the members of the House, Senate, and Supreme Court, then equations (9d) to (9i) would represent a "switching" three-regime regressions model with known separation criteria. Despite its imperfections, we can use ADA congressional ratings to reflect congressional ideologies and Segal's (1997)

constitutional scores to reflect the Supreme Court's ideologies. However, as discussed above, we cannot conflate these two indices together within the same dimension. Instead, we use the constitutional scores to model Supreme Court preferences as a latent variable ($\overline{SC}_t$) in the same dimension as Congressional ADA scores by the following equation:

$$\overline{SC} = g + d * SC + u, \tag{10}$$

with the variables defined in Section III.

Furthermore, since we cannot perfectly observe the exact location of the Court's ideal point vis-a-vis congressional preferences, the switching-regimes model has an unknown separation criteria. Let s_u be the standard deviation of u and $\Psi(.)$ be the standard normal distribution function. Equations (9) and (10) imply that the probabilities of observing Regime 1, 2 and 3 in case k, (L_{1k}, L_{2k}, and L_{3k}) are given respectively by:

$$\text{(11a)}\quad L_{1k} = \Pr(\overline{SC}_k > Max(H_k, S_k)) = 1 - \Psi[(Max(H_k, S_k) - g - d * SC_k)/s_u]$$

$$\text{(11b)}\quad L_{2k} = \Pr(\overline{SC}_k < Min(H_k, S_k)) = \Psi[(Min(H_k, S_k) - g - d * SC_k)/s_u]$$

$$\text{(11c)}\quad L_{3k} = \Pr(Min(H_k, S_k) < \overline{SC}_k < Max(H_k, S_k)) = \Psi[(Max(H_k, S_k) - g - d * SC_k)/s_u] - \Psi[(Min(H_k, S_k) - g - d * SC_k)/s_u]$$

The likelihood function for the model is then:

$$\text{(12)}\quad L = \prod_{t=1}^{T} (L_{1k}\phi_1 + L_{2k}\phi_2 + L_{3k}\phi_3), \text{ where:}$$

$$\phi_1 = (1/s_e)\phi[(E_t - q - b * Max(H_t, S_t))/s_e]$$

$$\phi_2 = (1/s_e)\phi[(E_t - q - b * Min(H_t, S_t))/s_e]$$

$$\phi_3 = \left(1/\sqrt{b^2 s_u^2 + s_e^2}\right)\phi\left[\left(E_t - q - b(g + d * \overline{SC})\right)/\sqrt{b^2 s_u^2 + s_e^2}\right],$$

with $\phi(.)$ representing the standard normal density function and s_e reflecting the standard deviation of the error term e.

Our analysis applies standard maximum likelihood techniques to equation (12), where b is the coefficient that measures the significance of the ideology belonging to the relevant political player in each regime and g and d reflect the transformation of judicial constitutional preferences into judicial ADA preferences. This analysis holds some important econometric and substantive implications. First, note that the ideology of an individual player – whether the median Justice or key member of Congress – is significant only under certain regimes. In Regime 3, for example, the median Justice is relevant and all others are irrelevant, whereas in another regime, Regime 2 under a Republican President, the 33rd percentile Senator alone is relevant (provided Krehbiel's legislative model is appropriate). Consequently, a straight regression on any one ideology would be misleading. Second, our model implies that the coefficient b should be positive, which is a refutable empirical hypothesis. If b were estimated to be zero, then politics are not statistically significant in the Court's statutory decisions. Third, the model implies that if constitutional scores are a reasonable proxy for judicial preferences, then d should be positive. Were $d = 1$ and $g = 0$, then Segal's (1997) original transformation would have been perfectly appropriate since points along one spectrum would have the same value on the other. Thus, our methodology can test the efficacy of Segal's (1997) original linear transformation.

Segal (1997) makes one additional empirical point regarding the separation-of-powers model. He suggests that if the Supreme Court changes its decisions as relevant congressional preferences change, two plausible explanations need to be examined. The change could be caused either by some Justices changing their positions in order to avoid being overturned or, alternatively, by a change in the membership of the Court. Thus, the impact of a compositional change in the Court may be relevant to changes in the Court's preferences. In order to measure the impact of such compositional changes, an alternative specification of predicted Court preferences is applied by replacing equation (10) with the following equation:

$$\overline{SC} = g + d * SC + h * CHG + u\,, \qquad (13)$$

where *CHG* is a dummy variable reflecting the periods in which there are changes in the Court's composition. This specification would determine whether compositional changes significantly affect the Court's decisions.

V - DATA

Our model requires three pieces of information: measurements reflecting congressional preferences, measurements reflecting Supreme Court preferences, and Supreme Court decisions. Again, the chief aim of our exercise is to test the strategic model by applying the Spiller-Gely (1992) econometric methodology, articulated in the preceding section, to the data collected by Segal (1997).

Congressional preferences are perhaps the simplest, though not necessarily the most accurate, data to assemble. As was discussed above, we use the pro-liberal scores that the Americans for Democratic Action (ADA) give to each member of Congress every year. Corresponding to Krehbiel's model, we then determined the *F* and *V* scores for each year, i.e. the ADA scores belonging to the 40th percentile Senator and the higher of either the 67th percentile Senator or 67th percentile member of the House (percentiles oriented against the President's political orientation).

Developing a proxy for Supreme Court preferences is a bit trickier. As was discussed above, we use the constitutional scores Segal (1997) assigns to individual Supreme Court Justices. These scores, he describes, reflect the percent of pro-liberal votes a Justice casts each year in constitutional cases. We argue that these scores can better reflect Justices' actual ideologies than decisions in statutory cases when, according to our model, the Court is constrained by Congress's preferences. The difference between constitutional and statutory decisions is a critical one. For statutory issues, Congress can overturn a Supreme Court decision with a simple majority (presidential vetoes and filibusters notwithstanding)). Alternatively for constitutional issues, Congress must pass a Constitutional amendment, which requires approval from 2/3 of Congress and 3/4 of the state legislatures. Consequently, Congress is far more constrained in constitutional issues. Overturning the Court involves both a supermajority, which by requiring support from more members grants many more players an opportunity to exercise a veto, and the uncertain action of numerous state

institutions. With Congress so constrained, the Supreme Court can act in a much less constrained fashion, and its decisions in constitutional cases may reflect its true ideology.

There is some appropriate concern that these constitutional scores may be endogenous. Often, the distinction between a constitutional and statutory case is vague at best and can potentially be artificial. Some cases could be argued and decided on either constitutional or statutory grounds, and the decision may be based on congressional composition.[21] Consequently, the constitutional scores we use here may not be independent indicators of Justices' ideologies. Spiller and Gely (1992) avoid this problem by using the percentage of Democrats on the Court as a proxy for Court preferences. Such a tact surely solves the problem of endogeneity, but it yields a parameter that is not very precise. One of our objectives in this exercise is to devise a more sensitive indicator for Supreme Court preferences, and Segal's (1997) offers a strong candidate. While problems of endogeneity must be considered, and we still welcome future efforts to measure Justices' ideologies,[22] we proceed here with the constitutional scores for our analytical purposes.

Our model is designed to predict the Supreme Court's percent pro-liberal decisions in statutory cases for a given year. Again, we employ Segal's (1997) data. However, Segal (1997) uses the individual Justice as his unit of analysis, so, similar to our use of the median constitutional scores in measuring the Court's ideology, we employ the median Justice's percent pro-liberal votes as a proxy for the Court's statutory decisions.

In sum, ADA scores measure Congressional preferences and are used to construct Congress's Pareto sets for each year; Segal's (1997) constitutional scores are used to reflect the Court's ideology for a given year, and Segal's statutory scores are used as the dependent variable.

VI – EMPIRICAL RESULTS

Our model involves four chief variables: the median Justice's constitutional scores reflecting his/her ideological preferences, two congressional constraint values representing

[21] See, Spiller and Spitzer (1992).

[22] Epstein and Mershon, (1996) have shown Segal and Cover's (1989) scores to contain certain measurement error, despite their assured independence and relative success in predicting decisions. Nonetheless, we also applied our econometric model to the Segal-Cover scores. See Appendix II.

the upper and lower boundaries of Congress's Pareto set, and the median Justice's percent pro-liberal votes in statutory cases. The first three parameters are independent and explanatory variables, and the lattermost is the dependent variable.

We began our analysis by running an ordinary least-squares regression, producing the results in Table 1. We include results from regressions for the three models for congressional action that Segal (1997) uses and for Krehbiel's model. *t*-statistics are submitted between brackets.

Table 1: Linear Probability Models Across Alternative Political Models

VARIABLE	F-V	CGK	MV	PC
CONSTANT	0.19	0.17	0.09	0.10
	(2.44)	(2.44)	(1.09)	(1.35)
SC	0.71	0.72	0.68	0.67
	(6.92)	(7.47)	(6.90)	(7.01)
Max	0.03	0.21	0.06	0.07
	(0.19)	(0.26)	(1.15)	(1.18)
Min	-0.18	-0.15	-0.03	0.05
	(-1.02)	(-0.96)	(-0.48)	(0.64)
R2	0.58	0.58	0.59	0.59
F-stat.	19.65	19.48	19.93	20.25
Std. Error	0.09	0.09	0.09	0.09
Log-Lik.	48.91	48.80	49.10	49.32

One immediate result that carries across all models is the high significance of the median Justice's ideological score. This supports two preliminary conclusions: one, that the median Justice's ideology can, in fact, serve as an adequate proxy for the Court's preferences, and two, that the Court's ideology is a significant predictor for its decisions. This second conclusion leads us to reject the legalistic view of the Court because such a position would only be supported if the Court's ideology were insignificant.

The simple linear model also reveals something of the Court's political sophistication. The linear model reflects a Nash-bargaining solution concept where each of the political players – the median Justice and the two relevant members of Congress – collectively

negotiate a final outcome without regard to institutional structures or procedures. The results in Table 1 do not strongly support such a model since none of the political constraints are statistically significant (and in the case of the Party Caucus model, the *Min* variable has a coefficient with the incorrect sign). So, while we can conclude that ideology is significant, the effect of politics is still unclear. We arrive at two possibilities regarding political strategy: either the Court neglects political constraints and ideology alone is a significant predictor, as Segal (1997) concludes, or the Court exercises more sophisticated and far-sighted strategic thinking.

As discussed above, however, ordinary least squares is an inappropriate method for testing strategic models. Thus, we move to discuss the results of our regime-switching econometric methodology described in section IV above. Table 2 contains our results from the maximum likelihood estimation when applied to Krehbiel's legislative model and the three models used by Segal (1997).[23]

Table 2: The Econometric Model
Maximum Likelihood Estimation

PARAMETER	VARIABLE	F-V	CGK	MV	PC
g	CONSTANT	-0.13	-0.16	-0.61	-0.12
		(-0.82)	(-0.70)	(-1.46)	(-0.84)
d	SC	1.10	1.22	2.69	1.37
		(3.60)	(2.64)	(3.01)	(3.48)
q	CONSTANT	0.23	0.25	0.32	0.21
		(3.87)	(3.16)	(5.83)	(3.55)
b	POLITICS	0.66	0.60	0.28	0.55
		(4.42)	(3.38)	(3.72)	(3.59)
s_e		0.05	0.06	0.06	0.08
		(2.54)	(2.31)	(2.57)	(11.71)
s_u		0.11	0.12	0.23	0.09
		(3.08)	(2.92)	(2.42)	(1.75)
Log-Lik.		50.26	48.75	50.97	48.68
Pr. Regime 1		0.09	0.12	0.11	0.08
Pr. Regime 2		0.24	0.17	0.07	0.06
Pr. Regime 3		0.67	0.71	0.82	0.86

[23] Several starting values were tried to be sure of obtaining a good estimation.

The most immediate observation in Table 2's results is the statistical significance of all the parameters. Clearly, like the results from the least squares regressions, ideology matters as the parameter *d* is highly significant. For each point the median Justice's constitutional score becomes more liberal, the probability of a pro-liberal decision in regime 3 increases approximately 2.7% for the Multiple Veto model and just over one percent for the others. In fact, for all four of these models, the total ideological effect (*b*d*) is slightly higher in the maximum likelihood model than in the least squares method. Examine Krehbiel's model, for example. Under the simple Nash-bargaining procedure, a ten-point change in the Court's political ideology is estimated to affect the probability of a pro-liberal decision by 7.1%. Alternatively, in the regime-switching model the sophisticated Court's ideology changes that probability by 7.26%. Similar results yield in the other models.

Furthermore, politics matters, as *b* is also highly significant. For a 10-point increase in the relevant player's ideological score (ADA for a member of Congress and imputed ADA score for the median Justice), the probability of a pro-liberal decision increases about 3% for the Multiple Veto model and 6% for the other models. From this, we conclude that the ideologies of the relevant players *across regimes* is significant, not just the Court's ideology, and when in Regime 1 or 2, the Court does seem to adhere to the corresponding political constraints.

Comparing Tables 1 and 2 leads to some additional insights. First, for Krehbiel's and the Multiple Veto models, the log-likelihood indicators under the regime-switching model are higher than under the simple negotiation model. So for these two models, according to the Akaike Information Criteria, our econometric methodology better characterizes the Court's strategic thinking despite its added complexity. We can conclude that, first, the sequential model, reflecting backwards induction, better reflects the structure of the political game than does simple Nash bargaining, and second, the model of a Court that acts in a sophisticated far-sighted manner outperforms that of an unsophisticated Court.[24]

[24] In order to have a preliminary test of the robustness of the results, analogous maximum likelihood regressions were developed using the Segal-Cover scores of the Supreme Court preferences. They are shown in Appendix II. It can be seen that the main qualitative results hold, then, when using an alternative set of scores of Justices' ideology.

Examining Tables 1 and 2 also speaks to the efficacy of the four models of the political process. As was noted above, only the *F-V* and Multiple Veto models improve under the maximum likelihood estimation. So, for the Congressional Gatekeeping and Party Caucus models, the explanatory variables for ideology and political constraints in the regime-switching system, both of which have statistically significant parameters *d* and *b*, do not predict the Court's decisions better than in the linear estimation when political constraints were not significant. This reflects the faults of those models. Since the *F-V* and Multiple Veto models generate political constraints in the regime-switching estimation that do improve their results over those from the linear estimation, we know that incorporating political constraints can improve our predictions of Court decisions. The critical caveat, though, is that those political constraints must accurately reflect congressional preferences. It appears that neither the Congressional Gatekeeping nor the Party Caucus models do this.

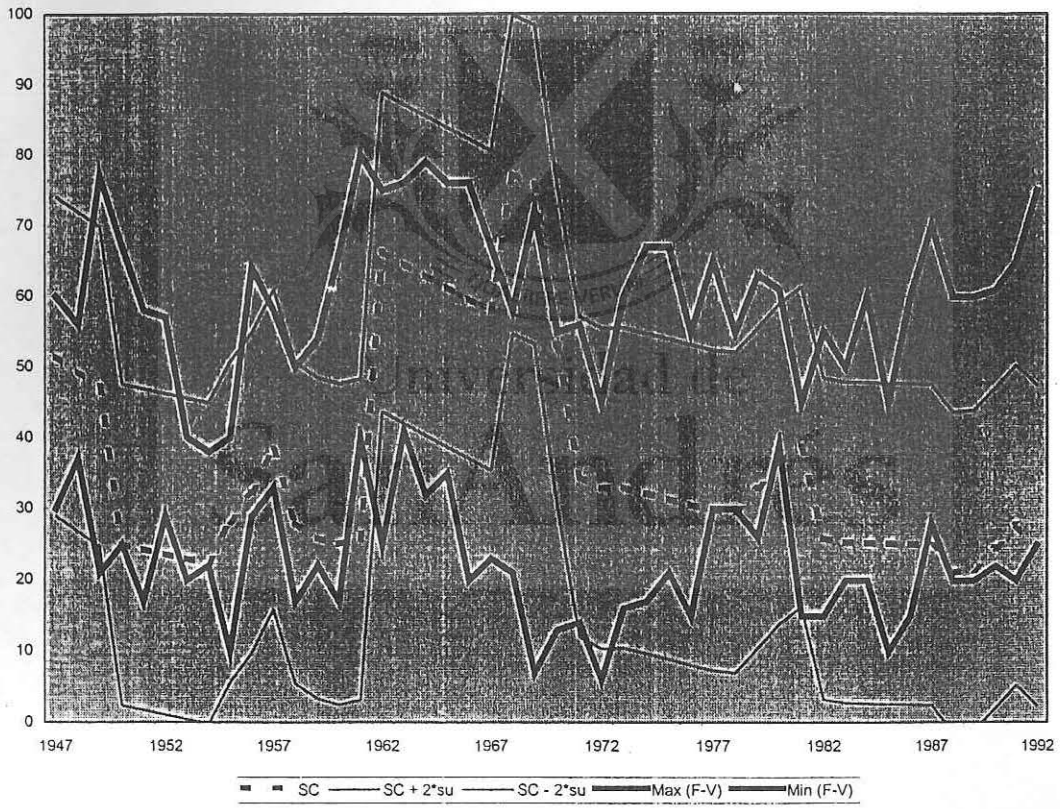
Comparing the results from the *F-V* and Multiple Veto models reveals further additional insights. Both measure the total effect of ideology, *d*b* to be significant, but the F-V model ascribes far more of this effect to the political variable. Meanwhile, the Multiple Veto, far more than any of the models, generates a high value for the ideology parameter, *d*, and a low value for the political parameter, *b*. The reason for this imbalance lies in the probabilities for the three regimes. A great fault of the Multiple Veto model is that it gives legislative vetoes to too many political players and overstates congressional gridlock. As a consequence, it would overestimate the likelihood that a Supreme Court would have its ideal point within Congress's Pareto set, i.e. in Regime 3, and thus predict that the Court can act unconstrained. As a result, the predictive power the Multiple Veto model ascribes to ideology may be overstated by the *SC* variable and understated by the political constraints.

This fault in the Multiple Veto model reveals a great strength of Krehbiel's model. First, notice that the *F-V* model generates more balanced values for parameters *d* and *b*, revealing – appropriately – that the total predictive effect of ideology is shared across regimes. This point is illustrated by examining the estimated probabilities for the different regimes. For the *F-V* model, our maximum likelihood technique estimates that the probability the Court is unconstrained is, on average, only 67%. Comparing this to the average of 82% for the Multiple Veto model reveals that the probability the Court is constrained – i.e. in

Regime 1 or 2 – is nearly double in the *F-V* model. Consequently, the *F-V* parameters for congressional preferences are put to a much more rigorous test. Given that the *b* parameter is still so highly significant (and, in fact, much more significant than in the other models), the conclusion that the Court thinks strategically is all the more substantial.

The combined results from the regime-switching methodology and Krehbiel's model are genuinely compelling. It would be easy to construct a model for the legislative process that exaggerates the probability of Regime 3 and then find significance in the parameter *b*. Krehbiel's model, however, imposes some genuine political constraints. Observe Figure 9,

Figure 9: Predicted SC and F-V Constraints

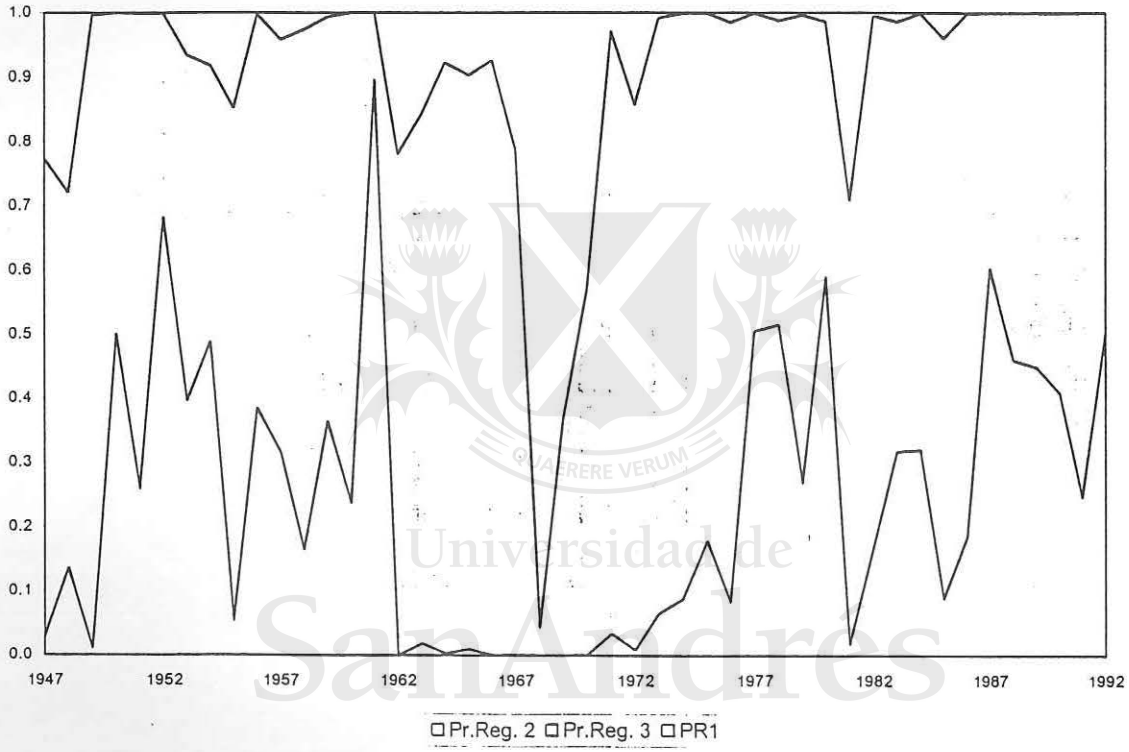


which plots the *Max* (*F-V*) and *Min* (*F-V*) boundaries of Congress's Pareto set with the Court's predicted ideal point. While the Court's predicted $\overline{SC}$ rises and falls rather fluidly with congressional preferences, the Court encroaches the lower boundary from the late 1940s

through the late 1960s and again in the late 1970s and 1980s, and it approaches the upper boundary through most of the 1960s.[25]

Correspondingly, as the predicted $\overline{SC}$ approaches the upper (lower) boundary, the probability of Regime 1 (Regime 2) should increase. This is illustrated in Figure 10, which

Figure 10: Probabilities of Regimes 1, 2, and 3 under the F-V model



shows the estimated probabilities of each regime across our data period. Clearly, the likelihood of each regime is sufficiently robust as to pose a real test to our econometric model, and for several years the likelihood of Regimes 1 or 2 are very high, thus imposing very substantial political constraints. The robustness of these regimes make our statistically significant results are all the more meaningful.

One final feature from Krehbiel's model is that it generates a value for the parameter d that is closer to 1 and a value for g closer to 0 than the other models, giving balanced weight to the original constitutional scores and the ADA ratings.

[25] Appendix II shows analogous graphs when using the three alternative models of legislative action. The qualitative conclusions are essentially unaltered.

In sum, results from Table 1 teach us that ideology matters, as the Justices' ideology substantially influence their final decisions. Table 2's results show that politics matter, as the political constraints also contribute substantially to predicting the Court's outcomes. Furthermore, Table 2's improved results over those from the linear regression show Justices exercise ideology in a sophisticated and strategic manner. Finally, comparing Krehbiel's to the other models for congressional action reveals that Congress imposes very palpable political constraints on the Court and that the Court adjusts its actions accordingly.

Finally, the impact of changes in the Court's composition on changes in the Court's preferences is tested. The results are shown in Table 3.

Table 3: The Econometric Model

PARAMETER	VARIABLE	F-V	CGK	MV	PC
g	CONSTANT	-0.04	-0.16	-0.65	-0.18
		(-0.27)	(-0.77)	(-1.73)	(-0.95)
d	SC	0.81	1.16	2.65	1.56
		(2.83)	(2.78)	(3.41)	(4.56)
h	CHANGE	0.07	0.08	0.18	0.12
		(1.85)	(1.65)	(1.86)	(2.02)
q	CONSTANT	0.15	0.23	0.31	0.22
		(1.51)	(2.83)	(6.33)	(3.25)
b	POLITICS	0.93	0.64	0.29	0.46
		(3.16)	(3.30)	(4.37)	(4.84)
s_e		0.05	0.06	0.05	0.10
		(2.28)	(2.04)	(2.64)	(8.32)
s_u		0.06	0.09	0.21	0.10
		(1.83)	(2.41)	(2.49)	(2.13)
Log-Lik.		53.71	50.54	53.02	48.86
Pr. Regime 1		0.04	0.10	0.11	0.14
Pr. Regime 2		0.18	0.14	0.06	0.03
Pr. Regime 3		0.78	0.76	0.83	0.83

Changes in the Court's composition are significant in the alternative specifications of the Court's preferences. However, the main results in terms of the role of politics in influencing the Court's decisions hold in all models. Thus, the introduction of some

considerations related to changes in the Court's members does not change the relevance of the constraints imposed by the whole constellation of political actors' preferences.

VII - CONCLUSIONS

While the journey to develop accurate predictions for Supreme Court decisions does not end here, this paper advances our understanding of the Court's behavior. Our empirical results support a sophisticated understanding of the Court's decision making, one where Justices anticipate possible congressional action and then adjust their actions accordingly. This view, we believe, gives greatest respect to the calculative abilities of the Supreme Court and the complexity of the separation-of-powers political game. It also yields an accurate predictor for the Court's decisions.

The debate between the attitudinal and strategic schools will certainly persist, and this paper gives credit to both the attitudinal and the strategic approaches. While there is agreement that Justices' ideologies do matter, this paper shows that often, but not always, the court is constrained by Congress. Given the numerous compelling policy debates that engage our branches of government, applying our econometric model to other political games offers a rich research agenda. Understanding both how different political players exercise their authority and how policy outcomes emerge are extremely valuable insights. A strategic understanding of government would serve these research efforts well.

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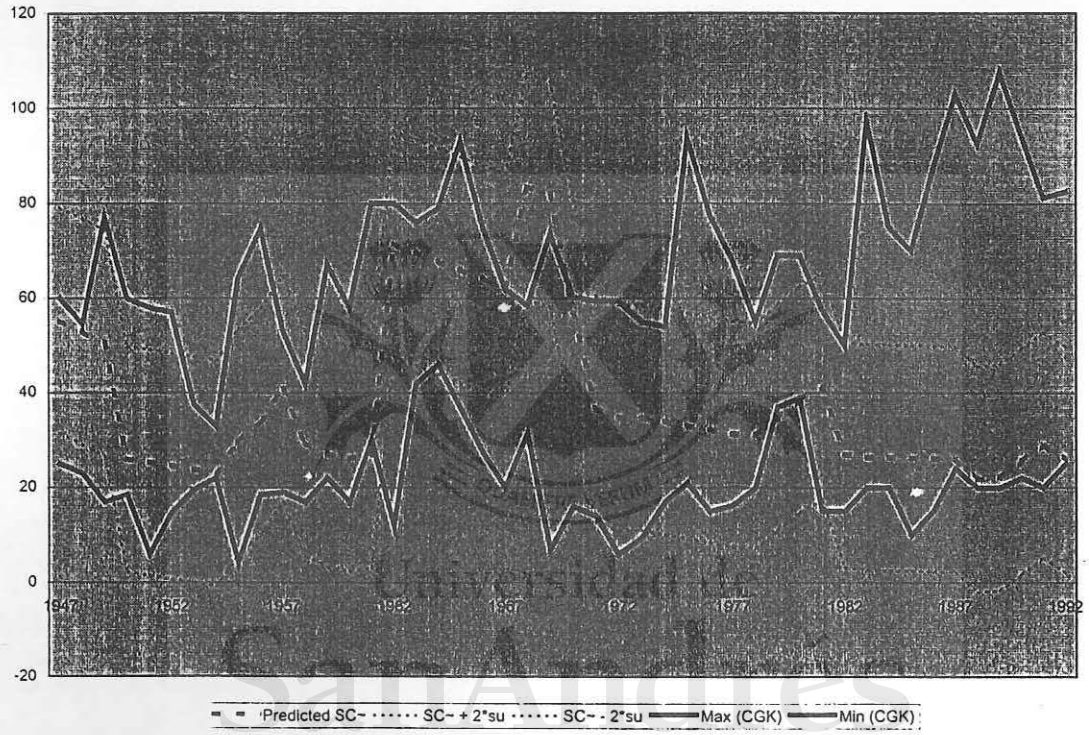
APPENDIX I

In addition to our primary use of Krehbiel's (1998) model of the legislative process, we also employed our econometric model to estimate the Supreme Court's ideal point in each of the legislative models discussed in Segal (1997). The results are illustrated in Figures A1, A2, and A3.

Figure A1: Committee Gatekeeping Model, Predicted SC Scores

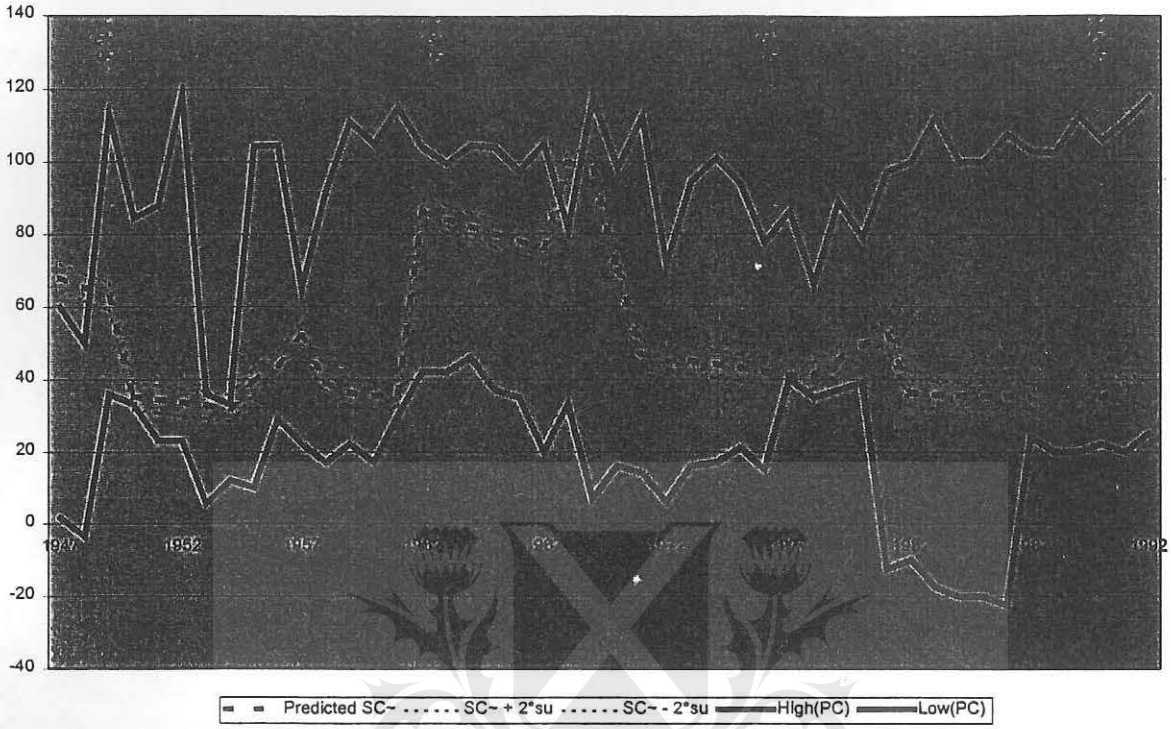


Comparing these charts to Figure 9, which shows the predicted SC scores and with F-V constraints, illustrates forcefully why Krehbiel's (1998) model is superior. Specifically, the two serious problems discussed in the text above emerge: first, they reach into the unfeasible spaces beyond the 0-100 scale, and second, they impose no palpable constraints on the Supreme Court. The Multiple Veto and Party Caucus models are especially problematic. One could argue, however, that the Committee Gatekeeping model deserves neither of these criticisms since it only briefly extends beyond the 0-100 range and generally imposes reasonable constraints. However, whereas it is striking how fluidly the Supreme Court's preferences match the flow of F-V constraints, the Committee Gatekeeping model reflects

congressional preferences as being rather chaotic in relation to the Supreme Court's ideology. It also imposes constraints of very different "widths" during different years. While it may serve as an adequate model, it lacks the consistency and orderliness that Krehbiel's (1998) model enjoys.

Figure A2: Predicted SC Score - Multiple Veto Model

Figure A3: Party Caucus Model, Predicted SC Scores



APPENDIX II

Segal (1997) employs two alternative measurements for the Supreme Court's ideological preferences, the constitutional scores and the Segal-Cover (1989) scores. Our discussion above centers on the constitutional scores chiefly because the Segal-Cover scores have since been shown to have measurement error (Epstein and Mershon 1996). Nonetheless, we performed the same econometric analysis using the Segal-Cover scores to impute the Supreme Court's ideal point, and our results again reflect a very strong influence of congressional preferences on Supreme Court decisions.

We first ran a linear regression of the Court's percent pro-liberal decisions in statutory cases using the Court's ideal point, determined by Segal-Cover scores, and the Congressional constraints as determined by each of the four models for the legislative process. Table B1 displays these results.

Table B1: Linear Probability Models Across Alternative Political Models, using Segal-Cover				
VARIABLE	F-V	CGK	MV	PC
CONSTANT	0.29	0.34	0.28	0.34
	(2.93)	(4.18)	(2.85)	(4.11)
SC	0.12	0.15	0.13	0.12
	(3.20)	(3.56)	(3.09)	(3.00)
HIGH	0.38	0.13	0.13	0.11
	(2.08)	(1.10)	(1.79)	(1.29)
LOW	-0.26	0.14	-0.06	0.12
	(-1.15)	(0.73)	(-0.91)	(1.18)
R2	0.28	0.25	0.28	0.27
F-stat.	5.58	4.72	5.52	5.16
Std. Error	0.11	0.12	0.11	0.12
Log-Lik.	36.46	35.43	36.39	35.97

Again, in all four regressions, the Supreme Court's ideology was significant, further weakening the notion of the Court as legalistic decision-makers. Congress's constraints also appear significant and in the correct direction for the F-V model and to a lesser degree for the Multiple-Veto model. Compared to the corresponding least-squared regressions that use the constitutional scores, these linear regressions seem to do a poor job of explaining the variance of the Supreme Court's statutory decisions.

Use of our regime-switching econometric model to test strategic behavior by the Supreme Court yields even more conclusive results, shown in table B2. Here, all four models show the coefficient associated to the political constraints to be highly significant. Similarly, the Court's ideology is also significant, though less so. This may be an argument in favor of our regime-switching model, which captures the important role of the relevant political player, but probably is also an argument against the Segal-Cover scores, which generate lower t-statistic values for the Court's ideology. Moreover, these analyses also lose credibility when comparing the log-likelihood values to those generated when using the constitutional scores, which all hover around 50.

Table B2: The Econometric Model, using Segal-Cover					
PARAMETER	VARIABLE	F-V	CGK	MV	PC
g	CONSTANT	0.30	0.35	0.53	0.60
		(5.39)	(5.95)	(3.77)	(7.61)
d	SC	0.30	0.29	0.47	0.32
		(2.26)	(1.86)	(1.97)	(1.82)
q	CONSTANT	0.27	0.28	0.32	0.21
		(5.64)	(4.18)	(4.72)	(1.93)
b	POLITICS	0.57	0.52	0.26	0.44
		(3.97)	(3.56)	(2.40)	(2.21)
s_e		0.05	0.06	0.06	0.08
		(3.38)	(3.06)	(2.12)	(1.82)
s_u		0.23	0.23	0.39	0.18
		(3.07)	(2.35)	(2.38)	(2.11)
Log-Lik.		37.84	37.08	35.63	37.56
Pr. Regime 1		0.16	0.18	0.09	0.15
Pr. Regime 2		0.35	0.27	0.09	0.05
Pr. Regime 3		0.49	0.55	0.82	0.80

In sum, using the Segal-Cover scores to capture Supreme Court ideology does not generate results as strong as those when the constitutional scores are used. Nonetheless, these series of econometric analyses support our central proposition: congressional preferences have a marked effect on the Supreme Court's decisions.