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A POSITIVE THEORY OF LEGISLATIVE INTENT

by

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I. Introduction

The ongoing debate about statutory interpretation has been profoundly affected by the introduction of social choice theory into the study of legal institutions. Prior to this event, legal scholars had relied on theories of civic virtue, arguments about judicial activism, and understandings of the original constitutional arrangement to shape their debate. The first mention of Arrow's impossibility theorem and the subsequent chaos results proved quite a bombshell for this enterprise. As noted by Judge Frank Easterbrook,

Because legislatures comprise many members, they do not have "intents" or "designs," ... It is not only impossible to reason from one statute to another but also impossible to reason from one or more sections of a statute to a problem not resolved. ... The existence of agenda control [within a legislature] makes it impossible for a court -- even one that knows each legislator's complete table of preferences -- to say what the whole body would have done with a proposal it did not consider in fact.¹

In fact, one cannot rule out the possibility that, faced with filling a gap in a statute, the legislature would pass a provision clearly contrary to the provisions of the original statute.

When this news reached legal scholars, they were understandably alarmed. Objections were loud and swift. Judge Mikva criticized public choice as being so far from reality as to be useless for legal scholars. In his introduction to a symposium on law and public choice, he

¹ Easterbrook (1983, pp:547-48). See also, Justice Scalia's concurring opinion in *INS v. Cardozo-Fonseca*, 480 U.S. 421, 452-53 (1987).

writes "Mathematics has always held a strong allure for many social scientists, [but] [d]espite its seductiveness, ... the postulates of mathematics usually provide only fools' gold for human problems."² Farber and Frickey (1991), while not overtly hostile to the application of public choice to law in certain cases, were sufficiently distressed by its pessimistic message to publish a book devoted to showing the limitations of such an approach.

The version of social choice that informs this legal scholarship fails to account for two phenomena that Social Choice theorists now recognize as important to how public policy is made: institutions and information. Long before judges had discovered the foundations of social choice, social choice theorists had discovered the role of institutions in promoting stability of political outcomes. The resulting "New Institutionalism," or "Positive Political Theory" (PPT) focused its attention on designing models that reflect the fact that political decisions are not made in an institutional vacuum. Legislatures have political parties, committees, caucuses, recognition and agenda rules, and finally well-defined reversion points (status quos), all of which add to the predictability and stability of policy decisions. Easterbrook suggests that the presence of agenda control makes it impossible to predict what alternative would emerge from the legislative process. In fact, quite the converse is true. If an individual (or small group) controls the legislature's agenda, it becomes necessary only to predict what the agenda-setter will do in order to anticipate the legislative outcome. This leads to a more tractable social choice problem.

Politics is fraught with uncertainty. Office holders do not know with precision what

² Mikva (1988, p. 176).

are the preferences of other office holders on every issue. One can never fully anticipate how the personnel of any branch of government will change in the near future. Changes in the political environment lead to changes in the saliency of various issues for political actors. Rules changes make certain types of policy-making more or less costly and time consuming, often to an extent that is only fully understood after being in place for a long time. Therefore, policy outcomes depend very heavily on how information is transmitted from one set of political actors to another.³ Certainly, when the Supreme Court is attempting to anticipate Congressional response to the possible outcomes of a case before it, the justices must consider the preferences of the members of Congress on the issue, the likelihood that the subject matter of the case is important enough to Congress to warrant the time and expense associated with enacting corrective legislation, and how changes in the preferences of the electorate might affect either of the above. The justices, however, will seldom have perfect information on any of these points. In fact, the uncertainty is likely to be great enough to call into question what course the Court should take.

PPT authors have optimistically pitched some of their papers as models of statutory interpretation.⁴ However, these authors appear to have forgotten what question was originally asked of them. Legal scholars first turned to social choice to discover what it could say about *interpretation* and its sister concept *legislative intent*. There is general agreement among legal scholars that when a statute is clear, when the circumstances under which it was

³ See Krehbiel (1991) for an excellent treatment of informational issues in legislative politics.

⁴ See, e.g., Eskridge and Ferejohn (1991), Gely and Spiller (1990), Marks (1988), McCubbins, Noll and Weingast (1991).

passed differs little from those of today, and when the statute is not self-contradictory, the court can and should adhere to what is written in the statute. This is the first canon of statutory interpretation.⁵ However, this represents the trivial case. In such a world of absolute certainty, there is no interpreting to be done. Therefore, the question of statutory interpretation is only interesting in the presence of uncertainty. While the existing PPT models have made great strides in the understanding of the bargaining game underlying court/congress interaction, all of them are deterministic.⁶ Therefore, although they all model something interesting, in no case can that something be called statutory interpretation. We build uncertainty into our model of Court/Congress interaction; therefore, the Court actually engages in interpreting statutes and discovering legislative intent.

Statutory interpretation is the act of judges attempting to discover what legislatures intended statutes to do. PPT suggests that, with attention paid to institutional features of the legislature, this can be accomplished.⁷ Equilibria exist, deals are struck, compromises are made, and statutes are passed. However, it cannot be ignored that statutory interpretation is a very difficult task. Judges spend thousands of hours trying to discern what legislatures intended and what congressional response to judicial decisions might be. We contend that this task is difficult, not because judges are stupid (or just poor social scientists), but because a large amount of uncertainty is embedded in the political process.

Another major tenet of PPT is that institutions are not historical accidents. Institutions

⁵ Esckridge and Frickey (1988).

⁶ See, however, Spiller (1991a).

⁷ See, McCubbins, Noll and Weingast (1991).

are designed, modified, and maintained so as to further the goals of those individuals responsible for the institutions' form. Judges have not been forced to pay attention to legislative history and other supplementary material for all of these years; they have chosen to do so. We can, then, conclude that such behavior is beneficial to judges. This paper begins to address why this might be so. In particular, we hypothesize that by paying attention to legislative history, the court provides a means by which Congress can reduce the Court's uncertainty about the preferences of Congress. Although Congress cannot resolve all uncertainty for the court, it can take steps to signal the court about its preferences and, consequently, about what types of judicial decisions are likely to provoke a congressional response.

Some legal scholars have criticized the attention by judges to committee reports, floor debate, and comments in the Congressional Record because these proceedings have never been voted on by the full Congress. We generally concur that one should not look to these sources for the definition of *the law*; however, they should not be ignored as sources of insight into what *might emerge* as the law, in response to a judicial decision. Committee reports are important because Congress is organized so as to provide significant agenda control to committee chairmen. In particular, committees can raise the cost of enacting legislation by *gate-keeping*. If a committee chairman does not want a piece of legislation to be considered by Congress, he can simply sit on it, refusing to report it to the floor. The discharge procedures, through which he can be forced to report the bill, are very time-consuming and cumbersome. It is usually not worth a member's time to fight with a committee chairman. In our model, when anticipating possible Congressional reaction to a

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decision, the Court is concerned, first and foremost, with how the relevant committee feels about the issue and how salient the issue is for that committee.

It is costly to produce detailed committee reports. Similarly, it is costly to engage in protracted floor debate. These signals are all generated when Congress could be doing something else with its time. The fact that Congressmen are willing to spend scarce resources on these activities suggest to the court that the subject matter is very important, and that the costs of enacting corrective legislation are small relative to the benefits from doing so. This helps to explain the attention paid by courts to supplementary materials. However, it should be noted that judges always stress the need to look for any possible way to infer the meaning of the statute from the actual wording of the statute. They suggest that the role of supplementary sources should always be secondary. Our model conforms with this approach. Legislative history, in our model, indicates to a judge that he should examine the statute more closely; for, judicial decisions that deviate too far from the intent of the statute may be overturned. In some sense, then, the process of generating legislative history is more important than its content.

While the generation of supplementary legislative materials is costly, it is not nearly so costly as writing more specific statutes. In addition to time and manpower necessary to produce the wording, it must be agreed upon by the Congress, a process that becomes hairier as legislation becomes more specific. Specificity is also a two-edged sword. As a statute becomes more specific, one might interpret it to say less about those contingencies not directly accounted for. In addition, a more specific statute will likely provide a judge with more, rather than less, fodder with which to support the interpretation of his choosing. In

addition, a more specific piece of legislation only constrains judicial interpretation to the extent that Congress is willing to support that legislation in the future. Therefore, while drafting specific legislation may provide a more informative signal to the court, in the sense that it is costlier than some alternatives, it is not transparent that it necessarily improves upon the "clear meaning" of the statute.

II. The Model

In this section we develop a very stylized signaling model between Congress and the Supreme Court⁸ which expands upon the positive approach to the Courts initially developed in Gely and Spiller (1990).⁹ The positive approach to Courts-Congress interaction is based on two basic building blocks concerning the preferences of the players (in this case the Court and Congress), and the sequence of the game.

Preferences

To simplify the model we assume that the legislature consists of a single chamber. In addition, we assume a single dimensional policy space, under the jurisdiction of a particular committee, that may or may not have control over the final disposition of the statute on the floor. Let P represent the ideal policy on the relevant dimension of the pivotal member of

⁸ The extension of this framework to introduce the administrative agencies is left for future research.

⁹ For further theoretical extensions of this approach see Eskridge and Ferejohn (1991), Ferejohn and Shipan (1990), Ferejohn and Weingast (1991), Gely and Spiller (1991), Spiller (1990), Spiller (1991a), Spiller (1991b), Spiller and Spitzer (1991). For an empirical implementation, see Spiller and Gely (1991).

Congress.¹⁰ Let the preferences of this particular pivotal member of Congress be given by $U^C(x) = -\alpha|x-P|$, where α represents the marginal disutility that Congress gets from a change in the policy away from P ; x reflects a particular policy in the policy dimension, and P reflects the ideal point of the pivotal member of Congress.¹¹ See Figure 1.

It is crucial for our argument that there be some uncertainty about the preferences of the relevant member of Congress. We let P be known, but α is assumed to be a random variable, taking values α_L and α_H , each with equal probability. Different values of the saliency variable, α , reflect the extent to which Congress cares about this particular policy issue. A high (low) value of α means that deviations away from P bring substantial (minor) utility loss to the relevant members of Congress.

We model the Courts as self interested, ideologically motivated institutions, making decisions subject not necessarily to the traditional legal rules of precedent, but rather to the constraints imposed by the other institutions of government (in this case, Congress). Furthermore, we assume that the Court's preferences can be represented by $U^{SC}(x) = -|x-SC|$,

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¹⁰ We are agnostic about the degree of control exercised by committees over outcomes on the floor. For the purpose of this analysis, however, it is only necessary to identify the pivotal member of Congress who may be the median member of the relevant committee, the median member of the floor, or the median member of the majority party in the committee. While these preference assumptions are clearly very strong, they are made exclusively for expositional simplicity. Similar results would be obtained with more complicated committee/floor interactions, but at the expense of increased notational, and computational, complexity.

¹¹ For expositional simplicity we will refer to the pivotal member of Congress as "Congress."

where SC represents the ideal point of the Court in the policy space.¹²

While the preferences of politicians will in general reflect the interests of their constituencies, that is not the case for Supreme Court justices. Supreme Court justices are appointed for life and thus do not feel the electoral pressure to adopt policies that reflect particular interest groups. Supreme Court justices' preferences, then, reflect the justices' view of the world, which could be termed ideology, moral theory, or, simply, preferences. We use "ideology" as a shorthand.

The Sequence of the Game

We model the interaction among Congress and the Supreme Court as a sequential game, where at each stage each player rationally forecasts the future evolution of the game and makes decisions accordingly. Thus, subgame perfection is assumed throughout. In general, our game has three stages: in the first stage Congress passes an initial piece of legislation. As we specify below, this piece of legislation can be either specific or vague. In the second stage, the Supreme Court considers an agency decision and makes a policy determination.¹³ In the third stage Congress considers whether to reverse the Court or not. Would Congress reverse the Court, then the new piece of legislation, which has to be quite specific, becomes the equilibrium to the game. If Congress fails to reverse the Court, then

¹² Observe that, without loss of generality, we are assuming that the marginal disutility of the Court is one.

¹³ We are assuming here that the Court can make policy decisions on a continuum, rather than simply upholding or rejecting an agency decision. For an alternative model of judicial decision making see Gely and Spiller (1990) or Spiller (1991b).

the decision of the Court becomes the equilibrium to the game.

Reversing the Court, however, is costly for Congress. First, members of Congress have to put time, effort and staff in drafting a bill. The more crowded the Congressional agenda the higher the shadow value of these scarce resources, and hence the higher the cost of reversing the Court. Similarly, the less cohesive Congress is, or the lower the power of the relevant Committee over the floor, the more difficult it will be to draft a piece of legislation reversing the Court. We let the cost of reversing the Court be a continuous random variable, which is drawn from two distributions: T_H^* and T_L^* , where $T_j^* = T_j + v$, $j=H,L$, each with the same probability of occurring, where $Ev=0$. Let $F(v)$ and $f(v)$ represent the distribution and density functions of v , respectively. There are, then, two sources of uncertainty about T . On the one hand, the expected value of T may be T_H or T_L , each with equal probability. Furthermore, the actual reversal cost will usually differ from T_j by a random variable v .^{14,15}

When members of Congress pass the initial piece of legislation, they only know their expected reversal costs, i.e. they know whether they are of T_H or T_L type. They cannot know, however, what the actual cost of reversing the Court will be at reversal time. Thus, after the Court has made its decision, Congress learns its actual costs (i.e. it learns v),¹⁶ and decides

¹⁴ Observe that the distribution of v has to be such that $T_L + v > 0$, for all v , as reversal costs cannot be non-positive.

¹⁵ These two sources of uncertainty are important. If knowing T_j would give full information about reversal costs, then in signaling models with separating equilibria we would not observe any reversal of Supreme Court decisions.

¹⁶ We can, then, see v as reflecting the randomness inherent to the Congressional agenda.

whether to reverse or not.

We can see that if T (and α) were perfectly known by the Court, then the model would be similar to previous models of Court/agency interaction where reversing agencies is costly (Spiller (1991b)), where Congress would take the place of the Court, and the Court the place of the agency. In particular, the Court would be restricted in its choice by the ability of Congress to overturn its decisions, but in equilibrium it will never be overturned. Assume, for example, that $SC > P$, as in Figure 1. Then, if the decision of the Court, x_{sc} , is higher than $P + T/\alpha$, then, the Court's decision will be reversed and substituted by a legislation setting P as the policy. Thus, if $SC > P$, the optimal strategy for the Court is to set $x_{sc} = P + T/\alpha$. Given this decision, Congress cannot overturn the Court, and thus x_{sc} becomes the final equilibrium. See Figure 1.

As we show below, Congressional reversals of Supreme Court decisions can occur when either α or T are unknown. We discuss this possibility below.

The Specificity of Legislation

When Congress passes an initial legislation it also decides on the form of its mandate. Here we assume that legislation can be of two types. It can be specific, in that Congress provides the agency and the courts with ample materials explaining the reasoning behind the statute and providing guidance for various contingencies. Alternatively, the statute can be vague, in that Congress only provides the agency with a policy goal to pursue, leaving the

details of the implementation to the agency.¹⁷ Examples of both types abound. Compare, for example, the Clear Air Act Amendments of 1970 with its 1990 counterpart. The initial legislation was quite vague, providing the EPA with substantial discretion on what it could actually do. On the other hand, the 1990 Amendments of the Clear Air Act is an extremely detailed piece of legislation. It consists of 700 plus pages of very specific regulations (and exemptions), and provides the EPA with very direct instructions, for example, on how to organize the market for pollution emissions.

We model the degree of specificity as a binary variable: $S=\{1,0\}$, with $S=1$ implying that Congress has made specific what it wants. Observe, however, that being specific is also costly. As with the determinants of T , the cost of being specific is related to both the cohesiveness of Congress, the crowdedness of the Congressional agenda, as well as how much each of the members of Congress care about this particular issue. In particular, for those members of Congress that care very much about the issue (i.e., those with high α) passing a very specific piece of legislation actually provides them with benefits over and beyond the particular policy outcome, as the passage of the law allows them to appear in the press and publicize their working for their constituents (who must also care a lot about the policy). On the other hand, for those that do not care at all about the issue (those with a low α), appearing in press promoting this particular piece of legislation is detrimental, as their constituents would rightly infer that their representatives are spending time on a worthless

¹⁷ Various steps can be taken to increase specificity. Among them are more specific wording of the statute, extensive committee reports, increased time for floor debate to be entered into the Congressional Record. We treat, here, all forms of specificity in the same manner.

activity. Observe that the first two determinants of the cost of specificity are the same as those determining T . Thus, for simplicity, we let the cost of drafting specific initial legislation ($C(\cdot)$) as being a general function of T and α , in particular, $C_T(T, \alpha) > 0$, and $C_\alpha(T, \alpha) < 0$. That is, signaling has lower net costs when Congress is passionate about the issue, and its organizational costs are low.

The Advantages of Specific Legislation

Since as discussed above specific legislation is costly, then why should members of Congress bother with specific and detailed legislation? Why can't they just delegate to the agency, and the Courts, to enforce what they actually want? As is clear from our discussion at the introduction and from the model above, would the Courts know perfectly Congress's preferences and cost of reversing the Court, then there is a unique equilibrium which is independent of the nature of the initial legislation.¹⁸ If, however, the Courts do not exactly know the Congress's preferences and their cost of reversing the Court, then writing specific legislation could provide a signal about their preferences and costs.

Consider, for example, a situation where the relevant members of Congress care a lot about this issue, and furthermore they are very cohesive in their preferences (i.e., they are (α_H, T_L) types). Then, if they cannot signal to the Court their preferences and costs the Court will treat them as "average," both for their α 's and T 's. As a consequence, as we will see

¹⁸ Our assumption that the Court can make decisions on a continuum imply that the initial status quo plays no role. If the Court could only sustain or reverse an agency decision, then the status quo would play a role. Furthermore, if the initial legislation impact upon the status quo, then there would be a role for specifying the initial legislation.

below, the optimal decision by the Court will be "too far" away from P, triggering too many reversals. Since reversing is expensive, there is a tradeoff between signaling ahead of time by writing a specific piece of legislation and reversing ex-post. Signaling, then, could provide the (α_H, T_L) type members of Congress the possibility of achieving Supreme Court decisions closer to their ideal point, and hence not having to reverse the Court too often.

Sending such signal by the (α_H, T_L) types, however, may not be productive. In particular, if members with low marginal disutilities or higher reversal costs could signal to the Court that they also have high α 's and low T's (i.e. they mimic the (α_H, T_L) types), then the Court could not separate one type from the other, and signaling by the (α_H, T_L) types would not pay. Thus, there would be no signaling at all, and all legislation would be vague. Below we provide conditions for these two types of scenarios (i.e. separating and pooling) to arise.

Solving the Model

We solve the model in the following way. We first look at the optimal decision by the Court given any particular information it has about Congress's preferences and reversal costs. We then compute, for each type of Congress, the expected utility from writing a specific piece of legislation. A necessary condition for writing a specific piece of legislation to be worth is if by so doing Congress can change the way the Court sees Congress. In formal terms, only if the Court's posterior distribution of types is affected by the signaling is that it may pay Congress to write a specific piece of legislation.

Complete Information About α and T_j

We begin by making some simplifying assumptions. First, let $P=0$, $SC>0$, and let v be uniformly distributed in the range $[-\hat{v}, \hat{v}]$, with $f(v)=1/2\hat{v}$.¹⁹ Thus, for a given Supreme Court decision x_{sc} , the probability that Congress will reverse it is given by the probability that the utility of Congress reversing the Court's decision, $-(T_j+v)$,²⁰ is higher than the utility of Congress from not reversing the decision, $-\alpha x_{sc}$.²¹ That is, T_j+v has to be less than αx_{sc} , or,

$$\text{Prob}(\text{Reversal} | x_{sc}, \alpha, T_j) = F(\alpha x_{sc} - T_j) = [\alpha x_{sc} - T_j + \hat{v}] / 2\hat{v}. \quad (1)$$

Given x_{sc} , and its corresponding reversal probability, then, the expected utility of the Supreme Court is given by

$$\begin{aligned} EU^{sc}(x_{sc} | \alpha, T_j) &= F(\alpha x_{sc} - T_j) U^{sc}(P) + [1 - F(\alpha x_{sc} - T_j)] U^{sc}(x_{sc}) \\ &= -F(\alpha x_{sc} - T_j) x_{sc} + (x_{sc} - SC) \\ &= x_{sc} (\hat{v} - \alpha x_{sc} + T_j) / 2\hat{v} - SC. \end{aligned} \quad (2)$$

The Supreme Court, then, maximizes its utility by picking a policy decision that will

¹⁹ Observe that since reversal costs cannot be negative, $T_j+v>0$ for all v and T_j . Thus, since the minimum value of v is $-\hat{v}$, $T_j>\hat{v}$ for all T_j .

²⁰ If Congress reverses the Court, then it passes a piece of legislation that sets the policy equal to $P=0$. Thus, while it achieves its most desired policy utility, Congress incurs a utility loss equal to the cost of reversal: $-(T_j+v)$.

²¹ Since the ideal point of the Court is assumed to be higher than that of Congress, the Court will never make $x_{sc} < 0$.

trade off a higher probability of reversal for a policy outcome closer to its most desired policy.²² The first order condition for the Court is given by:

$$\partial EU^{sc}(x_{sc}|\alpha, T_j)/\partial x_{sc} = 0,$$

which after rearranging implies

$$x_{sc}^* = (\hat{\nu} + T_j)/2\alpha. \quad (3)$$

Substituting (3) into (1) gives us the equilibrium probability of reversal, given α and T_j , as

$$\text{Prob(Reversal)}_{x_{sc}, T_j} = 3/4 - T_j/4\hat{\nu}.^{23} \quad (4)$$

We now can compute the equilibrium expected utilities of the Court and Congress.

Substituting (3) into (2) we obtain that the equilibrium expected utility of the Court is given by

$$EU^{sc}(\alpha, T_j) = (\hat{\nu} + T_j)^2/8\alpha\hat{\nu} - SC; \quad (5)$$

²² See Spiller (1992).

²³ Observe that since the probability of reversal has to be less than one, $F(\alpha x_{sc} - T) = (\alpha x_{sc} - T + \hat{\nu})/2\hat{\nu} < 1$. Since the optimal policy for the Supreme Court is $x_{sc} = (\hat{\nu} + T)/2\alpha$, we obtain that $3/4 - T/4\hat{\nu} > 0$, or $T < 3\hat{\nu}$. Furthermore, as we saw above, for reversal costs to be positive, $T > \hat{\nu}$. Thus, we obtain, $\hat{\nu} < T < 3\hat{\nu}$, for all feasible T .

while the equilibrium expected utility of Congress is given by

$$\begin{aligned}
 EU^c(x_{sc}|\alpha, T_j) &= \int_{-\hat{\nu}}^{\alpha x_{sc} - T_j} -(T_j + v) f(v) dv + \int_{\alpha x_{sc} - T_j}^{\hat{\nu}} -\alpha x_{sc} f(v) dv \\
 &= F(\alpha x_{sc} - T_j)(-T_j) - \int_{-\hat{\nu}}^{\alpha x_{sc} - T_j} v f(v) dv + (1 - F(\alpha x_{sc} - T_j))(-\alpha x_{sc}) \\
 &= F(\alpha x_{sc} - T_j)[\alpha x_{sc} - T_j] - E(v|v < \alpha x_{sc} - T_j) - \alpha x_{sc}
 \end{aligned}
 \tag{6}$$

which after substituting for the optimal x_{sc} gives

$$EU^{*c}(\alpha, T_j) = \frac{\hat{\nu} - 14T_j + \frac{T_j^2}{\hat{\nu}}}{16}
 \tag{7}$$

where the * represents the fact that the expected utilities are equilibrium levels given that the Court knows α and T_j .

We can now express some preliminary results in the form of Lemma 1:

- Lemma 1:** Given that the Supreme Court knows Congress's type (α, T_j) , then,
- a) the equilibrium level of Congress's utility is decreasing in T_j and in $\hat{\nu}$, while it is independent of α .
 - b) the equilibrium level of the Court's utility is increasing in T_j , but it is decreasing in α and in its own ideal point (SC).

The proof of (b) is straightforward from visual inspection of (5). To prove (a), observe that $\partial EU^{*c} / \partial T_j < 0$ if and only if $T_j < 7\hat{\nu}$. From construction, however, we know that $\hat{\nu} < T < 3\hat{\nu}$, proving (a). ■

Incomplete Information about α and T

Consider now the case when the Court thinks that Congress is of a particular (α_c, T_c) type while Congress actually is of a different type. We want to explore in this section whether Congress would benefit from changing the Court's beliefs. We perform this exercise by computing the change in Congress's expected utility from changes on the Court's beliefs about its preferences and reversal costs. Call α^* and T^* the Court's beliefs about α and T . Because of the linearity of the Court's utility function, the Court will chose its decision based on (α^*, T^*) .²⁴ It can be seen then, that the optimal decision is given by

$$x^* = (\delta + T^*) / 2\alpha^* \tag{8}$$

Denote by $EU^C(T, \alpha | \alpha^*, T^*)$ the expected utility of Congress when the Court beliefs Congress is of a (α^*, T^*) type, while Congress is of a (α, T) type. Then, after substituting (8) into (6), we obtain

$$EU^C(\alpha, T | \alpha^*, T^*) = \frac{(\alpha x^* + \delta - T)^2}{4\delta} - \alpha x^* = \frac{\alpha^2(\delta + T^*)^2 - 4\alpha\alpha^*(\delta + T^*)(\delta + T) + 4\alpha^2(\delta - T)^2}{16\alpha^2\delta} \tag{9}$$

Observe that if $\alpha^* = \alpha$ (i.e. the Court's beliefs about α are correct), then (9) becomes

²⁴ Would the utility function of the court be non-linear, then the actual distribution of the Court's beliefs would matter in the calculation of its optimal policy decision.

$$\frac{EU^C(\alpha, T | \alpha^*, T^*) = \vartheta^2 + T^{*2} + 4T^2 - 12\vartheta T - 2\vartheta T^* - 4T^*T}{16\vartheta} \quad (9a)$$

while if $T^* = T$, (9) becomes

$$\frac{EU^C(\alpha, T | \alpha^*, T) = \alpha(\alpha - 4\alpha^*)(\vartheta + T)^2 + 4\alpha^{*2}(\vartheta - T)^2}{16\alpha^{*2}\vartheta} \quad (9b)$$

We want to explore to what extent Congress can be made better off by changing the Court's beliefs about its preferences and reversal costs. Lemma 2 presents the basic results:

Lemma 2: Let (α^*, T^*) represent the Court's beliefs about Congress's (α, T) . Then, for all (α, T) and (α^*, T^*) that are consistent with internal solutions, a) increases in T^* make Congress worse off, while b) increases in α^* make Congress better off.

To prove the Lemma, observe, first, that changes in the Court's beliefs are translated into Congress's utility through the change in the optimal Court's action, x^* . That is, $\partial EU^C / \partial \alpha^* = \partial EU^C / \partial x^* \partial x^* / \partial \alpha^*$, and $\partial EU^C / \partial T^* = \partial EU^C / \partial x^* \partial x^* / \partial T^*$. From the first part of (9) we obtain that

$$\frac{\partial EU^C}{\partial x^*} = \frac{2\alpha^2}{4\vartheta} \left(x^* - \frac{\vartheta + T}{\alpha} \right) \quad (10)$$

Equation (10) implies that for $\partial EU^C / \partial x^*$ to be negative, $x^* < (\vartheta + T) / \alpha$. Observe, however, that from equation (1), for the probability of reversal to be less (or equal to) one, x

$< (\hat{v}+T)/\alpha$, for all x . Thus, interior solutions imply that $\partial EU^C/\partial x^* < 0$. Now, to prove the Lemma, all that remains is to show that $\partial x^*/\partial T^* > 0$ and that $\partial x^*/\partial \alpha^* < 0$. Observe, first that $\partial x^*/\partial T^* = 1/2\alpha^* > 0$, and that $\partial x^*/\partial \alpha^* = -(\hat{v}+T^*)/2\alpha^{*2} < 0$.

we derived (b). ■

The intuition behind the lemma is straightforward. In general, Congress prefers the Court to believe that it cares a lot about the issue (high α), and that would the Court deviate too much from Congress' ideal point, it can easily reverse it (low T).

The Gains from Signalling

We have just showed that if Congress could make the Court believe that its expected reversal costs are lower or its marginal disutility is higher, then Congress could move the Court closer to its own ideal point, implying less expected reversals and a higher expected utility. We now explore whether the benefits from signalling are similar across different types of Congresses, and compute the determinants of the gains from signalling.

Consider first, for simplicity of the exposition, the case when $\alpha^* = \alpha$. If Congress could signal its expected reversal costs, its change in utility would be given by:

$$\Delta EU^C = EU^C(\alpha, T|\alpha, T) - EU^C(\alpha, T|\alpha, T^*) = (T^* - T)[2\hat{v} - (T + T^*) + 4T]/16\hat{v}. \quad (11)$$

From (11) we see that if $T > T^*$ (i.e. if the Court believes that Congress's reversal costs are lower than they actually are), then signalling does not pay as $\Delta EU^C < 0$. On the other hand, if $T < T^*$, the gains from signalling are positive if and only if $2\hat{v} + 3T > T^*$. However, this

condition is always satisfied since $\hat{v} < T < 3\hat{v}$. That is, if $T = T_L$ but $T^* = T_H$, then there is a gain from signalling the true T_L .²⁵

Let $\Delta = T_H - T_L$. We can then derive the following comparative statics concerning the determinants of the gains from signalling:

Lemma 3: If $T^* = T_H$ and $T = T_L$, but $\alpha^* = \alpha$, then:
a) $\partial \Delta EU^c / \partial \hat{v} > 0$;
b) $\partial \Delta EU^c / \partial T_H > 0$.

The proof of the lemma is straightforward and is not presented here. It involves using the fact that internal solutions require that for all feasible T , $\hat{v} < T < 3\hat{v}$.

The Lemma implies, then, that for a Congress with low reversal costs, the benefits of signaling increase with the uncertainty about its own type.

Consider now a circumstance when Congress has high reversal costs. What are its gains from convincing the Court that its reversal costs are indeed low? Let $\Delta EU^c(\alpha, T_H | \alpha, T_L) = EU^c(\alpha, T_H | \alpha, T_L) - EU^c(\alpha, T_H | \alpha, T_H)$ represent the gains from convincing the Court that its reversal costs are indeed low when in fact they are high. It is straightforward to see that $\Delta EU^c(\alpha, T_H | \alpha, T_L) = \Delta T(2\hat{v} + \Delta T + 2T_H) / 16\hat{v}$. Observe that $\partial \Delta EU^c(\alpha, T_H | \alpha, T_L) / \partial \Delta T = 2(\hat{v} + T_H + \Delta T) / 16\hat{v} > 0$. That is, the higher the difference between the two reversal cost types the higher the benefits from misleading the Court. Furthermore, the benefits from lying for a high reversal cost type are higher than the benefits from signaling for a low reversal cost

²⁵ Expression (11) also shows that the benefits from signalling about T are independent of α , when $\alpha^* = \alpha$.

type. That is, $\Delta EU^c(\alpha, T_H | \alpha, T_L) > \Delta EU^c(\alpha, T_L | \alpha, T_L)$.²⁶ The benefits from lying, however, are bounded. Recalling that $\hat{\nu} < T < 3\hat{\nu}$, we find that $2\Delta T/16 < \Delta EU^c(\alpha, T_L | \alpha, T_L) < \Delta EU^c(\alpha, T_H | \alpha, T_L) < 10\Delta T/16$. Thus, if $C(\alpha, T_H) > 10/16\Delta T$ but $C(\alpha, T_L) < 2\Delta T/16$, then it will pay only for low reversal cost types to make the Court believe that they indeed have low reversal costs.

Thus we can state:

Lemma 4: The benefits for a (α, T_L) type from signaling its true type are lower than the benefits for a (α, T_H) type from convincing the Court that it is (α, T_L) .

Consider now the case when both T and α are private information. From equation (9) we can derive the benefits from signaling. Assume that would Congress signal, the Court's posterior beliefs about Congress' reversal costs and preferences would be such that the Court's policies would be given by x , while if Congress does not signal, then the Court's optimal policy would be x^* .

Then, from the first part of (9) we can derive that

$$\Delta EU^c = \frac{\alpha(x-x^*)}{4\hat{\nu}} [\alpha(x+x^*) - 2(\hat{\nu}+T)] = \frac{\alpha^2(x^2-x^{*2})}{4\hat{\nu}} \left(1 - \frac{\hat{\nu}+T}{\alpha \frac{(x+x^*)}{2}} \right) \quad (12)$$

²⁶ Recall that $\Delta EU^c(\alpha, T_H | \alpha, T_L) = \Delta T(2\hat{\nu} + 2T_H + \Delta T)/16\hat{\nu} > \Delta T(2\hat{\nu} + 2T_L - \Delta T)/16\hat{\nu} = \Delta EU^c(\alpha, T_L | \alpha, T_L)$.

Recall, though, that for internal solutions preferences have to be such that for all $(\alpha, T, \alpha^*, T^*)$ $x < (\delta + T)/\alpha$. Thus, the term in large brackets in (12) is negative. As a consequence, for all (α, T) , the benefits of signaling are positive if signaling brings about a Court's decision closer to Congress's ideal point (the origin). That is, $\Delta EU^C \geq 0$ as $x \leq x^*$. Observe, though, that Congresses with higher reversal costs get higher benefits from mimicking low reversal cost types than the latter types get from separating themselves from higher types. We want to confirm that partial result for all $x < x^*$. From (12), it is straightforward to see that

$$\partial \Delta EU^C / \partial T_{x, x^*} = -\frac{\alpha(x - x^*)}{2\delta}$$

which is positive for $x < x^*$. Thus, the benefits from signaling are increasing in reversal costs. Thus, for all $x < x^*$, high reversal costs Congresses will have strong incentives to mimick a low reversal cost type. Thus, unless costs of signaling are positively correlated with reversal costs, it will never pay a low cost Congress to signal. The reason is straightforward. If it is beneficial for the low cost type to signal, so is for the high cost types. Thus, the Court would not be able to separate low from high reversal cost Congresses, and hence will pay no attention to the signaling process. But if that is the case, then, it does not pay to anyone to signal. Thus, we can state:

Lemma 5: If $x < x^*$, then for all (α, α^*, T^*) , the benefits for a (α, T_1) type of signaling are lower than the benefits for a (α, T_2) type.

Observe, though, that the monotonicity of signaling benefits do not carry over to preference intensities. In particular, from (12) we have that

$$\partial \Delta EU^c / \partial \alpha_{x,x^*} = \alpha(x-x^*)[x+x^* - (\hat{v}+T)/\alpha] / 2\hat{v}. \quad (13)$$

The sign of $\partial \Delta EU^c / \partial \alpha_{x,x^*}$ depends on the sign of the term in square brackets in (13). Observe that if signaling provides the Court with Congress' true type (i.e., that Congress is able to separate itself from all other Congresses), then $x^* > x = (\hat{v}+T)/2\alpha$. Thus, $x+x^* > (\hat{v}+T)/\alpha$, and reducing α increases the gains from signaling. That is, if it is possible for a high α type to separate from all other types, then low α types would have an even higher incentive to signal. But if it is optimal for them to signal, then pooling would arise. Thus, to avoid pooling, signaling costs have to fall with α , as we discussed at the beginning of this section.

Thus, we can state:

Lemma 6: If signaling triggers a policy $x = (\hat{v}+T)/2\alpha_H$, then for all (T, T^*) such that $x < x^*$, the benefits of signaling for a (α_H, T) type are smaller than the signaling benefits for a (α_L, T) type.

Lemmas 5 and 6 show the potential for pooling equilibria in this model. Since those Congress types that would allow high levels of judicial (and agency) discretion, would their types be known, are indeed those that benefit more from misrepresenting their type by convincing the judiciary that they will only allow low departures from P , separation of types requires differential costs of signaling. Our assumptions about $C(\alpha, T)$ are consistent with

those needed to separate the different types, as signaling is more expensive for high T and the low α types. As a consequence, we can have different types of equilibria, some pooling and some separating. Nevertheless, since there is only one signal and four types of Congresses, separating equilibria will only be semi-separating. That is, at least two types of Congresses will be pooled together.

For instance, if it is beneficial for a (α_L, T_H) type to send a signal, then it is also beneficial for everyone else, and hence the signal will not be informative. As a consequence, the signal will not be sent. That is, there is complete pooling. This would happen, for example, if $C(\alpha, T) = 0$ for all T and α .

Depending on the cost of signaling for the different types, and on $\Delta\alpha$ and ΔT , separation could be based on the cost of reversing (i.e. all T_L types signal, while all T_H types do not), or on the marginal disutility (i.e. all α_H types signal, while all α_L do not).²⁷ Finally, an intermediate case could arise in which three types are bunched together and only one type is separated. We present these results in Proposition 1.

Proposition 1: With positive signaling costs, there are two basic types of equilibria: a) total pooling with no signaling; and b) partial pooling. Further-more, the following partial pooling cannot arise: (i) partial pooling with (α_j, T_H) , $j=L, H$ types signaling; (ii) partial pooling with (α_L, T_j) , $j=L, H$ types signaling; (iii) partial pooling with (α_i, T_j) , $i=L, H$, $j=L, H$, $i \neq j$ types signaling; (iv) partial pooling with (α_L, T_L) and (α_H, T_H) types signaling; and (v) partial pooling with only (α_L, T_H) type signaling.

²⁷ It is straightforward to see that an equilibrium cannot exist where all T_H signal they are T_L but all T_L types do not. The reason is that if that is the case, then the Court perceiving that only T_H types signal, would infer that those signaling are in fact T_H types, and hence the signaling will not be productive.

Proof: Since we already showed that total pooling may arise, to prove the proposition we have to show conditions (i)-(iv). Conditions (i)-(iv) are proved by contradiction. To prove (i), assume that it is beneficial for Congresses of types (a_L, T_H) and (a_H, T_H) to pool by signaling. Observing a signal then, provides information to the Court about T but not about a . Since there are two types of a , each has a 50% probability. As a consequence, for those who signal $(a^1, T^1) = [(a_L + a_H)/2, T_H]$, while for those who do not, $(a^0, T^0) = [(a_L + a_H)/2, T_L]$. Furthermore, it is straightforward to see that the Court's optimal decision given a signal is $x^1 = (\hat{x} + T^1)/2a^1$. Then, we can see that $a^1 = a^0$, whereas $T^1 > T^0$. Since we know that $\partial x^{sc}/\partial T > 0$, it is damaging to send a signal, which is a contradiction with its assumed optimality.

To prove (ii), assume that (a_L, T_H) pools with (a_L, T_L) by signaling. Observing a signal then, provides information to the Court about a but not about T . Since there are two types of T , each has a 50% probability. As a consequence, for those who signal $(a^1, T^1) = [a_L, (T_L + T_H)/2]$, while for those who do not, $(a^0, T^0) = [a_L, (T_L + T_L)/2]$. Then, we can see that $T^1 = T^0$, whereas $a^1 < a^0$. Since we know that $\partial x^{sc}/\partial a < 0$, it is damaging to send the signal, which is again a contradiction.

To prove (iii) and (iv), assume that either (a_L, T_H) pools with (a_H, T_L) or (a_L, T_L) pools with (a_H, T_H) by signaling. Then, $a^1 = a^0$ and $T^1 = T^0$, meaning that $x^1 = x^0$, and since signaling costs are positive, it cannot be beneficial to send a signal.

Finally, to prove (v), consider a situation where the only one to signal is (a_L, T_H) , while the other three types prefer not to signal. Since

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only one type signals, the Court can infer its identity. However, since (α_L, T_H) has higher reversal costs and lower marginal disutility, it will always prefer to be confused with the average of the other three types. Thus, (α_L, T_H) cannot be the only one to signal, proving the Proposition. ■

We can then state the following Corollary:

Corollary 1: If only one type separates itself, then it must be (α_H, T_H) . If two types separate, then they can be (α_L, T_L) and (α_H, T_H) or (α_H, T_H) and (α_H, T_L) . But only low reversal cost or high marginal disutility types separate.

In the next section we present an example where only (α_H, T_L) signals.

A Semi-Separating Equilibrium

In this section we provide an example where only (α_H, T_L) signals. Assume that $\alpha_L = .8$, $\alpha_H = 1$, $T_L = .8$, $T_H = 1$, $\delta = .6$, and let $C(\alpha, T) = T(3-\alpha)/10-.07$. Finally, let each of the four types have a probability of 1/4. These assumptions satisfy the different requirements discussed in the body of the text.

For only (α_H, T_L) to signal, the following four equations have to be satisfied:

$$\Delta EU^C(\alpha_H, T_L | \alpha^1, T^1, \alpha^0, T^0) > C(\alpha_H, T_L) \quad (14a)$$

$$\Delta EU^C(\alpha_L, T_L | \alpha^1, T^1, \alpha^0, T^0) < C(\alpha_L, T_L) \quad (14b)$$

$$\Delta EU^C(\alpha_H, T_H | \alpha^1, T^1, \alpha^0, T^0) < C(\alpha_H, T_H) \quad (14c)$$

$$\Delta EU^c(\alpha_L, T_H | \alpha^1, T^1, \alpha^0, T^0) < C(\alpha_L, T_H) \quad (14d)$$

Substituting the values for the different parameters, we obtain that (14a)-(14d) can be replaced by:

$$\Delta EU^c(\alpha_H, T_L | \alpha^1, T^1, \alpha^0, T^0) = .0935 > C(\alpha_H, T_L) = .090 \quad (15a)$$

$$\Delta EU^c(\alpha_L, T_L | \alpha^1, T^1, \alpha^0, T^0) = .0943 < C(\alpha_L, T_H) = .106 \quad (15b)$$

$$\Delta EU^c(\alpha_H, T_H | \alpha^1, T^1, \alpha^0, T^0) = .1243 < C(\alpha_H, T_H) = .130 \quad (15c)$$

$$\Delta EU^c(\alpha_L, T_H | \alpha^1, T^1, \alpha^0, T^0) = .1189 < C(\alpha_L, T_L) = .150 \quad (15d)$$

Equations (15) satisfy all the requirements for the type (α_H, T_L) to be the only one that would signal.

III. Final Comments

In this paper we provide a positive theory of legislative intent. Our theory explains two empirical puzzles: first, why Congress some times legislates in very vague form, allowing substantial discretion in the interpretation to the agencies and the Courts, while in others it passes very specific pieces of legislation, substantially restricting agency and judicial discretion. The second puzzle that our theory can explain, is why the Courts seem to look at legislative intent in making their decisions. Our theory suggests that these two puzzles are not unrelated. Both are the result of costs of writing specific pieces of legislation and of reversing the Court, as well as of lack of information about Congress's preferences and reversal costs. Since writing specific pieces of legislation is costly, it will not always be worth for members of Congress to express in great detail what policy they would like the

agencies and the Court to achieve. In particular, if the costs of reversing agency and judicial decisions is ^{high} very low and/or if the relevant members of Congress are relatively indifferent about the actual policies that will be taken, then it will not pay for Congress to specify ahead of time what policies should be undertaken. On the other hand, would Congress specify the policies, then they are providing a signal that their cost of reversing is quite low, and/or that they tend to have strong preferences about policies.

For signaling to be relevant (i.e. for specific legislation to be drafted originally), however, the Courts cannot have full information about Congress's preferences and reversal costs. Would that be the case, then all pieces of legislation would be vague, as there is no need to specify what is clearly well known. Once preferences and reversal costs are uncertain, however, the Court may look at Congress' actions and extract, albeit partially, Congress's characteristics. If Congress passed a specific law, then the optimal decision for the Court will be closer to the ideal point of Congress than if Congress passed a vague piece of legislation.

A main implication of this paper is that the court would like to promote behavior by Congress that facilitates separation of types. By so doing, the court increases the amount of information it has about potential congressional response to its own decisions. This suggests that canons of statutory interpretation will be biased towards congressional activities that are neither so trivial as to be pursued by every one in all congresses, nor so costly as being almost impossible to undertake by most congresses. In this sense, the standard view of judicial canons of statutory interpretation seem to fit our framework. Judges first look to the wording of the actual statute (the most costly signal of all), then they look at committee

reports and finally to legislative history (the poorest signal). An interesting topic left for future research is the examination of the different canons of statutory interpretation in light of the factors identified in this paper.



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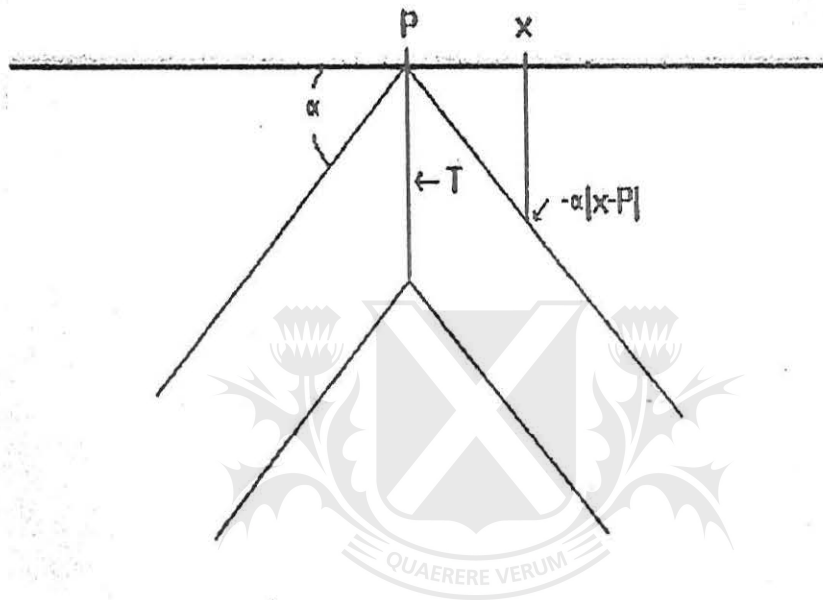
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Figure 1

Representation of Congressional Preferences and Reversal Costs



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