ABSTRACT

The scholarship on the interactions between Congress and Supreme Court in public policy making focuses chiefly on statutory law. This scholarship typically incorporates two assumptions. The first is that Congress has the final word, acting after the Court rules in statutory cases, so that legislative actions constrain the Court (Eskridge 1991). Second, both congressional and judicial actions are motivated almost solely by ideological considerations.

Although an approach based on these assumptions seems appropriate for statutory cases, it is not appropriate for interactions in constitutional cases. First, the branch that acts first is Congress. Congress enacts statutes, and the Court responds to challenges to those statutes in cases brought by dissatisfied litigants. Further, the Supreme Court typically has the last word in constitutional cases. Second, both members of Congress and Supreme Court Justices benefit from achieving policy that is successful and consistent with their ideological preferences (Krehbiel 1991, Baum 1997). Due to multiple goals, they may make tradeoffs between them.

This dissertation project develops a game theoretic framework that incorporates those two departures from the existing scholarship. Importantly, the theory argues that Congress is the constrained branch in constitutional interactions. It conceptualizes each statute as consisting of two components: its ideological content and its suitability--its
effectiveness in achieving the goals that underlie it. Having the power to make law, Congress has to anticipate whether the Court would invalidate a prospective statute. If necessary, Congress will temper the ideological content of its legislation, or it will attempt to increase the suitability of the statute. The Supreme Court can accept trade-offs of increased suitability for lower ideological benefits.

To test the model’s hypotheses about the behavior of both Congress and the Supreme Court in constitutional law, four analyses are conducted. By looking at the Court’s decisions that were made between 1971 and 2002, the first analysis tests whether and how ideology and a statute’s suitability influence judicial decisions to uphold or invalidate statutes. The second analysis reexamines these decisions in conjunction with the Court’s decision to review or not to review a challenge to a federal law. The third analysis examines the impact of ideology and suitability on the fate of federal statutes over time. An event history split-population model is used, and a frailty (random effect) term is included in the estimation. The final analysis uses a mixed-response statistical model to analyze statutes to determine whether and how the threat of judicial invalidation influences the suitability component of statutes.

The findings support the theoretical model proposed in this dissertation. The empirical analyses agree with the existing research that ideology plays an important role in judicial decision making. However, the suitability component of a federal statute also influences the probability of judicial invalidation and whether the Court grants a writ of certiorari. Ignoring this possibility is likely to lead to incorrect inferences. Additionally, one of the results suggests that when Congress makes law, its efforts to ensure the suitability of federal statutes are affected by Supreme Court preferences.
The dissertation also has the potential to achieve a broader impact on both judicial politics and American politics research. First, a part of the theoretical framework can be extended to statutory cases: Congress makes the first move by enacting statutes, and non-ideological considerations can influence the choices of Congress and the Court in that arena. Second, the general framework is applicable to other interbranch interactions, to interactions between federal courts of appeals and Supreme Court, and to interactions between state supreme courts and state courts of appeals. Finally, the relatively new methodology employed in this project could be used across subfields of American politics and in other disciplines.
To Madeline
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CHAPTER 1

INTRODUCTION: EVALUATION OF INTERACTIONS BETWEEN THE SUPREME COURT AND CONGRESS

“But Congress may not legislatively supersede our decisions interpreting and applying the Constitution”

Chief Justice William H. Rehnquist, Dickerson v United States (530 U.S. 428, p.7)

One of the areas of study in American politics that has produced numerous articles and extensive scholarly debate is the interaction between Congress and the United States Supreme Court. During the last fifteen years scholars armed with sophisticated statistical and analytical tools have tried to demonstrate evidence (or lack thereof) in support of the notion that the Court takes into account Congressional preferences when it makes legal rulings. In accordance with the paradigm of rational choice, the Justices of the Court act to maximize their utility. Being rational actors, the Justices have to take into account potential reactions of the lawmaking branch: the Court is constrained by Congress.

The overwhelming majority of studies view the Supreme Court as the political actor or a group of actors structuring its actions to avoid a possibility of adverse
congressional reaction. Collectively, these studies comprise the so-called strategic paradigm. However, this approach suffers from a major flaw: the actual process of lawmaking starts with the legislature. The Court is a reactive institution. The agenda-setting ability of Congress suggests a different mode of interaction than is presumed by the scholars considering the Court as the first-mover. Additionally, when the Court decides to determine a federal statute’s constitutionality, its decision is practically irreversible: the interaction between the two branches ends with the Court’s decision and congressional policy is either nullified (reverts to the status quo) or is upheld. Thus, it seems only natural that the members of Congress should anticipate a reaction of the High Court.

Consider the following, Eskridge et al. (2001) argue that some of the committee hearings related to the Civil Rights Act of 1964 and the Voting Rights Act of 1965 directly dealt with constitutionality of the respective bills. In addition, congresspersons were also interested in the constitutionality of the Flag Burning Act of 1989 (later invalidated by the Court) and Religious Freedom Restoration Act of 1993, and the House Armed Services Committee went as far as seeking advice from legal academics during the formulation of a “don’t ask, don’t tell” policy (Eskridge et al 2001, pp. 400-402). This suggests that congressmen and women are interested in the judicial reaction when creating laws that may involve constitutional issues.

Another flaw in the majority of the existing studies is an overwhelming concentration on the ideological preferences of the Supreme Court Justices. Only a few studies recognize that the Court may have other goals apart from maximizing its ideological utility, which offers a richer illustration of the decision-making process. Most
studies, however, tend to ignore additional considerations that impact judicial decisions. This is likely to result in the loss of the explanatory power of the dominant theoretical approaches and creates a potential for incorrect inference. For example, in 1996, the 104th Congress passed the Telecommunication Act of 1996. Its explicit purpose was to improve competition in the area of telecommunications and to produce reduction in federal regulation. Several of its titles addressed very important topics of competition in the local and long-distance markets, as well as competition in the wireless communication business and cable rates. Additionally, Title V of the Telecommunication Act, the Communication Decency Act of 1996, provided for protection of minors from harmful Internet material. Section 203(a) provided for criminal punishment to anyone who knowingly engaged in transmission of "obscene or indecent" messages to any recipient younger than 18. Section 203(d) criminalized deliberate transmission of “patently offensive materials” to persons under the age of 18. These two provisions of the Communication Decency Act were challenged in the Eastern District Court of Pennsylvania as violating the freedom of speech protected by the First Amendment. On a direct appeal, the challenges were heard by the Supreme Court in Reno v ACLU (521 U.S. 844). Given the dominant view on the importance of ideological considerations in the questions of the Separation of Powers (the interactions between Congress and Supreme Court), what would an observer of the Court in 1997 expect to be the outcome of these constitutional challenges?
The Rehnquist Court\textsuperscript{1} was known as a rather conservative judicial body. The 104\textsuperscript{th} Congress was led by the Republican Party that seized control of both congressional chambers for the first time in four decades. The Party attributed part of its success to American dissatisfaction with liberal Democratic policies of the previous forty years, and it viewed as its duty and its responsibility to the American people to produce conservative legislation (Walczak et al, 1994). In other words, both Congress and the Court were conservative. Thus, the Court basing its decisions solely on its ideological preferences should have sided with the federal government that attempted to pursue an important interest of protecting children in a conservative manner\textsuperscript{2} and should have rejected the constitutional challenges to the Communication Decency Act. In reality, the Court upheld both challenges and struck down the two provisions in question. Why did this happen? An obvious conclusion is that ideological preferences were not the decisive factor influencing the Court’s decision; however, what other considerations play a role in the questions of the Separation of Powers? The answer lies in the Court opinion authored by Justice Stevens. One part of the opinion deserves special consideration:

“The Act includes seven Titles, six of which are the product of extensive committee hearings and the subject of discussion in Reports prepared by Committees of the Senate and the House of Representatives. By contrast, Title V--known as the "Communications Decency Act of 1996" (CDA)--contains provisions that were either added in executive committee after the hearings were concluded or as amendments offered during floor debate on the legislation. An amendment offered in the Senate was the source of the two statutory provisions challenged in this case. They are informally described as the "indecent transmission" provision and the "patently offensive display" provision.” (521 U.S. 844, p.858)

\textsuperscript{1} The period of time in the Supreme Court history when it was headed by Chief Justice Rehnquist, 1987 through 2005, is known as the Rehnquist Court. Furthermore, between 1994 and 2005, the Court underwent no membership changes, which means that the same Court that decided \textit{Reno v. ACLU}, proclaimed in 2000 that the Federal Drug Administration does not have authority to regulate tobacco products. Thus, the 1997 Court is a rather conservative, pro-business court, which makes its decision in \textit{Reno v. ACLU} all the more puzzling, if one were to evaluate this decision only in terms of the Court’s ideological preferences.

\textsuperscript{2} Laws providing for criminal punishment are generally seen as conservative.
The Court also argues that “[t]he CDA's burden on protected speech cannot be justified if it could be avoided by a more carefully drafted statute” (521 U.S. 844, p.874). Thus, Stevens’s opinion suggests that, apart from ideological considerations, the Court takes into account the fit of federal statutes with reality, how well the statute is designed to deal with the specified objective, whether the challenged statute is the suitable means to achieve a particular policy outcome.

Together with reconsidering the sequence of the interactions between Congress and the Court, a consideration of suitability of federal statutes represents the major departure of this project from the overwhelming majority of the Separation of Powers studies.

The goal of the dissertation is to explain the interactions between Congress and the Court in cases that involve challenges to the constitutionality of federal statutes. I argue that the Court’s decisions in constitutional cases are influenced by ideological considerations and by whether the federal statutes are appropriate for the existing state of the world. I also argue that Congressional behavior, its likelihood of ensuring that federal statues are suitable for the existing state of the world, is influenced by characteristics of the Supreme Court.

The dissertation is important for several reasons. First, understanding the conditions that lead to important judicial decisions that influence the political and social environment of the United States serves a scientific purpose of explaining the nature of the behavior of institutional policy makers, in general, and, more specifically, politicians in the judicial branch. Second, this project expands the field’s knowledge by concentrating on the proper sequence of interactions between the two branches, as well as
by broadening the assumptions about judicial goals. Third, the theoretical approach of this project uses the analytical tools of the strategic paradigm;\(^3\) however, the nature of this analysis is contrary to the strategic studies, which demonstrates that the scholars of the strategic paradigm do not have the monopoly on a particular method of theoretical analysis. Finally, in conjunction with the Empirical Implications of Theoretical Models (EITM) approach, the dissertation implements novel methods of empirical analysis that are specific to the nature of the conclusions reached from the theoretical model.

The next section examines the existing research on the subject of the Separation of Powers. Chapter 2 constructs a game theoretic model of interactions between the two branches that assumes that both the legislature and the judiciary derive their utility from the ideological proximity to a policy location as well as from whether the policy is well suited to achieve a desired outcome. The model suggests that under a set of realistic assumptions, the Supreme Court would uphold a statute’s constitutionality even when it disagrees with the statute ideologically. This would occur whenever Congress dedicates enough of its resources to ensuring that the statute has been extensively researched. Chapter 2 ends by describing a set of predictions with respect to judicial and legislative behavior.

Chapters 3, 4, 5, and 6 statistically test the predictions. Each test is designed to closely match the nature of interactions between the two branches specified in the theoretical model. Additionally, two of the statistical tests make a methodological contribution to political science research by implementing a cure frailty model to

\(^3\) The so-called strategic paradigm encompasses game theoretic studies of the Court-Congress interactions that view the Court as anticipating congressional consequences, being strategic.
examine the time to invalidation of federal statutes over time and by examining the influence of judicial characteristics on the propensity of Congress to engage in legislative research through a mixed (continuous-discrete) dependent variables framework.

Chapter 7 offers conclusions and discussions of the dissertation findings and their importance for knowledge of the interactions between the United States Congress and the Supreme Court.

Review of the Separation of Powers Literature

The discussion below highlights the major features of the Separation of Powers literature. It describes the strategic and the purely attitudinal approaches to judicial decisions in statutory cases and looks at studies dedicated to judicial actions in constitutional cases. Almost all of these studies look at the Supreme Court as acting first.

The majority of the existing Separation of Powers studies concentrate on the interactions between the two branches in cases involving judicial interpretations of federal statutes. The theoretical arguments usually assume the following form: the Court faces a legal case, and, using statutory interpretation, the Justices may move a policy anywhere on an ideological continuum. The Court’s median controls the decision-making process and chooses to maximize its own preferences by making a particular decision. This action is followed by a possibility of a congressional override. Given the nature of legislative decision-making, one has to take into account the preferences of pivotal congressional members (Krehbiel 1998, Ferejohn and Shipan 1990). Pivotal actors are the congressional decision-makers who are able to change the status quo or to negate the change in the status quo. Should the judicial median belong to the Pareto
Optimal set of policies (a set moving away from which would result in at least one pivotal actor being worse off), then it would select its own ideal point. Should the judicial median be outside of the Pareto Optimal set, the median would select the ideal point of the closest pivotal congressional actor (Marks 1989, Eskridge 1991, Spiller and Gely 1992, Gely and Spiller 1990, Bergara et. al. 2003, Epstein and Knight 1998). This pivotal congressional actor will stop Congress from changing the status quo established by the Court. If the judicial median selects a policy outside of the congressional Pareto Set, congressional pivotal members would be able to move the policy away from the court-established status quo.

These studies concentrate on the Court as the first mover. However, they ignore the fact that, although in statutory cases the Court may account for Congressional preferences⁴, it is more appropriate to model the interactions between the two branches by endowing Congress with the power of the first move.

James Rogers (2001) follows a different approach. He models Congress as making the first move, and he introduces uncertainty about the state of the world and judicial preferences into the rational choice framework. His model predicts that the legislature is likely to benefit from having a divergent judicial body.⁵ An independent judicial body may serve to correct legislative mistakes. One of the results of the model (p. 93, Figure 3) suggests that only a convergent court would make a ruling incongruent with legislative interests. One assumption used in Rogers’s model is the notion that the court has an informational advantage over the legislature: while the legislature has to

---

⁴ This is a contentious argument; see Segal (1997) and Segal and Spaeth (2002) for opposing views.
⁵ Rogers never explicitly states whether divergence is ideological. However the structure of his games suggests that divergence does relate to ideological proximity.
predict consequences of its policies, the court is able to evaluate policy outcomes. However, given the power of the purse and availability of information provided by interest groups, the legislature, not the judiciary, is more qualified to make judgments about the correct state of the world. In subsequent chapters, I will explicitly account for a congressional advantage in available resources.

On the other side of this argument are the scholars who argue that Supreme Court Justices are not constrained by the other branches. The Court’s members do not have to face voters to retain their posts, which means that the Justices are removed from electoral pressures. The Justices serve for good behavior; in other words, the Justices occupy their position for life. The Supreme Court is the highest judicial body in the United States, resulting in the fact that the Court’s legal decisions cannot be overturned by any other court. Consequently, the Justices are in a very favorable position to shape policy in a manner congruent with their attitudes (Segal and Spaeth 2002). For these reasons, the proponents of the attitudinal model doubt the existence of any congressional influence on judicial decision-making. In addition to the listed reasons, some would agree with Robert Dahl’s (1957) argument that since the Court’s composition is a direct product of compromise among the members of the dominant coalition, the Court’s decision is likely to be in the Pareto Optimal set of the pivotal congressional actors, and the Court’s median, more often than not, will act sincerely and will affirm its preferences through legal reasoning. Segal (1997) extends Dahl’s argument by suggesting that the Court’s power could come not just from being assembled by a governing coalition but also by the fact that the number of pivotal congressional actors is so large (floor medians, party medians, committee chairs) that the judicial discretion zone would be large enough to
allow for sincere behavior at most times. Since these studies address the statutory
constraint arguments, they also view the Court as initiating the actions in the games of
Separation of Powers. These studies also ignore the possibility of the Justices being
motivated by something other than ideological preferences.

Finally, Spiller and Tiller (1996) and Hausegger and Baum (1999) address an
issue not considered by any of the previous studies: the existence of invitations to
override in the court’s opinions in statutory decisions. Spiller and Tiller (1996) suggest
that the Justices are motivated not only by ideological preferences but also by their
preferences for particular legal rules. Hausegger and Baum (1999) argue that the
phenomenon of inviting congressional overrides indicates the existence of another
dimension in the judicial decision-making, the “good law” dimension. The Court has
preferences over policy and over rules of statutory construction (plain meaning,
legislative intent, or purposivism). By having to invoke a rule allowing the most accurate
statutory interpretation, the Justices may be unable to select their preferred policy
position (Hausegger and Baum, 1999). In fact, the invitations to override judicial
decisions come primarily from the Justices, inability to reconcile their choice of rules for
statutory interpretation with a preferred policy outcome. Consequently, there exists a
trade-off between the accuracy of statutory interpretation (maintaining a good, consistent
body of law) and preferred policy. While not supporting either of the preceding

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6 The empirical analyses of these contrasting theories are inconclusive and are confounded by the need to
statistical evidence in support of their arguments, Segal (1997), Hettinger and Zorn (2005), and Sala and
Spriggs (2004) suggest an absence of support for the Separation of Power models. Solimine and Walker
(1992) find mild support for the Eskridge (1991) argument in congressional overrides of the Court’s civil
rights decision, and an earlier work by Beth Henschen (1983) discovered that the Court’s decisions in labor
and antitrust statutory cases result in very little congressional activity.
approaches, this line of research suggests a possibility for a richer explanation of the interactions between the two branches of government.

Much less theoretical attention has been dedicated to an arguably more important part of judicial decision-making, evaluating the constitutionality of federal statutes, which is the primary focus of this dissertation. There are several arguments explaining why the Court is unconstrained in constitutional cases. The most apparent one is the need for a constitutional amendment to overturn invalidation by the Court (Segal and Spaeth 2002). The arguments by Dahl (1957) and Segal (1997) stated above provide other valid reasons. The model below assumes the lack of the congressional constraint; therefore, it is necessary to address arguments to the contrary to justify the appropriateness of the assumption.

Rosenberg (1992) and Epstein et al (2001) list several ways in which Congress can influence judicial actions in constitutional cases. The authors concentrate on constitutional amendments and on the possibility of an institutional attack against the Court that may drastically change judicial operations.

The most obvious way of overturning the Court’s constitutional decision is to initiate the process of amending the Constitution. The Court should anticipate this possibility and act to avoid an unfavorable policy change that is likely to be permanent. However, given the difficulty of the process, it is not surprising that there were only four amendments overriding the Court’s invalidations (the 11th Amendment, 13th Amendment, 16th Amendments, and the 26th Amendment)7. History suggests that impeaching a

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7 There were just four Supreme Court rulings that eventually produced Constitutional Amendments: Chisholm v. Georgia (1793), Scott v. Sandford (1857), Pollock v. Farmer’s Loan and Trust Co. (1895), and Oregon v. Mitchell (1970).
Supreme Court Justice is even less likely. No Justices has ever been removed by impeachment.

Modifying the Court’s jurisdiction is an institutional threat. However, it is unlikely to be credible; history suggests that Congress is more likely to produce legislation increasing the Court’s discretion rather than curtailing it. Modifying the Court’s composition is a more credible threat; however, the last serious attempt was spearheaded by F.D.R. in 1937 and was voted down in Congress.

Requiring an appeal from the Supreme Court to a “more representative tribunal” and requiring supermajorities to declare unconstitutionality seem to be even less effective. Creating a supervisory tribunal will only result in the existence of a different judicial body with a final say on constitutional matters. Requiring super majorities for declarations of unconstitutionality would produce a bizarre situation where a simple majority of the Court would not be sufficient for invalidation, leaving a lot of questions about the statute’s validity. In other words, should the statute that was voted down by the Court’s majority but was not declared unconstitutional be still enforced? Finally, lowering federal judges’ salaries is prohibited by the Constitution, which suggests that the Founding Fathers thought of possible future attempts to influence the Court through financial means and took some steps to prevent that. Additionally, members of the Supreme Court tend to have assets that value in millions of dollars, which means that they are secured from any attempts to financially influence their decisions.

Harvey and Friedman (2004) find some support for the legislative constraint in constitutional cases. However, their model predicts that whenever the Court is outside of the Pareto Set of pivotal congressional actors, it will never overturn a federal statute
regardless of the statute’s ideological location, which is not very plausible. Additionally, using a statistical duration model, Harvey and Friedman (2004) obtain an interesting statistical result that suggests that all statutes passed by Congress will eventually be overturned by the United States Supreme Court. That is, they statistically rule out a possibility that some of the laws will never be heard by the Court. Given the numbers of public bills enacted each year and the size of the Court’s docket, Harvey and Friedman’s (2004) statistical models suffer from misspecification problems that is likely to lead to erroneous conclusions. I will explicitly account for some of the problems present in their analysis in Chapter 5. Conversely, Martin (2001a) finds no support for congressional influence in constitutional cases, and Martin (2001b) finds statistical support for the notion that the legislator’s votes are influenced by the Supreme Court.

Several studies analyzed a different type of legislative response to judicial non-compliance. Ignagni and Meernik (1994), and Meernik and Ignagni (1997) analyzed attempts at overriding the Court’s constitutional decisions by looking at the subsequent federal statutes. However, a passage of legislation is not an override, rather, after invalidation the policy position reverts to the status quo, and Congress may repeat the legislative process. There is nothing to prevent the Court from striking down these new laws.

A different study, Clark and McGuire (1996), analyzed a congressional attempt at limiting the Court’s decision in *Texas v. Johnson* (491 U.S. 397) invalidating the flag

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8 The overrides are defined as rewriting laws to pass judicial scrutiny, finding support for questionable laws in other sections of the Constitution, and rewriting legislation with the support of other Supreme Court precedents (Meernik and Ignagni 1997, p. 451). It is not clear why the first type is considered an override. If Congress rewrites the law to withstand the Court’s scrutiny, the Congress seems to be taking the Court’s wishes into consideration, rather than overriding the Court’s decision.
burning statutes. The authors look at the motivation behind congressional actions on the vote for and against the flag-burning amendment. Their study suggests that attempting to pass a constitutional amendment even under enormous public pressure is unlikely to be successful.

Unfortunately, none of the analyses of the interactions between the two branches in constitutional cases acknowledged the possibility of the Court making its decision on grounds that are not ideological.

Thus, these analyses show congressional interest in the Court’s constitutional decisions\textsuperscript{9} and when the Court decides to determine a federal statute’s constitutionality, its decision is practically irreversible: Congress may pass another law correcting the Court’s decision, but such a law could simply be struck down again. Finally, following Spiller and Tiller (1996), Hausegger and Baum (1999), and Rogers (2001), it is important to consider that, apart from ideological policy considerations, both Congress and Supreme Court may have other preferences that shape their actions.

Plan of the Dissertation

The plan of the dissertation is to develop a theory that improves the understanding of the nature of congressional-judicial interactions, to derive a set of testable predictions, and to empirically test these hypotheses.

Chapter 2 constructs a mathematical model of the interactions between the two branches. It structures the decision making process by modeling Congress as making the

\textsuperscript{9} In fact, Clark and McGuire (1996) and Miller (1992) offer some evidence of legislative support for the judiciary in constitutional cases.
first move. Congress selects a new ideological status quo and the suitability level associated with a particular statute. A congressional action is followed by a judicial response that determines whether a statute is valid or unconstitutional. If the statute is unconstitutional it is struck down, otherwise it is accepted. The model also specifies a role for legislative resources that are necessary to exact an ideological change and to ensure appropriate levels of suitability. An extension of the model introduces uncertainty with respect to judicial ideological preferences. The model’s equilibria suggest that the Court is influenced by the suitability of federal statutes when reviewing them for constitutionality and that Congress must temper its drive to reap ideological benefits by paying attention to aspects of laws’ suitability to avoid invalidation by the Supreme Court. The mathematical model offers a set of predictions with respect to the judicial likelihood of invalidating federal statute and congressional propensity to ensure statutes’ suitability to avoid judicial invalidation.

In Chapters 3, 4, 5, and 6, I conduct empirical tests of the theoretical model’s hypotheses. In Chapter 3, I examine the Supreme Court decisions on the merits in cases that involved constitutional challenges to federal statutes. I test for whether the Court’s decision to uphold or invalidate a statute is based on ideological factors and on a statute’s fit with the existing state of the world, its suitability. The data comes from Spaeth’s (2006) United States Supreme Court Judicial Database, 1953-2005. I examine judicial decisions made by the conservative Burger and Rehnquist Courts.

In Chapter 4, I examine the Supreme Court decisions at the agenda-setting stage (the writ stage) in cases involved constitutional challenges to federal statutes. I test for whether the Court’s decision to review a challenge to a statute is based on ideological
factors and on a statute’s fit with the existing state of the world. The data come from the Court’s dockets for the 1994-2004 Terms, which is the last natural Court led by Chief Justice Rehnquist.

In Chapter 5, I examine the fate of federal statutes over time to determine whether such characteristics of statutes as suitability, availability of legislative resources, or ideological placement impact the time to invalidation by the Supreme Court. I estimate a duration model with a cure component, a probability that a statute will never be invalidated. Additionally, I control for possible heterogeneity across statutes by incorporating the frailty term into the duration part of the cure model. The data for this analysis consist of all public laws of substantive nature passed by Congress between 1987 and 2004.

In Chapter 6, I examine the effect of judicial preferences on the suitability of federal legislation. I view congressional efforts at achieving a good fit between statutes and the existing state of the world as a dependent variable, and I conduct a mixed response analysis\(^\text{10}\). The data for this analysis is a random sample of laws passed between 1977 and 2002.

In Chapter 7, I summarize the findings of the dissertation, and I discuss the significance of my conclusions with respect to the discipline’s knowledge and understanding of the interactions between Congress and the Supreme Court. I also discuss the theoretical and methodological contributions of the dissertation and provide paths to extending this project to other important questions of institutional interactions.

\(^{10}\) A mixed-response analysis looks at a system of simultaneous equations where the set of endogenous variables consists of discrete and continuous variables.
CHAPTER 2

THE THEORY OF CONGRESS-SUPREME COURT INTERACTIONS IN CONSTITUTIONAL CASES

Does the United States Supreme Court consist of ideologues who make decisions solely on the basis of personal ideological preferences? The proponents of the attitudinal model would surely argue so. However, the fate of the Communication Decency Act of 1996 described in the previous chapter suggests that there is more to Supreme Court decision making in the constitutional cases than simple reliance on political ideology. Ignoring the possibility that the Court pays attention to how effective federal laws are in achieving their intended purpose is likely to result in incorrect inference and misunderstanding of the Supreme Court’s role in American political process.

This chapter describes a new theory of the interactions between Congress and Supreme Court and derives predictions which will be tested in the subsequent chapters. The theory takes into account both ideological preferences of the two branches and their preferences over producing policy that fits with the existing state of the world/achieves the desired outcome. The theory is a mathematical model, a constrained maximization problem.
First, the chapter describes the stylized process of interactions between the two branches. Second, the chapter constructs a mathematical model and provides its solution. Third, the chapter offers a graphical interpretation of the model’s results. Fourth, the chapter compares the model’s results with the conclusions from a basic spatial model that is used by the proponents of the strategic paradigm. Fifth, the chapter presents an extension of the model to include incomplete information about the nature of judicial ideological preferences. Finally, the chapter outlines a set of predictions derived from the model.

The Stylized Description of the Model

Below is a stylized, intuitive description of the theoretical model that I derive in the subsequent section.

Consider a world in which the legislature is interested in two aspects of the lawmaking process. First, the lawmakers wish to make sure that the policy outcome is close to their ideal points on the policy continuum. The ideal points could represent personal interests or the preferences of the median member of the legislator’s constituency.

In addition to ideological considerations, the legislators are likely to care about whether a policy achieves a correct/expected, beneficial outcome. In other words, to borrow Rogers’ (2001) terminology, an enacted policy could be inappropriate for the existing state of the world. The lawmakers are likely to suffer disutility if the policy designed to achieve some ends produces an unexpected outcome that is not appropriate for the present state of the world. Fenno (1973) argues that legislators care about good
policy. Gilligan and Krehbiel (1987, 1989) and Krehbiel (1991) argue that the United States Congress structures the law making process to achieve the maximum information gain, which in turn minimizes the possibility of achieving an undesired political outcome. The first Congresses created various committees and subcommittees precisely for informational reasons: to evaluate the social and economic impact of the legislation, to ensure the statutes’ appropriateness. The chamber median offers closed rules for the floor debate in exchange for the increase in informational quality of the legislation researched in the committees (Gilligan and Krehbiel 1987). Furthermore, the chamber median provides for unbiasedness of the committee information by ensuring that the average member on a committee panel shares the median’s preferences (Gilligan and Krehbiel 1989). This assures a decrease in the bias of the information reported by committees to the chamber. Clearly, when constructing a policy, the legislative median cares about achieving appropriate consequences for which it needs information.

Assuming rationality of the Supreme Court members (it would be difficult to accuse the top legal minds of being irrational) and assuming that the Supreme Court members have well defined preferences over ideology and over the dimension of the bill’s suitability, the Court members are willing to accept trade-offs. The Court members could uphold a law that is not as good ideologically as the status quo in exchange for increases in the law’s suitability for the existing state of the world, and vice versa.

It might not be immediately clear that suitability and ideology are orthogonal to each other, so consider the following hypothetical example. Politicians agree on improving the welfare of the nation’s citizens. They have certain goals that they agree on; however, they might disagree on methods for achieving these goals. These goals can
range from reducing poverty and providing for the elderly to improving education and reducing crime. Take the goal of reducing crime. Members of Congress and judges, liberals and conservatives, are interested in reducing crime. Thus the goal of a crime fighting statutes could be reduction of crime. Suppose that liberals prefer reducing crime by offering community based programs, and conservatives intend on reaching this goal by increasing criminal sentences for convicted offenders. Assume that Congressional pivotal actors are conservative and that they produce a statute that attempts to reduce crime by doubling the length of incarceration for felons. Thus, the statute could be viewed as consisting of two parts: the ideological component (the length of sentences) and the suitability component (where the law does achieve the outcome of reducing crime). The first component benefits conservatives but is not favored by liberals, however, the second component benefits everyone. Suppose that the statute is implemented, and it results in a drastic drop in crime rates. Further, assume that the pivotal Justice of the Supreme Court is liberal. This Justice is in an obvious disagreement with the statute’s ideological component, however, this Justice appreciates the statute’s effect on the nation’s crime rates. The Justice faces a trade-off: to strike down the law, because it converges from his/her preferred ideological position, versus allowing the law to stand but suffering ideological disutility.

The concept of judicial scrutiny fits well within the model’s framework. Depending on the level of scrutiny, a statute challenged on constitutional grounds as violating a particular right has to show a state interest (compelling, important, or legitimate depending on the level of scrutiny) and that the means of achieving this goal is appropriate. The appropriateness of a statute is determined by whether it is sufficiently
narrowly tailored or is a rational way of achieving the goal, depending on the level of scrutiny. The state interest could be viewed as a particular social goal. The means of achieving this interest could be viewed as the ideological component of a statute. Finally, determination of whether the statute is sufficiently narrowly tailored is the degree of congruence between a statute’s impact and the social objective, the statute’s suitability.

As a more substantive example consider the following. In 1995, in *Adarand Constructors, Inc. v. Pena*, the Court argued that for the federal programs involving race based classifications to withstand strict scrutiny, the government must show a compelling interest and a policy must be narrowly tailored. In a more recent case, in 2003, in *Grutter v. Bollinger*, the Court upheld the University of Michigan Law School’s affirmative action policy. Sandra Day O’Connor, writing for the Court’s majority, stated that state policies that fall under the category of strict scrutiny must demonstrate narrowly tailored procedures to advance a compelling state interest. She concluded that the University of Michigan Law School policy was sufficiently narrowly tailored. To place the Supreme Court decisions in the context of the model would be equating the terms “narrowly tailored” with being well researched, accounting for possible consequences, and being able to achieve the intended goal in the best manner. Because *Grutter* was a case determining the constitutionality of state policies, one can extend the game’s framework to include challenges to states’ statutes and actions. More on this will be discussed in Chapter 7.
Formal Representation of the Argument

Having developed intuition for the model, consider its mathematical form. The basic structure of the formal model is a combination of a spatial (ideological) dimension with a valence (suitability) dimension (Ansolabehere and Snyder, 2000).

There are two players in this game: the legislature and the court. For ease of exposition assume that the legislature can be represented by its median, $m$, and the court’s preferences can be represented the judicial median, $c$\textsuperscript{11}. The terms “legislative median” and “legislature” will be used interchangeably. Likewise, the terms “court” and “judicial median” will be used interchangeably. Both $m$ and $c$ derive their utility from their respective proximity to the policy location on a one dimensional ideological continuum (from now on referred to as a policy continuum) and from how well the policy was researched. In other words, in addition to ideological utility, both governing bodies benefit from whether the research process addressed possible deviations from the intended outcome, from how specific is the bill, whether the research process ensured its appropriateness to the state of the world, whether the potential unintended consequences were addressed. Research could also mean congressional investigation of the constitutionality of legislation as may be interpreted by the Court. Simply put, both actors care about how “suitable” (well researched and thus appropriate to the state of the world) is the policy.

The legislature has a certain amount of resources $E$ (which can be viewed as effort), which is the total amount of resources that can be spent on both a policy move and to ensure that the legislation is “suitable.” Thus, it is costly not just to conduct

\textsuperscript{11} Given the majoritarian requirements of both branches, concentration on the medians is appropriate.
research by gathering valuable information, but it is also costly to realize a move on the ideological dimension. The legislators need to spend resources on creating the best policy that would benefit their constituencies, which would allow a relatively easy reelection process. They need to spend their own and their staff’s time on publicizing their actions among the electorate. They may have to engage in negotiation and trades among fellow law-makers. They may even have to hold hearings both to publicly take positions and to learn about the ideological location of a considered policy. Thus, the legislators have to spend time, physical effort, and financial resources to make sure that they can move the policy as far as they want. $E$ is the total amount of resources available for a policy move and to ensure a bill’s suitability. The law makers can spend $E$ on a policy move from $q$ (the status quo) to $x$ (the new policy position) and on $T$ (the suitability/quality of the bill). Additionally, $T$ (the amount spent on the bill’s suitability) could simply be interpreted as the amount of resources that could have been spent on the policy move had the legislature decided not to stop at $x$. The amount of suitability associated with the status quo is $T_0$. $T_0$ could be viewed as either the suitability associated with the policy without congressional interference and that is due to common law, administrative behavior, or simply established business practices, or $T_0$ could be seen as the suitability that was associated with the previous legislative act that was modified by placing the policy at $x$ and establishing suitability at $T$.

If the legislature adopts a new policy that is not rejected, then the legislative median utility is the following:

$$U_m(x, T) = -\alpha|m - x| + T$$
where $\alpha$ represents the intensity of the legislative median’s preferences for a policy, or the salience of policy. The ideal point of the legislative median is $m$, and the proposed policy location is $x$. The negative absolute value term corresponds to the loss of utility that the legislative median experiences if the policy differs from its ideal point. The $T$ term represents the utility from the suitability of the legislation. One way to interpret this utility function is to think of the legislators as wanting to minimize the policy loss and achieving good quality laws. If the legislature decides not to change the status quo or the legislative attempts at change are rejected by the court, the legislature’s utility is

$$U_m(x; T) = -\alpha|m - q| + T_0,$$

where $q$ is the status quo policy.

Moving the policy, as well as assuring its quality, requires resources. Resources are finite, which means that there is only so much policy movement in combination with the suitability research that could be dedicated to a bill. This relationship is formalized as the following: $E \geq p_T T + p_q|x - q|$, where $E$ stands for the total amount of available resources; $p_q$ is the coefficient representing cost (in units of legislative resources) paid by the legislative median for a move from the status quo, $q$, to a new policy location, $x$; and $p_T$ is the coefficient representing cost (in units of legislative resources) paid by the legislative median for the suitability of a new bill. In equilibrium, this relationship should hold with equality.

Naturally, the legislature will refuse to make a change to the status quo if a combination of the new policy, $x$, and its suitability, $T$, is not preferred to the old status
quo/suitability combination. Its own participation constraint has to be satisfied.

Formally,

\[- \alpha |m - x| + T \geq - \alpha |m - q| + T_0,\]

where $T_0$ represents the status quo suitability. Without the loss of generality, I assume $q < m$.

Utility of the judicial median is similar to the legislative utility in its functional form:

\[U_m(x,T) = - \beta |m - x| + T,\]

where $\beta$ represents the intensity of the court’s preferences on the policy dimension (salience of policy for the court), and $c$ is the court’s ideal point.

The court will uphold a legislative act whenever the following is true:

\[- \beta |c - x| + T \geq - \beta |c - q| + T_0.\]

In other words, the court prefers the more recent combination of policy and suitability to a combination of the status quo policy and status quo suitability.

The above information results in the following maximization problem:

\[
\max_{x, T} U_m(x,T) = -\alpha |m - x| + T, \text{ s. t. } T \geq 0,
\]

\[- \alpha |m - x| + T \geq - \alpha |m - q| + T_0 \text{ (which means that the legislature is willing to change the status quo policy and suitability, should hold in equilibrium),}\]
\[ -\beta|c - x| + T \geq -\beta|c - q| + T_0 \] (which means that the court is willing to uphold the legislative action),

\[ E = p_T T + p_q |x - q|. \]

I normalize the budget constraint by dividing each side by \( p_T \), resulting in

\[ E_r = T + p|x - q|, \]

where \( E_r = E/p_T \) (relative legislative resources) and \( p = p_q/p_T \) (relative price).

The following discussion will largely involve the concepts of relative legislative resources and relative price. It is done so for the sake of eliminating messy notation. However, the two concepts also have individual meanings. The relative resources could simply be viewed as the maximum amount of suitability (the largest number of units of suitability) that could be afforded given a particular \( E \). The relative price could be seen as the price in units of suitability that the legislature has to pay for a change on a policy dimension.

Although the description of the model’s solution will involve the concepts of relative price and relative resources, the empirical predictions will be stated in terms of actual resources and actual prices for suitability and policy movement.

To keep track of all parameters in the game, please refer to Table 2.1.
The Model’s Solution

The game’s solution is obtained by backward induction (proof is in Appendix A). There are four major and three minor/trivial cases to consider. Each case corresponds to a different amount of relative legislative resources possessed by the legislature. Since different amounts of resources allow different policy movements with associated spending on suitability, each case represents a different level of judicial constraint associated with a potential bill. The cases progress from situations with a very low amount of relative legislative resources to situations where the legislature has a much greater amount of relative resources. Looking at this in terms of actual resources simply means that holding the price for suitability constant, the cases progress from situations with a low amount of actual resources (translating into low relative resources) to the cases with a higher amount of actual resources (translating into higher relative resources). The reverse is true for the changes in the price for suitability, with the actual resources held constant.

All cases have in common the following features: the closer is the court to the legislature, the more likely it will uphold a statute, and the larger is the amount of relative resources, the more likely the court will uphold the statute, even if it would normally disagree with the new policy location. Also, it is important to note that the legislature will make an attempt at a policy shift only when its intensity of preferences is larger than the relative price. A way to interpret this is to realize that the legislature will not be making any policy changes if its preference for a policy change is less than the amount of resources it has to spend on this change. When \( \alpha \) is less than \( p \), moving the policy is simply too expensive; the payoff in terms of policy is not large enough to justify such a
move. To help illustrate the progression of the cases discussed below refer to Figure 2.1. The top part of the figure represents the correspondence between the amount of relative resources and each case of the game. The top part represents a situation when the amount of $p(m-q)$ is larger than the status quo suitability. As the amount of relative resources increases past the status quo suitability, the game moves from Case 1 described below to Case 2. Once the amount of relative resources becomes larger than $p(m-q)$, Case 4 becomes the relevant part of the game. The bottom part of the figure represents a reversal in the values of the status quo suitability and the amount necessary to move policy to the legislative median ideal point, $p(m-q)$. Here, the status quo suitability is larger than $p(m-q)$. In this situation, as the amount of relative resources increases and becomes larger than $p(m-q)$, the game moves from Case 1 to Case 3. Logically, when the amount of relative resources exceeds $T_0$ and $p(m-q)$, the game moves into Case 4 (documented below).

It is important to note that should the legislature be unconstrained by the court, it would prefer to move the policy to $x^* = m$ and spend the rest on suitability or (if there are not enough resources for this move) spend all resources on a policy move and nothing on suitability. This is the case because, if the legislature chooses to make a policy move, its intensity of preferences for a policy change is very high, which means that legislators want to minimize policy loss by making a policy move more than improving suitability.

The following discussion first lists the conditions that have to hold in each case; then it addresses each case separately.
Whenever $E_r < \max[T_0 - (m - q)(\alpha - p), T_0 - (m - q)(\beta - p)]$ or
\[ T_0 > \min[\alpha(m - q), \beta(m - q)], \]
either the legislature or the court will not be satisfied with any policy shift. The first inequality could be seen as having so few relative legislative resources that $m$ will never attempt a change in the status quo. The second inequality suggests that the preexisting suitability is so great that there will likely be no amount of relative resources that would produce a policy move and a spending on suitability satisfactory to both political actors.

First, consider a situation when the amount of relative legislative resources is such that $E_r \in \left[ (pT_0 / \alpha); T_0 \right)$ and $E_r < p(m-q)$. The relative resources, $E_r$, do not allow a policy movement to $m$, even if the legislature was unconstrained. Additionally the relative resources are so few that the status quo suitability is larger than $E_r$. This could be seen as a very low $E$ or a very high $p_T$.

**Case 1:** Whenever $c \geq q + (\beta E_r + pT_0)/(2 \beta p)$, the legislature offers its preferred policy, $q + E_r/p$, with corresponding suitability of 0, which the court approves. Whenever
\[ c \in \left[ q - \frac{(E_r - T_0)(\alpha + \beta)}{2(\alpha - p)\beta}; q + \frac{\beta E_r + pT_0}{2p\beta} \right], \]
the legislature offers a policy position $x$ that would make the court just indifferent between the new policy and status quo,
\[ x = \frac{2\beta c - (\beta - p)q + E_r - T_0}{\beta + p}, \]
with corresponding suitability of $E_r - p(q - x) \geq 0$. The court approves. Whenever
\[ c < q - \frac{(E_r - T_0)(\alpha + \beta)}{2(\alpha - p)\beta}, \]
there does not exist an offer that the court would accept. Consequently, \( q \) remains the status quo and \( T_0 \) remains the corresponding suitability.

In this case, it is impossible to conduct a policy move when the court is so far away from the median that the judiciary will never accept a change,

\[
c < q = \frac{(E_r - T_0)(\alpha + \beta)}{2(\alpha - p)\beta}.
\]

Notice that the right hand side is a sum because \( E_r < T_0 \). However, if the court and the legislature are relatively close,

\[
c \geq q = \frac{(E_r - T_0)(\alpha + \beta)}{2(\alpha - p)\beta},
\]

this greater amount of relative resources allows the legislative median to find such a policy that would make the court indifferent between the old status quo and the new proposal. When the judicial median is very close to the legislative median,

\[
c \geq q + \frac{\beta E_r + p T_0}{2 p \beta},
\]

and whenever \( q < m < c \), the court will agree with the legislative decision to spend all its resources on the policy movement. It happens simply because in this case the new policy would be closer to the judicial median ideal point than the status quo policy. Thus, an ideologically distant court forces the legislature to dedicate some of its resources to suitability to avoid invalidation.

As the amount of legislative resources increases, the court and the legislature find themselves in a different situation. The amount of relative legislative resources is such that \( E_r \geq T_0 \) and \( E_r < p(m-q) \). Although the amount of relative resources is large (larger than the status quo suitability), the legislature still cannot afford the policy move to \( m \).
Case 2: Whenever
\[ c \geq q + \frac{\beta E_r + pT_0}{2p\beta}, \]
the legislature offers its preferred policy, \( q + E_r/p \) with corresponding suitability of 0, which the court approves. Whenever \( c \in [q; q + (\beta E_r + pT_0)/(2p\beta)] \), the legislature offers a policy position \( x \) that would make the court just indifferent between the new policy and status quo,
\[ x = \frac{2\beta c - (\beta - p)q + E_r - T_0}{\beta + p}, \]
with corresponding suitability equaling to \( E_r - p(q - x) \geq 0 \). The court approves. Whenever \( c<q \), the legislature offers \( x = q + (E_r - T_0)/(\beta + p) \) and suitability that is equal to \( E_r - p(q - x) \geq 0 \), which is accepted. Notice that, in this case, there will always be a policy move.

In this case, because the amount of relative resources is larger than the status quo suitability, there is always a possibility for the legislature to make a policy move in exchange for spending resources on suitability. Even when \( c<q \), by spending its large amount of resources on suitability, the legislature can move policy up to \( q + (E_r - T_0)/(\beta + p) \). However, as soon as \( c=q \), the legislature will be allowed to move the policy even closer to \( m \). Similar to the previous case, when
\[ c \geq q + (\beta E_r + pT_0)/(2p\beta) \] (the court is very close to the legislative ideal point), the court would agree with the legislative proposal that spends all resources on policy and nothing on suitability.

Proceeding to the next case, the amount of legislative resources is such that \( E_r \in [T_0-(m-q)(p-m); T_0] \) and \( E_r - p(q - x) \geq 0 \). Although there are enough relative resources to afford a policy move to \( m \), they are still less than the “status quo” suitability.
Case 3: Whenever

\[ c \geq c^* = \frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta}, \]

the legislature offers its preferred policy, \( x^* = m \) with corresponding suitability of \( E_r - p(q - x) \geq 0 \), which the court approves. Whenever

\[ c \in \left[ q - \frac{(E_r - T_0)(\alpha + \beta)}{2(\alpha - p)\beta}; c^* \right], \]

the legislature offers a policy position \( x \) that would make the court just indifferent between the new policy and status quo,

\[ x = \frac{2\beta c - (\beta - p)q + E_r - T_0}{\beta + p}, \]

with corresponding suitability being equal to \( E_r - p(q - x) \geq 0 \), and the court approves. Whenever

\[ c < q - \frac{(E_r - T_0)(\alpha + \beta)}{2(\alpha - p)\beta}, \]

there does not exist an offer such that the court would accept. Consequently, \( q \) remains the status quo and \( T_0 \) remains the corresponding suitability. To view this condition with respect to resources \( E_r \), consider that whenever

\[ E_r < T_0 - \frac{2(\alpha - p)(c - q)\beta}{\beta + \alpha}, \]

the court will never agree to a policy shift.

This case is similar to case 1, with the exception that the legislature can afford a move to \( x^* = m \). However, unless the court is close to the legislative median ideal point, there will never be a possibility for a policy move. If the court is very close to the legislative median relative to the status quo (\( c \geq c^* \)), then the court will uphold the legislative decision.
Now suppose that the amount of relative resources is very large. The amount of legislative resources is such that \( E_r \in [T_0, T_0 + (m-q)(\beta + p)] \) and \( E_r - p(q - x) \geq 0 \). Not only can the legislature afford the policy move to its ideal point, the amount of relative resources is larger than the status quo suitability.

**Case 4:** Whenever \( c > c^* \), the legislature offers its preferred policy, \( x^* = m \) with corresponding suitability of \( E_r - p(m-q) \geq 0 \), which the court approves.

Whenever \( c \in [q; c^*] \), the legislature offers a policy position \( x \) that would make the court just indifferent between the new policy and status quo,

\[
x = \frac{2\beta c - (\beta - p)q + E_r - T_0}{\beta + p}
\]

with corresponding suitability of \( E_r - p(q - x) \geq 0 \), which the court approves.

Whenever, \( c < q \), the legislature offers \( x = q + (E_r - T_0)/(\beta + p) \) and \( T = E_r - p(q - x) \geq 0 \), which is accepted. Again, this case will always see a policy move.

This is similar to case 2; however, the legislature can afford a further move from the status quo. Because the amount of relative legislative resources is so large, the legislature can make policy movements approved by the court even when \( c < q \). However, if \( c > c^* \), the legislative median can select \( m \) as the policy position, spend the rest on suitability, and the court will approve.

Additionally there are three trivial cases: when either \( E_r < T_0 - (m-q)(\alpha - p) \) or \( T_0 > \alpha(m - q) \), the legislature offers no policy change, and the status quo policy and suitability remain. When \( q + (E_r - T_0)/(\beta + p) > m \), which is equivalent to \( E_r \geq T_0 + (m-q)(\beta + p) \), the legislature offers \( m \) as the policy location, spends the remaining amount of resources on suitability, and the court approves.
To receive a more substantive interpretation of the model’s findings, consider Figures 2.2 through 2.7. The figures correspond to the cases above. Each figure is split in two parts. The top part shows the equilibrium policy outcome of a legislative proposal (on the y-axis) as a function of the court’s location (the x-axis). The bottom part depicts the equilibrium suitability (the y-axis) as a function of the court’s location (the x-axis). The figures progress from the lowest amount of relative resources to the highest amount of relative resources.

Consider Figure 2.2. Because the amount of relative resources is very low, the policy move will never occur. The amount spent on suitability will remain at 0.

Consider Figure 2.3. This corresponds to Case 1 discussed above. The court will approve a policy move regardless of suitability only when it is to the right of 
\[ q + (E_r - T_0)/(\beta + p) \], which is very close to m. When c is to the right of m, the court will always prefer the legislative median’s proposals to the status quo, regardless of suitability. Unlike in the previous case, however, because the amount of relative resources is larger, as the court’s location moves away from q toward the legislative median the legislature has enough resources to make the court indifferent between a proposal and the status quo by paying the court off with suitability. This cutpoint is increasing in \( E_r \), which may appear counterintuitive. However, because the legislature wants to use all resources on the policy move, the court has to be very close to m to accept such offer. Of course, the closer the court’s policy ideal is to the legislative position, the less resources would be spent on suitability in order to satisfy the court. Eventually, when the court becomes very close to m, it accepts the proposal even if there are no resources spent on suitability.

Should the court’s position be closer to the legislature than
\[ q = \frac{(E_r - T_o)(\alpha + \beta)}{2(\alpha - p)\beta}, \]

a policy move would be possible. Because the amount of relative resources is less
than \( T_0 \), the court has to be close to \( m \) to approve a policy move that would also result in
a decrease in suitability. This cutpoint is obviously decreasing in \( E \), which suggests that
in this case, the larger is the value of \( E \) the more likely there would be a combination of
policy and suitability that would make the court at least indifferent between the proposal
and the status quo. Should the court be farther away from \( m \) (in the direction of \( q \)) than
\[ q = \frac{(E_r - T_o)(\alpha + \beta)}{2(\alpha - p)\beta}, \]
there will never be a proposal that will be approved by the court. The judicial body
would simply be too far away from the median to agree to the legislative proposals and
there will not be enough resources to expend on suitability to compensate for a loss in
policy.

Consider Figure 2.4. There are still not enough relative resources to satisfy a
policy move to the legislative median ideal point. However, there are more resources
than the amount of resources spent on the original suitability. Again the court has to be
on the same side as the median to the right of cutpoint
\[ q + \frac{\beta E_r + p T_0}{2p\beta}, \]
for the court to accept a policy move that will coincide with no resources spent on
suitability. However, because the amount of relative resources is large in comparison
with the previously discussed cases, there will always be a combination of policy and
suitability to allow the legislature to make the court at least indifferent. Again, the closer
the court becomes to the legislative median relative to the status quo, the fewer resources
the median will need to expend on suitability to satisfy the judiciary.

Figures 2.5 and 2.6 are substantively very similar to Figures 2.2 and 2.3, except
there are enough relative resources to afford a policy move to the legislative median ideal
point, and there will be enough left to spend on suitability. The main differences are that
the cutpoint for the values of \( c \) that will allow the legislature an unconstrained policy
move is

\[
c^* = \frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta}
\]

(which is decreasing in \( E \)), and that should the legislature be unconstrained in its policy
making, it will move the policy to its preferred position and there will still be enough
resources to spend on suitability. Finally, Figure 2.7 depicts a situation when the amount
of relative resources is very large. In this case, the legislature is completely
unconstrained.

It may be useful to take a closer look at how the judicial constraint range changes
given variation in the amount of relative resources. To do so examine Figure 2.8. This
figure provides a numerical example that depicts Case 2 discussed above. Here, both the
ideological dimension parameters and the values of suitability receive numeric values.
The top part of the figure is derived using the following values: \( q=0, m=4, p=1, \alpha=\beta=1, \)
\( E_r=2, \) and \( T_0=3. \) In this case, as long as the judicial median is located to the left of 1, the
status quo prevails; however, as soon as the judicial median moves to the right of 1
(closer to the legislative median), the legislature can make a policy change. Once the
judiciary reaches 1.75 on the ideological scale, the legislature can make its optimal
ideological change. Thus, once the judicial median is to the right of 1, it has the power to change the status quo.

The bottom part of Figure 2.8 uses the same parameter values as the top part of the figure, except that \( E_r \) takes on the value of 2.5. That is, the bottom part depicts the judicial constraint range given a higher level of relative resources. In this case, there is no policy change as long as the judicial median is to the left of .5. This suggests that as the amount of relative resources increases the legislature becomes less constrained. Given an increase in legislative resources, one should expect a greater probability of a change in the status quo. Once the judicial median moves to the right of 2, the legislature is unconstrained. In the case of \( E_r \) equal to 2.5, the status quo will be change whenever the judicial median is to the right of .5.

Figure 2.8 indicates that as the amount of resources increases, the probability of a change in the status quo that is accepted by the court also increases. This finding remains constant across all cases. It is further highlighted below in the hypotheses section.

Extensions of the model.

It is instructive to compare the findings discussed above with the predictions of a simple spatial model. A simple spatial model contains the following utilities

\[
U_m(x, T) = -\alpha|m - x|
\]

and

\[
U_c(x, T) = -\beta|c - x|.
\]
for the legislative median and the judicial median respectively, if the policy proposal \( x \) is accepted. If there is no policy move, or it is struck down, then \( x = q \). There is no suitability component, and it assumes that there are sufficient resources to make any policy move. The assumption \( q < m \) still holds. The legislature prefers any policy location in the range \([q, 2m - q]\) to the status quo (the proof is in Appendix B). The judiciary prefers any policy location in the range \([2c - q, q]\), if \( c < q \), or it prefers any policy location in the range \([q, 2c - q]\), if \( q < c \). When the court is closer to the legislative median ideal point than \((m + q)/2\), the legislature proposes its ideal point, which is accepted by the court. When \( c \in [q, (m + q)/2] \), the legislature offers \( x = 2c - q \). When \( c < q \), the legislature cannot make an offer that will satisfy its own participation constraint while satisfying the judicial median. \((m + q)/2\) is closer to \( m \) than

\[
\frac{m + q}{2} + \frac{(m-q)p}{2\beta} - \frac{E_r - T_0}{2\beta},
\]

whenever \( E_r \geq T_0 + p(q - x) \).

For a more intuitive comparison of the spatial model and the model with suitability and resources consider Figure 2.9 and Figure 2.10. Both figures depict situations when the legislature has enough resources to attain its own ideal point on a policy dimension. Figure 2.9 shows a case of \( E_r \geq T_0 \) and Figure 2.10 demonstrates a case of \( E_r < T_0 \).

The dashed line in both figures represents the policy outcome under the simple spatial framework. The long dashed-dotted line in Figure 2.9 represents the case of \( E'_{r} < T_0 + p(q - x) \), and the solid line represents \( E''_{r} \geq T_0 + p(q - x) \). In Figure 2.8, it is
clear that in the model with suitability the legislature can achieve some policy change even when $c < q$. However, the legislative median that has $E_r$, amount of relative resources is unable to set the status quo policy at $m$ when $c = (m + q) / 2$. The legislature with $E_r$ can obtain $m$ as the policy outcome for values of $c < (m + q) / 2$. Figure 2.10 demonstrates a similar result except in this case $E_r < T_0$ and

$$c = \frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta} > \frac{m + q}{2}.$$

Generally, the conclusions that come out of the simple spatial model with respect to the amount of resources and positions of the two medians are similar to the argument made in this paper. The larger is the amount of resources the more likely the court will agree with the legislature. The closer the two bodies are to each other, the more likely the court will uphold the statute (more precise hypotheses are further below). However, the simple spatial model assumes no influence of considerations unrelated to ideology.

Notice that if one were to view the legislature as being able to impose its will on the court, then the game becomes trivial. The policy outcome will always be located at $m$. Thus, behavior of the actors in the model with suitability will be different from the spatial model behavior and from behavior under the assumption of legislative dominance.

It is difficult to compare the argument offered above with the existing arguments. Most of the existing studies focus on the court as making the first move. The majority of the literature concentrates on the judicial decisions anticipating congressional actions and the subsequent legislative response. The model presented in this paper differs from the usual approach in its assumption that the Court makes the second move and Congress does the anticipation. Thus, the major difference involves legislative behavior. This
model predicts that the legislative body will actually take into account judicial preferences, while the majority of the previous studies simply ignore this fact. Additionally, most of the studies (with notable exceptions listed in the review section) ignore all preferences that do not involve ideological considerations. With that in mind, it is possible to argue that most of the preceding studies are similar in reasoning to the simple spatial model. Of course, statistical models of the prior studies include controls for all types of factors not related to pure ideology that often achieve statistical significance, however, generally, these studies do not explicitly incorporate preferences other than ideology in their theoretical framework. A usual formalized argument would resemble the simple spatial model depicted above (except that the legislature would be making the first move). Thus, the model presented in this paper differs from most of the other arguments by explicitly considering factors that may influence judicial behavior and that are not related to ideology. To move from the theoretical world to the empirical plane, the measure of judicial preferences should influence behavior of legislators and the measure of suitability should have an effect on judicial actors.

Finally, the discussion above concentrated on a game of perfect information. As such, one should likely expect no invalidations simply because the legislature would always be able to predict the decision by the judicial median. In reality, the United States Supreme Court does strike down federal statutes as unconstitutional, which somewhat contradicts the behavior expected from the model. Fortunately, the explanation for the existence of judicial vetoes is straightforward. The court and the legislature do not operate in an environment of perfect information. To make the model more realistic, uncertainty over the court’s position should be taken into account.
Assume that the legislature is uncertain about which type of court it is facing. The source of uncertainty could come primarily from the fact that there is a time lag between the enactment of a statute, its challenge, and the court’s review. It is possible that between enactment and review certain changes occurred in the court’s composition, which affected the location of the judicial median.

Consider a simplified version of the uncertainty over the judicial types. There are two types of court: the “weak” type and the “tough” type. The “weak” type is located closer to the legislative median ideal point (assuming that both types are not located to the right of m) than the “tough” type. It is possible to think of the “weak” type as the ideologically convergent court. The “weak” type would accept a policy position more favorable to the legislative median than the “tough” type, holding the amount of relative legislative resources constant. The probability of facing the “weak” court is $\pi$. The probability of encountering the “tough” type is $1-\pi$. Here, the “tough” type could be seen as ideologically divergent. The legislative decision amounts to deciding whether to attempt to appease the “weak” court or appease the “tough” court. In other words, the legislature gambles on whether to pass a law that would be approved by an ideologically convergent court or to pass law that would be approved by an ideologically divergent court. By definition, the “weak” court would always agree to a proposal that would satisfy the “tough” court. Conversely, the “tough” court never agrees to a proposal that makes the “weak” court just indifferent. When the legislative median attempts to satisfy the “weak” court, it must consider the risk of encountering the “tough” court with probability $(1-\pi)$. Obviously, if it so happens that the legislature makes a law acceptable to the “weak” judicial type, but the court that gets to review the law is “tough,” then the
legislation is invalidated. Thus, the legislative median compares the policy and suitability benefits it will receive in the case of the “weak” court type and the status quo utility (if invalidated) with the policy and suitability benefits associated with the “tough” court type\(^\text{12}\).

The legislature makes a proposal satisfying the “weak” court if the following is true: \(\pi(T_x - \alpha(m - x)) + (1 - \pi)\cdot(T_0 - \alpha(m - q)) \geq T_y - \alpha(m - y)\), where \(x\) is the policy location accepted by the “weak” court, and \(y\) is the policy location accepted by the “tough” court. \(T_x\) is the suitability associated with \(x\), and \(T_y\) is the suitability associated with \(y\). Here the legislature weighs the decision to pass a law that would satisfy an ideologically convergent court (the left hand side) against the decision to satisfy an ideologically divergent court (the right hand side). The left side of the equation consists of two components: the first component weighed by the probability of facing the “weak” type is the benefit associated with passing a law approved by a convergent court, and the second component represents a rejection of this law, if the actual court type is “tough”.

Overall, there are 6 non-redundant cases to consider. All cases have the following in common: as the probability of encountering the “weak” type increases, the legislature is more likely to face an ideologically convergent court, which allows it to make a policy change that is more beneficial in terms of an ideological payoff than a policy change that just makes the “tough” type indifferent. However, as the amount of relative resources increases (where applicable), the legislature would be more likely to appease the “tough” type (the proof is in Appendix C). The former observation is self-explanatory, however,

\(^{12}\) The game of complete information could be seen as a special case of the game of incomplete information. Predictions that are obtained from the former are also obtained from the latter; however, the game of incomplete information allows one to explicitly account for uncertainty about the court’s ideology.
the latter observation requires some explanation. As the amount of relative resources goes up, the legislature simply becomes able to move the policy status quo closer to its ideal point while satisfying the “tough” type. Since the probabilities remain constant, the option of satisfying the “tough” type becomes more attractive. Conversely, as $T_0$, the status quo suitability, increases it becomes easier to choose the lottery over the policy satisfying the “weak” type and the status quo to the certainty of a “tough” type appeasement. When $T_0$ is very high, the status quo policy is very suitable (holding everything else constant), which means that the status quo position is highly beneficial; being rejected by the court with probability $1-\pi$ may be not such a bad idea. Finally, as the distance between the locations of the “weak” and “tough” courts on a policy dimension increases, the legislature would be more willing to try to appease the “weak” type. As the “weak” court type locates farther from the “tough” type, which means it is much closer to the legislature relative to the “tough” court type, the legislature becomes more willing to take chances with the lottery as opposed to satisfying the “tough” type with certainty.

Judicial Behavior Predictions:

(This section lists hypotheses with respect to the judicial median followed by their explanations.)

*Hypothesis 1. Judicial Upholding.*

*a. The larger is the amount of the legislative resources ($E$), the more likely the court would be likely to uphold the constitutionality of a legislative proposal.*
b. The larger is the amount spent on suitability the more likely the court would be likely to uphold the constitutionality a legislative proposal.

c. The larger the amount of resources spent on suitability associated with the status quo, the less likely the court would be likely to uphold constitutionality of a challenged law.

d. The farther away is the location of the legislative median from the status quo, the closer the judicial median should be to the legislative median to allow an unconstrained policy movement.

e. The closer the judicial ideal point is to the location of the legislative median ideal point, the more likely the court would be to uphold a statute favoring the legislative median.

f. The closer is the status quo to the median, the closer the court should be to the median to allow a policy change, when $E_r < T_0$, or to allow the legislature’s preferred policy, when $E_r < p(m - q)$. When $E_r \geq p(m - q)$, an increase in $q$ will actually produce a greater likelihood of the court’s acceptance of $x=m$, when $\beta < p$.

g. As the intensity of legislative preferences increases, the likelihood of the court’s upholding increases.

h. (matters only when $E_r < T_0$) An increase in intensity of judicial preferences leads to a greater probability of the legislative offer acceptance in all cases as long as the necessary condition $E_r < T_0 + p(m - q)$ is satisfied. If $E_r \geq T_0 + p(m - q)$, then the reverse is true.

i. As the price of policy movements increases, the probability of judicial acceptance declines.
j. As the price of suitability increases, the probability of judicial acceptance declines.

1. a. Holding everything else constant, the larger the amount of the legislative resources \((E)\), the more likely the court would be likely to uphold the constitutionality of a legislative proposal. In cases when \(E, < p(m - q)\), an increase in \(E\) could actually lead to a decrease in the likelihood that the court would allow \(x=q+E/p\). However, at the same time, an increase in \(E\) brings the amount of relative resources closer to \(p(m-q)\) (that is, the game moves from Case 2 to a much more favorable Case 4), thus, overall, the larger is \(E\), the more likely the court will uphold a statute.

1. b. This is an empirical prediction with respect to suitability \(T\). The larger is \(T\) the more likely the court will be to uphold the constitutionality of a statute. This hypothesis separates the argument offered in this paper with the predictions coming from the simple spatial model.

1. c. The amount of resources spent on suitability associated with the status quo has the reverse effect on the probability of invalidation. This result is consistent in all the cutpoints associated with the judicial median location on the policy dimension. A large amount of resources spent on suitability of the status quo policy means that there is likely to be not much more room for improving it, and a policy shift is likely to produce an unacceptable decrease in the amount of resources spent on making sure that the bill is good public policy that is appropriate for the present state of the world.

1. d. The farther away is the location of the legislative median from the status quo, the closer the judicial median should be to the legislative median to allow an unconstrained policy movement. In other words, holding everything else constant, as the legislative
median becomes farther from the status quo, it becomes more difficult to obtain its preferred policy location.

1. e. The closer the judicial ideal point is to the location of the legislative median ideal point, the more likely the court would be to uphold a statute favoring the legislative median. Conversely, as the two medians diverge, the court becomes more likely to uphold statutes. This is straightforward: as the pivotal actors of both bodies become more alike, they are more likely to agree on the same combination of policy and suitability.

1. f. The closer is the status quo to the legislative median, the closer the court should be to the median to allow a policy change, when $E_r < T_0$, or to allow the legislature’s preferred policy, when $E_r < p(m-q)$. When $E_r \geq p(m-q)$ (only relative in Case 4), an increase in $q$ will actually produce a greater likelihood of the court’s acceptance of $x=m$, when $\beta<\rho$. A more intuitive interpretation of this hypothesis suggests that when the intensity of judicial preferences is lower than the relative price of policy movement, increase in the status quo policy toward the legislative median produces more options for judicial acceptance of $x=m$.

1. g. (matters only when $E_r < T_0$) An increase in the intensity of legislative preferences allows the court to locate farther from the median and still accept the legislative proposal. This increase produces a greater likelihood of upholding. One could interpret this in the following manner: as the legislature’s intensity of preferences increases, it requires a policy move much closer to its ideal point, however, by spending some of the resources on suitability the legislature is willing to accept a slight policy move with a great increase in the bill’s suitability.
1. h. An increase in intensity of judicial preferences leads to a greater probability of the legislative offer acceptance in all cases as long as the necessary condition \( E_r < T_0 + p(m - q) \) is satisfied. If \( E_r \geq T_0 + p(m - q) \), then the reverse is true. In the latter case, the likelihood of acceptance actually declines. In other words, as the court’s policy preferences increase in importance, it is increasingly willing to compromise with the legislature to achieve at least some policy movement in the court’s direction, and, since the amount of resources is small, the court knows that the legislature will not abuse its powers and will not make a policy move too far. However, when the amount of legislative resources is very large, the court realizes that although it would still like to make a policy move in its own direction, the legislature now can afford a much further move that would actually hurt the court, which results in the higher likelihood of invalidation.

1. i. and 1. j. As the price of policy movements and the price of suitability increase, the probability of judicial acceptance declines. This simply means that as the price for action increases it becomes costlier to satisfy the judicial branch and, therefore, less probable.

Legislative Behavior Predictions:

(This section lists hypotheses with respect to the judicial median followed by their explanations.)

_Hypothesis 2. Statute’s Suitability_  

_a. As the amount of legislative resources increases, the statute’s suitability increases._
b. As the amount of the status quo suitability increases, the statute’s suitability increases. When $E_r < T_0$, the maximum possible suitability decreases with the increase in the status quo suitability.

c. As $q$ approaches $m$, the suitability associated with $x=m$ increases

d. (matters only when $E_r < T_0$) As the intensity of legislative preferences increases, the suitability increases.

e. As the intensity of judicial preferences increases and

$$c < q + \frac{E - p_r T_0}{2p_q},$$

the suitability increases. If

$$c \geq q + \frac{E - p_r T_0}{2p_q},$$

an increase in $\beta$ produces a decrease in the suitability.

f. As the price for policy movement, the suitability decreases.

g. As the price for the suitability increases, the suitability decreases.

h. As the location of the court moves away from $q$ toward $m$, the suitability decreases.

i. The greater is the probability of facing a favorable court, the lower is the suitability.

2. a. As the amount of resources increases, the legislature simply has more resources to spend on the suitability. Thus holding everything else constant, an increase in resources leads to an increase in the suitability.

2. b. The amount of the suitability always increases when $E_r \geq T_0$. It means that the legislature can afford a change in policy and maintain reasonable the suitability. When
\( E_s < T_0 \) the maximum amount of the suitability associated with the new bill decreases, since the legislature will only offer a new bill when it prefers the new policy move and the suitability, and, in this case of very limited resources, the larger is the status quo suitability, the better would have to be the combination of the new status quo and suitability, which means that \( x \) would be closer to \( m \) at the expense of \( T \).

2. c. This hypothesis is relevant only when the legislature is able to make a policy move to \( m \). It is straightforward that as the legislature does not have to make a policy move that is too far from the status quo ideological location, it leaves more resources to spend on “suitability.” Hence, “suitability” increases.

2. d. It is possible to think of this as the legislature being willing to go to such great lengths to attempt to move a policy that it will spend a lot on “suitability” just to assure some move. Thus, because the legislative median values the policy change very much, it is willing to pay off the court in a higher level of the suitability just to achieve some change.

2. e. This hypothesis suggests that when the judicial median is farther from the legislative median (in the direction of the status quo policy), then the legislative median needs to spend more on the suitability to compensate for the increase in the intensity of judicial preferences for its policy position. However, as the judicial median becomes closer to the legislative median (and farther from the status quo policy), an increase in judicial preferences suggests that the court would actually prefer a policy move toward the legislative median even more than the legislature, which reduces the need to have very suitable legislation.
2 f. and 2. g. These hypotheses suggest that as the prices for ideological changes and suitability increase, it becomes more costly to make a statute more suitable. An increase in the price for the suitability simply makes it less affordable to improve the suitability of a statute. An increase in the price for policy changes means that more resources has to be spent on policy changes, taking away from resources that could be spent on the suitability.

2. h. This prediction simply suggests that as the court becomes closer to the legislative median relative to the status quo, the judicial median increasingly prefers the legislative median policy position to the policy status quo. This means that the legislature does not have to spend as much on the suitability to appease the court, which produces a decrease in the suitability.

2. i. When the legislature is relatively certain that it is facing a weak (favorable) type, it can dedicate more of its resources to the policy movement at the expense of the suitability considerations. This suggests that, as the probability of facing a relatively more supportive court increases, “suitability” decreases.

Unfortunately, some of the hypotheses offered by the model would be very difficult to test. Predictions involving the status quo “suitability” and the ideological status quo would require examination of laws that were subjected to change as well as the behavior and policies of the administrative agencies when there were no existing laws prior to a new statute’s enacting. Thus, the empirical component of this dissertation will concentrate on testing the influence of the model’s parameters with the exception of $T_0$ and $q$. Additionally, throughout the empirical testing process, I realize that certain theoretical parameters lose their relevance and that certain predictions cannot be tested.
given particular units of analysis that I choose to use. Therefore, the empirical chapters of this dissertation vary in the types of theoretical predictions that they test. Specifically, Chapter 3 will test for the existence of the predicted effects of legislative resources, suitability, ideology, intensity of preferences, and prices for suitability and ideological changes on the probability of invalidation. Chapter 4 will examine the impact of legislative resources, suitability, ideology, and prices for suitability and ideological changes on judicial decision making during the agenda-setting (certiorari) stage. Chapter 5 will look at the influence of legislative resources, suitability, ideology, and the price for ideological changes on the timing between congressional enactment of federal statutes and their invalidation. Chapter 6 will test for the presence of the effects of legislative resources, ideology, prices for suitability and ideological change, and uncertainty over the ideological type of the Supreme Court, on the level of suitability associated with statutory provisions.

Finally, it remains to address a very important consideration, the dependence between the probability of invalidation and suitability and the question of empirical testing. The theoretical model predicts that judicial invalidation depends on the statutory suitability. Thus, in Chapters 3 through 5, judicial invalidation is in part predicted by the suitability of challenged provisions. But, if the suitability is influenced by the probability of judicial invalidation, then analyses in Chapters 3 through 5 suffer from endogeneity. Notice, however, that in this Chapter, in the section describing predictions with respect to the legislative behavior, the level of suitability is not expressed as depending on the probability of judicial invalidation. Rather, the ideological distance between the two political bodies serves as a predictor of suitability. Of course, this ideological distance is
the determining factor of when the Court would invalidate a federal statute; however, this
distance is not determined by suitability. Thus, my analyses in Chapters 3 through 5 do
not suffer from endogeneity. An objection could still be raised that a multistage or a
sequential model that takes into account the stages of lawmaking and judicial review
would be a natural framework for empirically testing the mode’s predictions. This is
ture; however, due to the sequential nature of the theoretical steps, the nature of
dependent variables used in Chapters 3 through 6, and the nature of data used in this
dissertation such an empirical analysis would be very difficult and costly to conduct.
Given the limitations in resources and in computational capacity, I believe that the
statistical tests conducted in Chapters 3 through 6 are the best solution for this problem.

Conclusion

This chapter builds a mathematical model of the Congress and Supreme Court
interactions in cases involving constitutional challenges to federal statutes. It indicates
that the Court will uphold federal statutes that are highly suitable as well as statutes that
are ideologically congruent with judicial preferences. It also suggests that Congress
modifies the ideological position of statutes and tends to improve their suitability in order
to decrease the probability of judicial invalidation. The model provides testable
predictions of changes in legislative and judicial behavior due to ideological
considerations, suitability, legislative resources, intensity of preferences, and costs of
ideological change and suitability. Chapters 3-6 will empirically test these hypotheses by
examining various aspects of judicial and legislative decision-making.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>$E$</td>
<td>The amount of legislative resources available to a legislature</td>
</tr>
<tr>
<td>$E^*$</td>
<td>The amount of relative resources available to a legislature. The total amount of $T$ that can be afforded given $E$</td>
</tr>
<tr>
<td>$T$</td>
<td>The bill’s suitability/quality, the bill’s accounting for potential problems with its implementation</td>
</tr>
<tr>
<td>$T_0$</td>
<td>The suitability associated with the status quo policy. Either the suitability associated with the previous law, or, if no law, the suitability associated with business and agencies practices</td>
</tr>
<tr>
<td>$m$</td>
<td>The location of the legislative median’s ideal point on the policy dimension</td>
</tr>
<tr>
<td>$c$</td>
<td>The location of the judicial median’s ideal point on the policy dimension</td>
</tr>
<tr>
<td>$q$</td>
<td>The status quo policy location</td>
</tr>
<tr>
<td>$\alpha$</td>
<td>Intensity of legislative preferences</td>
</tr>
<tr>
<td>$\beta$</td>
<td>Intensity of judicial preferences</td>
</tr>
<tr>
<td>$p_q$</td>
<td>The price for a change in policy location</td>
</tr>
<tr>
<td>$p_T$</td>
<td>The price for suitability</td>
</tr>
</tbody>
</table>

Table 2.1: Parameters of the Theoretical Model.
Figure 2.1: The Theoretical Model’s Regimes/Cases and the Amount of Relative Resources.
Figure 2.2: Equilibrium $x$ and $T$ when $E_r < T_0 - (m-q)(\alpha - p)$ or $E_r < pT_0 / \alpha$. 

The court invalidates all legislative proposals.

The legislature is constrained.
Figure 2.3: Equilibrium $x$ and $T$ when $E_r \in \left[p T_0 / \alpha; T_0 \right]$ and $E_r < p(m - q)$. 

The court agrees to all proposals.
The legislature is not constrained.

The court invalidates all proposals.
The legislature is constrained.

The court agrees to a proposal.
The legislature is constrained.
Figure 2.4: Equilibrium $x$ and $T$ when $E_r \geq T_0$ and $E_r < p(m - q)$. 

The court agrees to all proposals. 

The legislature is not constrained.
Figure 2.5: Equilibrium $x$ and $T$ when $E_r \in [T_0 - (m-q)(\alpha - p); T_0]$ and $E_r \ge p(m-q)$
Figure 2.6: Equilibrium $x$ and $T$ when $E_r \in [T_0, T_0 + (m-q)(\beta + p))$ and $E_r \geq p(m-q)$
The court upholds all proposals.
The legislature is not constrained.

Figure 2.7: Equilibrium $x$ and $T$ when $E_r \geq T_0 + (m-q)(\beta + p)$
Figure 2.8: A Numerical Example. Equilibrium $x$ when $E_r \geq T_0$ and $E_r < p(m - q)$. 
Figures 2.9: Comparison of the Equilibrium Values of $x$ of a Theoretical Model with Varying Levels of Legislative Resources and a Simple Spatial Model, when $E_r \in [T_0, T_0 + (m-q)(\beta + p)]$ and $E_r \geq p(m-q)$. 
Figures 2.10: Comparison of the Equilibrium Values of $x$ of a Theoretical Model with Varying Levels of Legislative Resources and a Simple Spatial Model, when $E_r \in [T_0 - (m-q)(\alpha - p), T_0]$ and $E_r \geq p(m-q)$. 

\[
q = \frac{E_r - T_0}{\alpha - p}
\]

\[
q = \frac{(E_r - T_0)(\beta + \alpha)}{2(\alpha - p)\beta}
\]

\[
m = \frac{m + q}{2}
\]

\[
m = \frac{m + q + (m-q)p}{2\beta} - \frac{E_r - T_0}{2\beta}
\]

\[
\text{Location of } c
\]
EMPIRICAL ANALYSIS OF SUPREME COURT DECISIONS ON THE MERITS

What are the considerations that lead the Supreme Court to making a ruling either upholding or invalidating a federal statute? In Chapter 2, I argue that the Court bases its decisions both on the ideological component of a statute and on its suitability component. If a statute is highly suitable, then the Court would be likely to uphold a statute, and, if a statute is produced by an ideologically divergent legislature, the Court, likewise, will uphold the statute. Thus, the Court could be viewed as protecting the American public from unsuitable statutes, at least in those instances when the Court is in ideological disagreement with these statutes. This chapter will subject these contentions along with other predictions from Chapter 2 to an empirical test.

This Chapter concentrates on Supreme Court decisions on the merits in cases involving challenges to provisions of federal statutes. It tests the following hypotheses: Holding other factors constant, the probability that the Supreme Court will uphold a statutory provision increases:

1. with the suitability of the statute.

2. with the volume of resources available to the legislature (because that volume will affect the suitability of the statute).
3. with the closeness between the policy preferences of congressional pivotal actors and the status quo before a statute is enacted.

4. with the closeness between the Court’s preferred policy position and the position preferred by Congress.

5. with the intensity of legislative preferences (because legislators with more intense preferences will expend more resources to ensure that the statute will hold up in court).

6. with the intensity of judicial preferences, as long as the legislative body does not make an extreme ideological proposition.

7. as the cost of policy movement and research to ensure suitability declines (because high costs reduce congressional efforts to make the statute suitable and constitutionally valid).

First, the chapter outlines the unit of analysis. Second, the chapter discusses the dependent, independent, and control variables. Third, the chapter outlines the statistical method. Finally, the chapter offers results of the statistical analysis.

Data

It is important to realize that the unit of analysis is not a legal case or a challenged congressional act but a challenged statutory provision (a provision of a congressional act). Understanding this distinction is necessary, because when litigants challenge the constitutionality of federal statutes, they usually dispute the validity of a particular statutory provision. Furthermore, many laws enacted by Congress take the form of
omnibus legislation or legislation in which various, at times unrelated, provisions are combined into one massive piece of legislation. This often seems to be the case with laws involving appropriating money to federal agencies. Mistaking challenges to particular provisions of such legislation as challenges to an entire law may lead to incorrect conclusions. For example, Public Law 98-473 was enacted and signed by President Reagan in October of 1984. The law had four major Titles. Title I dealt with federal agencies’s appropriations for the year 1985. Title II became known as the Comprehensive Crime Control Act of 1984, while Title III established the President’s Emergency Food Assistance Fund to help the nations suffering from food shortages, and Title IV called for appropriating funds to combat child abuse and neglect. The Supreme Court heard challenges to provisions enacted by this law involving challenges to sentencing guidelines (Mistretta vs. United States, 488 U.S.361, 1989; Booker vs. United States, 543 U.S. 621, 2005), drug abuse forfeiture (United States vs. Monsanto, 491 U.S. 600, 1989), controlled substances (United States vs. Touby, 500 U.S. 160, 1991), and other challenges involving criminal conduct. In fact all constitutional challenges involving Public Law 98-473 called for invalidating provisions enacted by Title II. Furthermore, when in the 2004 Term, the United States Supreme Court invalidated the federal system of sentencing guidelines, it did not invalidate other provisions specified by Title II, which means that people’s property is still subject to forfeiture if used in connection with controlled substance offences. Thus, rather than considering the factors leading the members of Supreme Court to invalidate an entire congressional act, one needs to examine the factors leading the members of Supreme Court invalidate that act’s provisions. Additionally, invalidation of federal statutes as enforced by federal agencies
is conventionally viewed as rendering a law unconstitutional, however, the validity of an application of a statutory provision and the provision’s constitutionality are not the same; one needs to account for situations when the Court strikes down statutory provision as applied\textsuperscript{13}. With that in mind, the dependent variable is whether the Court upholds or invalidates a challenged statutory provision\textsuperscript{14}.

Dependent Variable

The dependent variable is whether the Court upholds or invalidates a challenged statutory provision. The data come from Spaeth (2005a). To control for cases from the unpaid docket, investigation begins with the 1971 Term. That was the first term during which Chief Justice Burger began assigning numbers above 5000 to cases on the unpaid docket\textsuperscript{15}. An additional exclusion involves cases from the Court’s original docket. The list of eligible cases is further determined by reducing the number of cases based on Spaeth’s unit of analysis, decision type, and authority for decision\textsuperscript{16}. The remaining cases are examined for the presence of challenges to federal statutory provisions. Here, the challenged provision is taken to be the part of the US Code that is explicitly challenged. Each legal case (corresponding to a legal cite) produces the number of observations equivalent to the number of explicitly challenged statutory provisions. The total number of challenged provisions can range from 0 to over 20 (\textit{McConnell v. FEC},

\[\text{Dependent Variable}\]

\textsuperscript{13} If the Court invalidates a statutory provision as “applied”, it prohibits the provision’s implementation in the manner in which it was applied to the case in question. This distinction is not normally made in the literature.

\textsuperscript{14} Summary statistics are in TABLE 3.1

\textsuperscript{15} The cases on the unpaid docket are in forma pauperis petitions (IFP). The IFP’s usually deal with criminal questions and prison litigation.

\textsuperscript{16} Observations satisfying analu=0, 2, or 5 as well as dec_type=1, 2, 6, or 7 are kept. Additionally, when auth_dec=1 or auth\_dec2=1, which means that the Court heard a cases involving constitutionality and federal government, observations are kept.
The cases that involve no challenges to federal statutes are excluded. Challenges to separate provisions contained within a legal case are viewed as separate observations. The Court may invalidate some provisions and uphold other provisions. When the Court invalidates a provision, the dependent variable for the observation takes on the value of 1, and 0 otherwise. When a single case contains multiple challenges to the same provision\footnote{For example, a case can contain a challenge to a statutory provision based on the Fifth Amendment and a challenge to the same provision based on the First Amendment protections.}, and at least one of the challenges to this provision is upheld (provision is invalidated), then the value of the dependent variable for this observation takes on the value of 1. That is, the outcome of litigation is invalidation of a statutory provision. To make sure that the created dataset contains all the invalidated statutory provisions, it is supplemented by the U.S. Government Printing Office list of invalidated laws\footnote{This list is available publicly on internet at http://www.gpoaccess.gov/constitution/browse2002.html#04supp}. In two instances neither Spaeth (2005) nor the U.S. Government Printing Office counted a particular provision as invalidated. Nonetheless, these observations are counted as invalidations. In the \textit{United States vs. Halper}, 490 U.S. 435 (1989) the Court ruled that civil penalties (that are too high) after a criminal conviction for filing a false claim are unconstitutional. In \textit{Brock v. Roadway Express}, 471 U.S. 252, (1987), the Court ruled that procedures outlined in section 405 of the Surface Transportation Assistance Act of 1982 deprived some of the appellee’s Fifth Amendment rights.

The next phase involves identifying the legislation challenged in the Supreme Court. First step involves examining the Court opinions: often the opinion would indicate when the challenged provision is enacted and the provision’s identifying
information (public law or statute number). Failure to find information at this step requires examining lower court opinions. If neither of these options produces results, the next step involves examining the U.S. Code volumes. The Notes appendix to each section of the US Code identifies the changes that were made to federal statutes: it identifies public laws modifying statutes’ content, and it specifies what changes were made. The Notes also indicate whether a particular statute is a recodification of much older statutes, which is often the case with criminal statutes.

It is sometimes the case that the challenge is to a provision that was enacted several times or was reenacted in the same form as a part of various statutes. In these situations, the earliest enacted statute is used in subsequent analysis, because the subsequent enactments usually rely on congressional research done at the time of the original enactment.

To allow for a straightforward inter-Congress comparison, the dataset excludes all challenges to statutory provisions that were enacted prior to the 80th (first post World War II) Congress. This avoids the problem of comparing Congresses prior to and after the Roosevelt realignment as well as comparing legislation produced during a major shock period which was WWII and legislation produced by subsequent Congresses. The dependent variable name that will be used below is Judicial Invalidation.

Overall, between the 1971 and 2004 Terms, the Court reviewed 256 challenges to federal statutory provisions that were enacted between 1947 and 2002, and 73 of them were upheld. Note that some of the provisions were challenged more than once. Subsequent statistical analysis will take this problem into account.
Independent Variables

One of the predictions of the theoretical model is with respect to legislative resources. Legislative resources involve money, time, and effort. Potentially there are several ways of operationalizing legislative resources, but one of the more straightforward methods involves using the actual amount of money used by Congress each year. That is, money is necessary to compensate the committee staff, to maintain the Library of Congress, and to maintain the Congressional Research Service. Money also allows Members of Congress to maintain personal staff to take care of constituency requests, which creates free time that the members can spend on lawmaking. The data on legislative appropriations for years 1947-2000 come from Ornstein et al (2002). The data on legislative appropriations for years 2001 and 2002 come from the Public Law 106-554 and Public Law 107-68, respectively. To account for the problem of inflation, the legislative appropriations are divided by the consumer price index. This new ratio could be viewed as congressional purchasing power. Since the consumer price index is also subject to inflation, taking this ratio will neutralize the effect of inflation on the ability of the legislative branch to pay for research, which makes it comparable across time. This ratio is further divided by 1,000,000 which gives purchasing power in millions of dollars.

To simplify the description, the exposition below will refer to this variable as Legislative Resources. According to the model, the larger is the value of the legislative resources, the lower should be the probability of invalidation.

Measuring a statute’s suitability presents a challenge. The best way to evaluate the measure of suitability is by examining its impact after a statute has been implemented. Unfortunately, this is problematic. Finding objective measures of impact
seems to be hardly possible. Objective measures of suitability would need to account for
an expected and realized impact of a federal statute on everyone affected by legislation.
This seems to be infeasible. Fortunately, it is possible to gauge the suitability of a statute
by how well the statutes are researched. If a considerable amount of resources is spent on
investigating the statute’s impact, Congress makes sure that that the statute is likely to
achieve set goals. However, if a statute is not researched at all or is poorly researched,
Congress cannot be sure that the statute is suitable for the existing state of the world, and
the statute’s impact is likely to be an inappropriate vehicle for reaching congressional
goals.

Potentially, there are a few methods gauging the quality of research (as a proxy
for suitability) of federal statutes. One method would examine the number of hearings,
 witnesses’ testimony, and committee reports indicated by a law’s legislative history.
However, the Court does not always overturn the whole law; it normally invalidates a
particular section. So, it is not clear how to separate situations in which a hearing dealt
with the subsequently invalidated provision from a hearing that dealt with the provision
but not exclusively. Furthermore, hearings can vary in their format, which makes
comparisons across hearings somewhat problematic. Additionally, a hearing could serve
a congressional need to publicize a position on the ideological continuum. Certain types
of hearings (using the model above) could be viewed as resources spent on assisting in
reelection rather than ensuring the statute’s appropriateness\textsuperscript{19}. Thus, hearings present a
very noisy measure of suitability. An analogous argument explains the reasoning for the
unsuitability of testimony as a measure of suitability. Finally, analyzing each hearing and

\textsuperscript{19} Hearings on steroids in the Major League Baseball is one of the examples of holding hearings for the
purpose of appealing to the home constituency without much informational benefit.
testimony to determine whether it is relevant to the provision in question and whether it offers information of good quality would impose prohibitive costs on research (e.g.: traveling to the venue containing all the committee hearings and testimony). Given the fact that hearings and testimony are noisy and expensive measures, one should attempt to attain a more precise measure of the quality of legislation that is also more readily available.

A different way of measuring the suitability is to first determine if there is a committee report that addressed a provision in question. If there is no such report in either chamber, this challenged provision receives a suitability score of 0. If, however, such reports exist, then it is possible to calculate the ratio of the number of pages contained in a report to the explicit number of issues addressed by a report. Committee reports summarize committee findings/research regarding a particular bill. They contain cost-benefit analyses, discuss intent of the legislation, how it should be applied; in effect, they address everything that is subsumed by the term suitability in the model above. By calculating the ratio of pages to researched provisions, one could determine the relative suitability of each provision. The more pages a committee dedicates to a particular provision, the better this provision is researched, the more suitable it is for the existing state of the world. When each chamber produces a report, the suitability ratio is computed by adding the number of report pages from both chambers and dividing the sum by the combined number of provisions from reports in both chambers. To place this in the context of the formal model, the larger is the ratio of pages to provisions in committee reports, the more the Court would be likely to uphold a challenged statute. Conference committee reports are excluded because conferences are usually conducted
under considerable time pressure which minimizes the opportunity of properly researching the consequences of particular provisions. The name of this variable is Suitability Score\textsuperscript{20}. A more detailed description of this variable is located in Appendix E.

Additionally, because the House has more members than the Senate but the number of standing committees in each chamber is approximately the same, Senators have a larger workload per capita, which means that they cannot dedicate as much time to producing quality legislation as the Representatives. Two dummy variables control for the possibility that one of the branches produces well researched reports and another does not. One indicator variable, taking on the value of 1 whenever only the Senate produced a committee report and 0 otherwise, will account for this possibility. The name of this variable is Only Senate. Whenever Only Senate takes on the value of 1, the provisions in question should demonstrate a greater likelihood of invalidation. Another indicator variable takes on the value of 1 whenever only the House produces a committee report and 0 otherwise. The name of this variable is Only House. Whenever it takes on the value of 1, the provisions in question should be invalidated with a lesser probability.

DW Nominate scores (Poole and Rosenthal 1998) serve as indicators of legislators’ ideal points. DW Nominate scores are also available for each chamber median for each congress. I take the average of both chamber medians for each year in which challenged statutes were enacted to create a measure that would test the hypotheses related to the behavior of the legislative median. DW Nominate offers scores on two main dimensions (Poole and Rosenthal 1998). The first dimension is usually considered to be the liberal-conservative dimension, however, the second dimension

\textsuperscript{20} To make sure that this analysis distinguishes between the effects of suitability and complexity of legislation, a separate variable measuring complexity is described below.
could be viewed as accounting for the issues of race and gender (McCarty et al 1997), which is likely to be similar to the issues of equal protection reviewed by the Court. I keep the two dimensions separate. The names of these variables are Legislative Median 1 and Legislative Median 2 for the dimension one and dimension two DW Nominate scores, respectively.\textsuperscript{21}

The Burger and Rehnquist Courts encompassing the terms analyzed in this paper are commonly known as conservative on both dimensions. According to the model, the more liberal is a congress that created a statute evaluated by the present Court the more likely such statute would be struck down or left as invalidated, holding everything else constant.\textsuperscript{22}

A natural question that arises at this point is about the location of the judicial median relative to the legislative median. Some might argue that keeping the judicial median as a conservative constant loses too much information. This research would be much more convincing if it contained the measure of the distance between the legislative and judicial medians. Unfortunately, such existing measures are derived from the decisions of the Court and assume that the Court makes its decision without accounting for the quality of legislation. This assumption is contrary to the theoretical assumptions made above, which means that such measures are inappropriate. Thus, although the view

\textsuperscript{21} The DW-Nominate scores are not comparable across chambers, and some scholars choose to use the Common Space scores to account for this problem. However, Poole and Rosenthal state that the DW-Nominate Scores and the Common Space scores on both dimensions correlate at .96 and above for both chambers and both dimensions after the 80\textsuperscript{th} Congress (http://voteview.com/readmeb.htm). Thus, although using the Common Space medians in this analysis might seem more appropriate, any differences between the DW-Nominate scores and the Common Space scores are trivial.

\textsuperscript{22} As an additional check on the statistical results, a dummy variable for the Rehnquist Court is introduced. Estimating the statistical model with this variable does not change the statistical significance or the direction of the coefficients, which justifies treating the Burger and Rehnquist Courts as ultra conservative judicial institutions. The coefficient on the variable itself does not reach statistical significance. The reported results omit this variable.
that the judicial median is always extreme and conservative (not unreasonable) makes a very strong assumption, using the measures that explicitly assume an absence of any motivating forces other than ideology corresponds to an even stronger assumption and makes the process of multivariate data analysis inconsistent with the assumptions of the theoretical model.

According to the model, the greater is the intensity of ideological preferences of the legislature when the amount of resources is low, the more likely the court would be to uphold the statute. The intensity of preferences is measured by examining the short title of a statute and counting the number of bills containing similar titles. The more such bills are introduced in Congress, the higher is the intensity of preferences over the bills’ subject. That is, if Congress really cares about/has high preference intensity over an area of policy, the members of Congress are likely to introduce more measures affecting this policy area. The effect on the probability of invalidation should be negative. In other words, as the legislature views a law as more salient (has preferences of high intensity), it would like to see this law upheld, therefore, it will take the necessary steps to ensure agreement of the Court.

Measuring intensity of legislative preferences for the 93rd and subsequent congresses involves using the THOMAS (http://thomas.loc.gov) website and its search engine. Using the short title in the search engine (in quotes when necessary, searching within bills’ summaries) indicates the total number of similar bills in both the House and the Senate. Information prior to the 93rd Congress is found in the published volumes of Congressional Record. The Index volumes for each session contain descriptions of bill and resolutions split by a particular topic. For instance, to find the number of bills
dealing with Supreme Court policing, one needs to examine Index volumes for the 81st Congress (years 1949 and 1950), and to look at the total number of bills dealing with security/policing under the category of U.S. Courts. Once the data on the number of similar bills are collected, they are interacted with a dummy variable that takes on the value of 1 if Legislative Resources is larger than the mean minus one standard deviation. The name of this variable is Legislative Intensity.

The model predicts that as the intensity of judicial preferences over the ideological status quo increases, the Court would be more likely to uphold a statute when the amount of resources is very low. In other words, whenever the legislative resources are large, Congress can afford to improve suitability and make large shifts on the ideological dimension. However, the Court’s preferences over the ideological status quo are so strong that it would refuse to uphold a new statute, because large ideological changes are likely to result in disproportionately large disutility. The intensity of judicial preferences could be gauged by the lagged number of cases heard by the Court that fall into a general category that also includes the law in question. The most straightforward way of gauging this category is to use Harold Spaeth’s classification of issues (see below for justification of this operationalization). Interacting this measure with the dummy variable indicating whether the legislative resources are below the mean should test the effect of the intensity of judicial preferences. To avoid an arbitrary selection of a threshold, I will also interact the intensity of judicial preferences with dummy variables indicating one, one and a half, and two standard deviations below the mean of the legislative resources.
The more interested the Court is in a particular area of law (such as economic issues or labor union litigation), the more likely it is to decide on cases raising relevant questions in this area. Thus, if the Court really cares about/has high preference intensity over the questions of labor union litigation, the Court is likely to hear a large number of these cases. To compute the intensity of judicial preferences, each observation is evaluated for the type of substantive issue in question (variable VALUE in Spaeth 2005a). The Court’s decisions in a previous year are examined for the percentage of cases corresponding to this issue\textsuperscript{23}. Whenever necessary, data from Spaeth (2005b) are used. Once these lagged percentages are collected, they are interacted with a dummy variable that takes on the value of 1 if Legislative Resources is smaller than the mean (or other specifications). The name of this variable is Judicial Intensity. It should have a negative effect on the probability of invalidation.

To gauge the price for ideological repositioning, one needs to examine freshmen legislators entering Congress. Members of Congress just entering Congress do not have established voting records that might bind their decisions and make any ideological deviation more costly. Usually, these new members have either defeated the incumbents or run for an open seat that was strategically relinquished by incumbents who expected not to be reelected (Cox and Katz, 2002), which means that the home constituency is likely to desire a shift in policies promoted by their elected official. Consequently, as more freshmen enter the legislative branch the old ideological status quo associated with the composition of a previous Congress is likely to be less stable. New members

\textsuperscript{23} This analysis is performed on all observations that satisfy analu=0, 2, or 5 as well as dec_type=1, 2, 6, or 7. This selection is not limited only to the cases raising the questions of constitutionality and federal government, because it serves as an indicator of the overall intensity of judicial preferences.
(drawing on the wishes of their constituencies) are likely to face an unsatisfactory status quo. The more freshmen members enter the legislature, the more legislators should be dissatisfied with the status quo and should want to make necessary changes. Thus, large numbers of freshmen legislators have a negative relationship with the difficulty/price of ideological change. The more there are freshmen legislators, the easier it is to make a change on the ideological dimension, and the fewer resources it takes to persuade these members in the need for an ideological shift in the status quo. The number of freshmen legislators should serve as the proxy for the price of ideological movement. The variable name is Inverse of Price for Ideology (it has an inverse relationship with the price for ideology). It is computed by adding the number of new legislators entering the House and Senate. The larger is this number, the less costly should be ideological changes, which results in the lower probability of invalidation.

Finally, the last prediction refers to the price for suitability. The larger is this price, the greater is the likelihood of invalidation. Measuring suitability price involves examining the number of rookies (members of Congress serving their first time on a committee) serving on standing committees. By serving on committees, members of Congress develop expertise in different policy areas. However, the members who serve on a committee for the first time are likely not to have this expertise, which means that they have to spend resources to familiarize themselves with relevant subject matter. This results in a higher cost of suitability research: the rookies spend more resources on suitability than the returning committee members. To compute the measure of the suitability price, for each standing committee that published a committee report, a proportion of rookies is computed. If a chamber does not have a report corresponding to
a particular observation, or if a report was issued by a select committee, then the average of the standing committees’ rookie proportions is used as the substitute. In cases involving multiple referrals the proportion of rookies is averaged across relevant committees. To control for the fact that the proportion of rookies (and therefore the price for suitability) is low due to the incumbency effect, the proportion of rookies on a committee(s) is divided by the proportion of freshmen coming into a particular chamber. Finally, this ratio is averaged across both chambers to get the proxy for price of suitability. The variable name is Cost of Suitability24.

Control Variables

Several variables are used as controls. The variable Unpaid Docket takes on the value of 1 if the challenge to a statutory provision comes from the unpaid docket, 0 otherwise. The variable Challenge as Applied takes on the value of 1 if the challenge is to constitutionality of a statutory provision as applied, 0 otherwise. The variable BCFR takes on the value of 1 if the provision in question is enacted as a part of Bipartisan Campaign Finance Reform Act of 2002, 0 otherwise25.

Previous Challenges to Statute takes on the value corresponding to the number of terms that the Court reviews a particular congressional act (public law) minus one. Thus, if a particular public law was reviewed once before, then Previous Challenges to Statute takes on the value of 1. If a particular public law was reviewed n times before, then

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25 I control for the Bipartisan Campaign Reform Act of 2002, because it resulted in over 20 constitutional challenges.
Previous Challenges to Statute takes on the value of n-1. Previous Challenges to Statute should control for those situations when the Court is likely to repeat its previous decisions given a particular challenge. This is not an optimal control measure; a better control would consist of the number of terms during which a particular provision is challenged. However, the latter construction would require at times arbitrary judgments about whether a part of a provision challenged at one point of time is similar to a challenge questioning validity of some part of this provision at a later time. Using Previous Challenges to Statute ensures consistency.

Another important time related issue is the potential recency effect of enacted statutes. It is very likely that as the statutes are enacted and start adversely affecting groups of people, the dissatisfied individuals would not be hesitant in challenging these laws. Thus, many rulings on validity of statutory provisions should occur soon after statutes’ enactment. To control for this possibility, the variable Time Since Enactment measuring the time between the year of a statute’s enactment and the year of its challenge is used in the statistical data analysis.

To control for the potential effect of the Republican takeover, I create a dummy variable, Republican Takeover, that takes on the value of 1 if the year of enactment was 1995 or later, 0 otherwise.\footnote{Estimating the statistical model using data on laws enacted prior to the Republican takeover produces results that are similar statistically to the results described below. None of the variables change their statistical significances or direction.}

Finally, to control for the complexity of legislation, I use the number of pages in a statute (variable Complexity). The lengthier is a statute the more issues is should tap into, which should make it more complex.
Statistical Analysis

The dependent variable is dichotomous. Therefore, to estimate the influence of independent variables on the probability of invalidation, one needs to conduct maximum likelihood estimation of the effect of independent variables on the logit probabilities. However, two issues serve as a cause for concern.

Due to likely time dependence between passing of a statute and its invalidation/review, a duration framework would seem to be an appropriate method of statistical analysis. Unfortunately, using a duration model in this setting will result in a considerable selection problem. A duration model would be appropriate if one was examining federal laws, which he or she then traced to determined whether they were invalidated or not. That is, the unit of analysis would be a time spell from enactment to invalidation or censoring. However, in this case, the sample of cases involves statutory provisions that were reviewed and in some cases invalidated. Using a duration model would ignore hundreds of other laws that were not reviewed by the Court. One would be justified in assuming that the cases reviewed by the Court are different from the ones not reviewed by the Court. Thus, the duration framework using only this sample would suffer from a selection problem. To control for the potential influence of time (the recency effect mentioned above), the Time Since Enactment variable will be used in the statistical analysis.

Another problem is dependency across congressional acts. Part of it is accounted for by Previous Challenges to Statute; however it is possible that provisions enacted as a part of the same congressional act (public law) are heard multiple times during the same term, which is not gauged by Previous Challenges to Statute. It is also possible that there
are other unobserved factors not accounted for by Previous Challenges to Statute that can bias the results. A random-effects logit (with the random effect distributing across congressional acts) should correct for this problem.

A random-effects logit with all the variables listed above was estimated. The likelihood ratio test of the Null Hypothesis, the variance component being equal to 0, could not be rejected. Therefore, a regular logit is estimated. I also tried different specifications of thresholds in the Judicial Intensity variables. Using the mean, the mean minus one standard deviation, the mean minus one and a half standard deviations, and the mean minus two standard deviations as thresholds produced substantively similar results. The following analysis will concentrate on the results that include the mean minus one standard deviation as the threshold of resources interacted with the measure of lagged substantive cases heard by the Court. Results of the estimation are in Table 3.2.

Results

Using one-tailed tests of statistical significance, six variables reach statistical significance at an alpha level of .05 or below. Legislative Resources has a negative statistically significant effect on the probability of invalidation, confirming the hypothesis about an increase in legislative resources leading to a decrease in the probability of invalidation of a statutory provision. Similarly, Suitability Score has a negative statistically significant effect on the probability of invalidation, which means that as provisions of committee reports associated with a particular provision become more thoroughly researched, the probability of invalidation decreases.

27 P>.1
A variable testing one of the conjectures about the origin of the committee reports and suitability reaches statistical significance: Only Senate is positive and statistically significant, which means that in situations when the House produces no committee reports but the Senate does, the Court tends to consider a challenged provision as insufficiently suitable to achieve a projected goal. Although Only House is positive, it does not reach statistical significance, which means that whenever only the lower chamber produces reports it does not affect the probability of invalidation. One possible explanation for this is given above: the Senate has a smaller labor force than the House, which means that its research is not as thorough. Also, the members of the Senate represent states, which means that they evaluate the impact of legislation on states; however, their House counterparts are able to evaluate the impact of federal laws on their districts, which allows for a more thorough evaluation of consequences of federal statutes. Thus, senatorial research is not as precise with respect to statutory consequences as the reports produced by the House because of institutional reasons.

Statistically significant coefficients for Legislative Median 1 and Legislative Median 2 support the idea of the importance of judicial ideological preferences in the Court’s evaluation of statutory provisions’ constitutionality. As either of these variables becomes increasingly positive (more conservative), conservative Burger and Rehnquist Courts become less likely to invalidate challenged statutory provisions created by this legislature.28

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28 Poole and Rosenthal (http://voteview.com/readmeb.htm) point out that after 1980 the second dimension becomes less relevant. Consequently, I analyze the data on laws passed after 1980 using the same independent variables but without MEDIAN 2. The variables accounting for suitability, resources, and MEDIAN 1 remain unchanged with respect to their statistical significance and direction. Except for
It is interesting to note that Republican Takeover reaches statistical significance and is positive. Since Republican Takeover indicates the time after the Republican takeover (104th through 107th Congresses), one may conclude that the legislation produced by the Republican controlled House and Senate (for most of this time) is more likely to be invalidated, which either goes against the assumption that the Court will uphold the laws made by ideologically congruent Congresses or against the assumption that the Court’s median is an extreme conservative constant. Fortunately, there is another explanation that is in complete agreement with the theoretical model: when the Republican Party took control of Congress in 1994, one of its goals was to decrease expenditures of the legislative branch. The Party cut committees’ staffs and budgets, which made it more difficult to produce highly suitable legislation. Thus, after the Republican Party took control of the federal legislature, by virtue of a decrease in the labor force and available resources, Congress began producing legislation that would have a higher probability of judicial invalidation. Also, because the Republican Takeover variable has a positive effect on the probability of invalidation, it speaks against the studies that claim that the Court is constrained by Congress. After 1994, Congress is consistently more conservative than before the Republican takeover, thus the Court knows that it faces relatively conservative Congresses, but the Court is still willing to invalidate laws produced by these Congresses. According to the proponents of the constrained Supreme Court argument, the Court will only invalidate federal statutes if there is a large ideological discrepancy between the enacting Congress and the present Congress, and the Court is closer to the present Congress. However, both enacting and

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Challenge as Applied becoming statistically significant and Judicial Intensity dropping out due to collinearity problems, the results remain the same, supporting the finding produced by the full model.
present Congresses are rather conservative, and the Court still invalidates federal statutes. This finding clearly supports my theoretical model and rejects the arguments portraying the Court as constrained in cases involving constitutional challenges to federal statutes.

Contrary to the theoretical predictions, Judicial Intensity, Legislative Intensity, Cost of Suitability, and Inverse of Price for Ideology do not reach statistical significance. This primarily suggests two things: either the intensity of legislative preferences, the intensity of judicial preferences, and the price for ideological changes and suitability remain relatively constant over the examined period or better measures are needed to account for these concepts.

None of the control variables (with the exception of Republican Takeover) reach statistical significance. This suggests that the Court does not treat challenges to federal statutory provisions off the unpaid docket differently from the rest of challenges. This also means that the Court is not more or less likely to rule that a statutory provision is unconstitutional as applied. Given the rest of the variables in the statistical model, the challenges to the provisions of the Bipartisan Campaign Reform Act of 2002 do not increase or decrease the probability of invalidation in a manner that reaches statistical significance. Similarly, it appears that the Court does not take into account the number of times it reviewed a particular statute and how recently the challenged provision was enacted. Finally, the complexity of legislation appears to have no statistically significant effect on the probability of invalidation.

It is possible that both Complexity and Time Since Enactment have a nonlinear effect on the inverse of the logit of the probability of invalidation. As an additional check, I reestimate the statistical model in the generalized additive models framework,
where I smooth the two variables (the basis for the two smoothed variables is the thin
plate regression spline). This task is accomplished in R 2.3 using the mgcv package
(Wood, 2003). Both smoothed terms remain statistically insignificant, while the
statistical significance of the remaining covariates remains unchanged.

For a more substantive interpretation of relationships between variables that reach
statistical significance and the probability of invalidation consider Figures 3.1 through
3.4.

Figure 3.1 shows that holding categorical variables at 0, and the rest of the
variables at their means, as the changes in legislative resources increase in a positive
direction, the probability of the Court is striking down a statutory provision decreases.
This might not mean that the Court takes into account the amount of appropriations spent
on congressional business, rather, the larger is this amount, the larger should be
congressional/committee staff, and more accessible should be the Library of Congress
and Congressional Research Service. That is, money as a resource allows Congress to
purchase research assistance. It also allows one to maintain staff in one’s districts and to
work on constituency requests, which increases the time needed for ideological
maneuvering. Thus, as a change in legislative appropriations increases from a negative
change to a positive change, the Court becomes less likely to invalidate a corresponding
statutory provision. In fact, as Legislative Resources changes from its minimum, around
2.5, to its maximum, around 16, the probability of invalidation drops from around .75 to
below .1.

Figures 3.2 shows that holding categorical variables at 0, and the rest of the
variables at their means, as the Suitability Score of a particular statutory provision
increases from its minimum, 0, to maximum, over 100), the probability of invalidation drops from .25 to around .05. This suggests that the Court does take into account how well a particular statutory provision is researched, and when the suitability score is very high (Congress produces a well researched, suitable law), it is unlikely to be overturned by the Court.

Figures 3.3 demonstrates that holding categorical variables at 0, and the rest of the variables at their means, as the legislative branch becomes more conservative on the first dimension of the DW Nominate, the conservative Burger and Rehnquist Courts become increasingly more likely to uphold statutory provisions dealing with economic issues. As the legislative median changes from its extreme liberal position to its extreme conservative position, the probability of invalidation drops from .45 to .02.

Holding categorical variables at 0 and the rest of the variables at their means, Figure 3.4 offers a substantive look at an importance of the legislative median’s location on the second dimension of the DW Nominate scores. As the legislature becomes more conservative on the questions of race and equal protection, the conservative Burger and Rehnquist Courts become increasingly more likely to uphold a challenge to the laws of this legislature. As the legislature become more conservative in the area of equal protection, the probability of invalidation drops from .58 (very liberal legislature) to .01 (very conservative legislature).

Including a dummy variable accounting for reports produced only by the Senate allowed uncovering an important relationship between the quality of research in the legislature and the probability of subsequent invalidation. The Court views the laws accompanied only by Senate reports as laws of poor suitability. The probability of
invalidating a law that was researched only by Senate reports (holding dummy variables at 0 and the rest of the variables at their means) is 36.44% higher than other laws.

Finally, holding dummy variables at 0 and the rest of the variables at their means, the laws enacted before the Republican takeover are two times more likely to be upheld than the laws created after the Republican takeover. As was already explained, this is due to the fact that Republican congresses view the Court as their ideological ally, which results in legislation of poorer suitability, which in turn is likely to be invalidated by the Court.

Conclusion

This Chapter conducted an empirical test of a theoretical model that offers a new structure for the interactions between the United States Supreme Court and Congress. This model assumes that Congress moves first, and the Court responds. Because the model is applied to constitutional cases, the Court retains the last word. Both branches benefit from ideologically congruent policies as well as policies that are suitable for the existing state of the world. Similarly to the previous research, the empirical results support the argument that ideological preferences of the High Court matter in invalidating federal statutes. Additionally, the statistical test has found support for the model’s prediction that the Court considers the suitability of a statute when the Court deliberates on the statute’s constitutionality. Thus, the Court takes into account how well the statute is designed to accomplish policy goals, whether it is appropriate for the state of the world, whether it is suitable. In this, the Court serves the American public by invalidating unsuitable legislation. Also, the statistical significance of the Republican
Takeover variable and its positive effect on the probability of invalidation suggest that the Court is unconstrained in cases involving constitutional challenges to federal statutes. This represents a considerable deviation from the dominant assumptions about the interactions between the two branches and suggests that one needs to expand the set of considerations that go into decision.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judicial Invalidation</td>
<td>0</td>
<td>1</td>
<td>0.282</td>
</tr>
<tr>
<td>Legislative Resources</td>
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<td>16.647</td>
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<td>1</td>
<td>0.046</td>
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<tr>
<td>Only House</td>
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<td>1</td>
<td>0.139</td>
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<td>-0.025</td>
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<tr>
<td>Judicial Intensity</td>
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<tr>
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<tr>
<td>Unpaid Docket</td>
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<tr>
<td>Challenge as Applied</td>
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<tr>
<td>BCFR</td>
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<td>Republican Takeover</td>
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<td>0.158</td>
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<tr>
<td>Time Since Enactment</td>
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<tr>
<td>Complexity</td>
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<td>920</td>
<td>107.490</td>
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Table 3.1: Summary Statistics of the Variables
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<th>Variable</th>
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<th>SE</th>
<th>p value</th>
</tr>
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<td>1.643</td>
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<td>0.013</td>
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<td>Suitability</td>
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<td>0.047</td>
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<tr>
<td>Only Senate</td>
<td>1.728</td>
<td>0.768</td>
<td>0.024</td>
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<td>Only House</td>
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<td>0.217</td>
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<td>0.002</td>
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<td>Legislative Intensity</td>
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<td>0.458</td>
</tr>
<tr>
<td>Judicial Intensity</td>
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<td>0.567</td>
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<tr>
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</tr>
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<td>Challenge as Applied</td>
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<td>0.277</td>
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<td>Republican Takeover</td>
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<tr>
<td>Complexity</td>
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<td>.001</td>
<td>0.280</td>
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</table>

Note.  N=256.  Log likelihood=-128.676.  The statistical model is preferred to the constant only model, \( p<0.000 \).  PCP=0.758.  PRE=0.151

Table 3.2: Summary of the Logit Analysis for Variables Predicting Invalidation
Figure 3.1: The Effect of Legislative Resources on the Probability of Judicial Invalidation.
Figure 3.2: The Effect of Suitability Score on the Probability of Judicial Invalidation.
Figure 3.3: The Effect of Legislative Ideology on the First Dimension of DW Nominate on the Probability of Judicial Invalidation.
Figure 3.4: The Effect of Legislative Ideology on the Second Dimension of DW Nominate on the Probability of Judicial Invalidation.
CHAPTER 4

EMPIRICAL ANALYSIS OF SUPREME COURT DECISIONS DURING THE AGENDA-SETTING STAGE

The previous chapter concentrated on the Court’s decisions to uphold or to invalidate federal laws. Although such an analysis is appropriate given the theoretical framework, unfortunately, the actual decision making process in the Supreme Court is more complicated. The Court makes decisions at two stages: the agenda setting stage and the decision on the merits stage. Thus, for a more complete evaluation of whether the Court is influenced by considerations of statutory suitability, I must account for the initial stage of the Court’s decision making.

This Chapter concentrates on Supreme Court decisions to grant certiorari and on Supreme Court decisions on the merits in cases involving challenges to provisions of federal statutes after accounting for the Court’s decision to grant cert in cases placed on the Court’s docket between 1994 and 2004. This chapter conducts a test for the presence of sample selection bias among the decisions on the merits and tests the following hypotheses:

29 The stage of the decision making process during which the Court decides whether to grant certiorari.
holding other factors constant, the probability that the Supreme Court will uphold a statutory provision or accept a lower court decision upholding a statute increases:

1. with the suitability of the statute.

2. with the volume of resources available to the legislature (because that volume will affect the suitability of the statute).

3. with the closeness between the Court’s preferred policy position and the position preferred by Congress.

4. as the cost of policy movement and research to ensure suitability declines (because high costs reduce congressional efforts to make the statute suitable and constitutionally valid).

First, this chapter gives a brief description of the scholarship examining the Court’s case selection. Second, this discussion is followed by the presentation of data used in this analysis. Third, the chapter outlines the method used to statistically test my predictions. Fourth, the chapter presents the results of the statistical analysis.

Literature Review

The majority of literature focusing on the agenda-setting, cert stage of the Supreme Court decision making process, argues that the Justices act strategically. They cast strategic votes in favor of accepting a case for review or rejecting it, based on their anticipation of belonging to a majority or a minority coalition, respectively, at the merits stage.
During the agenda-setting stage, the Justices decide which cases deserve to be reviewed. A considerable amount of research in this area indicates that the Justices look toward the potential outcome of the decision on the merits before making their decisions. Ulmer (1972) finds a relationship between the votes to grant or deny certiorari and the votes on the merits. He finds that whenever a Justice votes to grant cert, he or she is more likely to support the appellant. Whenever a Justice votes to deny cert, he or she is less likely to support the appellant. Although this appears to support the account of strategic decision-making, Ulmer refused to rule out the possibility by which the decision during the agenda setting stage did not influence a decision on the merits by some psychological interaction between the two actions. Brenner and Krol (1989) examine the terms from the Vinson, Warren, and Burger Courts and argue that the decisions at the review granting stage have a direct positive relationship with the probability of belonging to the winning coalition at the final vote on the merits. Brenner and Krol (1989) argue that their finding of strategic choices is tempered by other considerations. This view is supported by Provine (1980) and Perry (1991), who cite the possibility of a jurisprudential constraint on the judicial behavior, although this should not eliminate strategic behavior within the bounds of the constraint.

Boucher and Segal (1995) examine the instances when the Court makes aggressive grants or makes defensive denials. Aggressive grants occur when the lower court decision corresponds with the views of the Court’s winning coalition, but by granting cert, the Justices can establish a precedent for the whole nation. Conversely, defensive denials occur when a Justice may want to reverse the lower court’s decision, however, he or she would vote to deny cert due to being in a minority coalition during the
final vote on the merits. The authors find that the Justices engage in aggressive grants
but not in defensive denials. Thus, the Justices could seem to be partially strategic: they
do not seem to care about the Court reviewing a case even if the outcome could be
detrimental. However, Boucher and Segal (1995) analyzed the decisions to review only
those cases that were eventually heard by the Court. This obviously is a selection
problem: the cases that were denied review (potential sources of defensive denials) were
not present in the dataset.

Caldeira et al (1999) avoid the selection problem mentioned above by analyzing
the cases that were heard and that were denied by the Court. They find a strong
relationship between the winning coalition on the merits and the behavior of the Justices
at the agenda-setting stage.

These studies clearly indicate that a decision on the merits could be related to a
decision to grant cert. It may or may not hold in cases that concentrate solely on
constitutional challenges to federal statutes; however, rather than assuming this, one
needs to statistically test for it. Further, it may suggest that the results obtained in
Chapter 3 might not be entirely valid due to the presence of a selection problem (ignoring
the challenges to federal statute that were not granted cert). To overcome this problem, I
conduct a joint examination of the Court’s decision to grant cert and its decision to
invalidate, once cert has been granted.
Data

The unit of analysis is a challenge to a federal provision in a case placed on the Supreme Court docket between 1994 and 2004. Similarly to the previous analysis, I limit the dataset to challenges to the laws that were passed by the post World War II congresses.

The information on court cases comes from the United States Law Week, Supreme Court edition, 94-04 terms. This is a yearly compilation of all cases placed on the Court’s paid docket, which means that the dataset will not contain any cases on the unpaid docket, which is something that I had to control for in the previous chapter.

Dependent Variables

I record two endogenous variables: the Decision to Grant Cert and the Decision to Invalidate. If the Court chooses to grant cert to a particular challenge, the Decision to Grant Cert takes on the value of 1, and it takes on the value of 0, otherwise. If the Court chooses to invalidate a federal provision, then the Decision to Invalidate takes on the value of 1, and it takes on the value of 0 otherwise.

The entire dataset contains 337 observations. 215 requests of cert are rejected by the Court, and 122 requests are granted. Of these 122 grants, 52 result in invalidations of federal statutory provisions, and 70 result in upholding federal statutory provisions.

Variables used in this analysis are summarized in Table 4.1.

Ideally, to be consistent with the previous analysis I would have data on all constitutional cases involving federal statutes on the Court’s docket between 1971 and 2005. Unfortunately, the process of gathering data from just eleven terms of the Supreme Court split between thee people took over ten weeks. Obtaining the remaining data is a goal that I plan to pursue in the future.
Independent Variables

In the following analysis, I estimate the effect of a set of covariates on the probability of invalidation and the effect of a different set of covariates on the probability of granting cert.

In this analysis, I use most of the theoretically justified covariates from Chapter 3 to test predictions of the theoretical model with respect to the probability of invalidation. I ignore the predictions associated with the intensity of legislative and judicial preferences. They showed no statistically significant effect on the probability of invalidation in the previous analysis, which means that I am justified in ignoring them in this and subsequent analyses.

To measure the effects of legislative resources, suitability, ideology, and the prices for research and ideological changes, I follow the strategy outlined in Chapter 3. Chapter 3 also contains justifications for these measures. I use the ratio of the legislative appropriations to the Consumer Price Index to gauge the effect of legislative resources on the probability of invalidation. This effect should be negative. I anticipate that the ratio of committee report pages to report provisions, Suitability Score, has a negative effect on the probability of invalidation. Chapter 3 offers another measure of the effectiveness of congressional research in achieving intended consequences, the Senate being the only branch conducting research. I expect that if the Senate is the only branch that researches a subsequently challenged provision, the probability of invalidation increases. I expect

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32 Additionally, collecting this variable imposes a considerable time constraint. Thus, the lack of statistical significance in a previous analysis and a considerable length of time needed to collect these variables suggest that I should keep them out of this analysis.

33 As an additional check, I included the variable indicating statutory provisions that were researched only by the House. This variable was not statistically significant in Chapter 3 analysis, and it did not reach
that as the Legislative Median 1 becomes more conservative (as the average of the DW Nominate chamber median scores on dimension 1 increases), the Court becomes less likely to invalidate a provision enacted by this Congress. I expect the same as the Legislative Median 2 (the average of the DW Nominate chamber median scores on dimension 2) becomes more conservative.  My measure of the price for ideological repositioning is the number of new members of Congress in each chamber, Inverse of Price for Ideology. I expect it to have a negative effect on the probability of invalidation. The Price for Suitability is measured as the proportion of the number of “rookies,” first timers on a congressional committee, on a standing committee responsible for the challenged statute divided by the total number of new members in a chamber, and averaged over both chambers.

In addition to the theoretically justified covariates, I use the following controls. The dummy variable Republican Takeover controls for the Republican takeover of Congress in 1995, which could have had an effect on ideology and/or suitability (by decreasing the number of available resources/worsening research capabilities). The dummy variable Applied controls for whether the challenge is to the constitutionality of a statute as applied. The dummy variable BCFR controls for whether the observation in question is related to one of the 22 Bipartisan Campaign Finance Reform provisions

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34 As in the previous analysis, I assume that the Court median is always more conservative than the legislative median, which means that I can concentrate solely on the legislative median when testing the prediction about convergence of the two bodies’ ideological preferences. This is especially valid in this case, because the data are drawn from the Court’s decisions between 1994 and 2004, when the Court was known to be very conservative and had no changes in its membership.

35 If challenged legislation was not produced by a standing committee, the proportion of rookies on a committee takes on the average of such proportions for all standing committees in this year, in this chamber.
challenged in *McConnell v. FEC. (540 U.S. 93, 2003)* I control for complexity of challenged legislation by examining the total number of pages of a law that contains a challenged provision: the longer is such law, the more complex it is likely to be. Finally, to control for recency effects, I introduce a variable, Time, that accounts for the number of years passed between a statute’s enactment and its challenge.

To examine the probability of granting cert, I condition it on the probit transformation of the following covariates. Caldeira et al (1999), Ulmer (1972), and Boucher and Segal (1995) argue that ideology plays an important role in deciding whether to grant cert. I use Legislative Median 1 and Legislative Median 2 listed above to measure the effect of ideology. Unfortunately, ideology of the enacting body is not very informative in this part of analysis without being conditioned on the judicial decision to invalidate or to uphold in the subsequent stage. In other words, the Court is likely to grant cert if it wants to uphold an ideologically conservative law, or if it wants to invalidate a law passed by an ideologically liberal Congress. Using the interaction of the decision to invalidate with the ideology of the enacting body is very problematic, because there are just 122 decisions to (or not to) invalidate and 337 decisions to (or not to) grant. Additionally, such interactions may create endogeneity problems, because the two decisions are not made simultaneously: the decision to grant cert clearly precedes the decision to invalidate. To overcome this problem, I introduce a dummy variable, Lower Court Invalidation, indicating whether a lower court invalidates a federal statute, and interact it with the congressional ideological variables. Thus, whenever Lower Court Invalidation takes on 0, the lower court’s decision is in favor of a congressional statute, and the more conservative this statute is, the less likely it will be reviewed by the Court.
Whenever Lower Court Invalidation takes on 1, the lower court’s decision strikes down a federal statute, and the more conservative is the Congress enacting this statute, the more likely it will be reviewed by the Court.

Caldeira and Wright (1988, 1990) argue that the presence of amicus briefs at the agenda setting stage sends a costly signal to Justices that they should review a particular case due to its importance. I compute the number of amicus briefs (available at the Westlaw legal research database) for each observation at the agenda-setting stage.

Ulmer (1984) argues that appellate court reversal of a previous decision increases the probability of granting cert. I account for this by using the variable Overturn that takes on the value of 1 if a decision of a lower court (an appellate court decision or an en banc decision) reverses a decision below. Additionally, I control for another instance of conflict in lower courts by controlling for whether there was a dissent below. The variable Dissent takes on the value of 1 if the Westlaw service indicates that at least one of the judges in at least one lower court decision dissented from the majority decision.

Segal (1988) and Caldeira and Wright (1988) indicate the need to account for the influence of the Solicitor General. Traditionally, when the chief legal officer of the United States requests a grant of certiorari, the Court is likely to comply (Caldeira and Wright, 1988). However, I already control for this possibility by controlling for the lower courts’ invalidations. That is, in cases involving challenges to federal statutes, the Solicitor General’s position is likely to be to grant cert if a lower court invalidated a federal provision and not to grant cert if the lower court upheld a federal provision. Additionally, this eliminates the need to control for another important variable, the United States as a petitioner, because the United States or its officers will petition for a
review by High Court, if there was a lower court invalidation of a federal statute and not otherwise.

To examine whether considerations of a statute’s appropriateness for the existing state of the world have any effect on the probability of review, I use Suitability Score and Only Senate covariates in the agenda-setting estimation. I expect a negative effect of Suitability and a positive effect of Only Senate. In other words, the better is the research conducted by Congress, the more suitable is the legislation, and the less likely the Supreme Court would be to review it. The variable Suitability Score, the ratio of report pages to provisions, should have a negative effect on the probability of invalidation, and the variable Only Senate should have a positive effect on the probability of review36.

Control Variables

I use several controls in the agenda stage estimation. I control for recency effects using Time variable described above. I also control for the challenges to provisions of the Bipartisan Campaign Reform Act, BCFR, and I control for the complexity of legislation.

In addition to the listed laws, I must control for the decisions to grant-vacate-remand. Whenever there are cases on the Court’s docket that raise similar challenges and have identical lower courts’ dispositions, as the Court decides one of these cases, the

36 One could argue that, similarly to the ideological variables of congressional medians, these two variables should be interacted with the dichotomous variable gauging a lower court’s invalidation. However, there is plenty of existing research to support this argument with respect to ideology, but not with respect to suitability. The theoretical model is designed with respect to the decisions on the merits, not the agenda-setting stage, therefore, there is no objective reason for interacting the suitability variables with the lower court’s decision. But, even after estimating a statistical model with suitability interactions, the main effect of Only Senate remains statistically significant. Only Senate interacted with the lower court’s invalidation is also statistically significant. And, although Suitability (main effect) loses its 95% statistical significance (one tailed test), it is still significant at 94.5% (one tailed test). Thus, the substantive results do no change.
remaining cases receive the grant-vacate-remand orders in light of the decided case. That is, the Court vacates the lower courts decisions in these cases, and sends them back for deliberation given the decision in a similar case. I use two strategies to control for this problem. First, I use a random effect specification to account for dependency across clusters of cases that received the grant-vacate-remand orders in light of the same case, however, this strategy results in a really bad fit of a statistical model (described below), which is due to the fact that the overwhelming majority of observations did not receive these orders. This led me to a different strategy: I used two dummy variables to control for the two largest clusters of grant-vacate-remand cases. I controlled for the cases that received the grant-vacate-remand orders in light of United States v Booker (543 U.S. 220, 2005) and Kimel v. Florida Board of Regents (528 U.S. 62, 2000). 7 cases make up the Booker cluster of cases, and 8 cases make up the Kimel cluster of cases. Although the lower courts’ dispositions of these cases are identical and the constitutional questions raised in these cases are similar; the observations that make up these cases are not necessarily identical. For example, some Kimel cases challenged litigation provisions of the Age Discrimination in Employment Act, and other Kimel cases challenged the Equal Pay Act.

Statistical Analysis

Examination of the Court’s decision to hear a case followed by the decision to uphold or to invalidate a federal statute lends itself to a particular estimating framework, sample selection probit or censored probit (Maddalla, 1983; Green 2003). Here the sample consists of provisions of federal statutes that were upheld or invalidated by the
Supreme Court. That is, there are two endogenous variables, $y_1$ and $y_2$, that take on the value of 0 and 1. The endogenous dichotomous variable that indicates whether a case is accepted for review, $y_2$, is the sample selection variable. One observes whether the Court upholds ($y_1$ takes on the value of 0) or invalidates ($y_1$ takes on the value of 1) a statute only when a challenge to a statute is selected into the sample, the sample selection variable takes on the value of 1. Whenever the sample selection variable takes on the value of 0, one does not observe whether the Court explicitly upholds or invalidates a federal provision, because the Court refuses to decide a case. It is assumed that both endogenous variables are related. In other words, the fact that the Court chooses to hear a particular challenge to federal statute is related to its decision on the merits. This phenomenon has been well-documented in the literature on Supreme Court agenda-setting. The relationship between the two variables could be seen as an error-correction mechanism, where the Court chooses to review a case to correct mistakes of the lower courts and chooses to abstain from this review if a lower decision is consistent with the Court’s position.

Relationships in statistical analyses are usually expressed as correlations. Assuming that the endogenous dummy variables are just indicators of the latent continuous variables that are normally distributed allows creating the needed correlation structure. Assume that $y_1^*$ and $y_2^*$ are the continuous variables associated with $y_1$ and $y_2$, respectively, that obey the following set of relationships, where $N$ is the sample size:

$$y_{1,i} = 1, \text{ if } y_{1,i}^{*} \geq 0 \text{ for } i = 1, \ldots, N$$

$$y_{1,i} = 0, \text{ if } y_{1,i}^{*} < 0 \text{ for } i = 1, \ldots, N$$
\[ y_{2,j} = 1, \text{ if } y_{2,j}^* \geq 0 \text{ for } i = 1, \ldots, N \]

\[ y_{2,j} = 0, \text{ if } y_{2,j}^* < 0 \text{ for } i = 1, \ldots, N \]

The two continuous variables are normally distributed, with means parameterized by \( x_{1,j} \beta_1 \) and \( x_{2,j} \beta_2 \) and correlated errors, \( \varepsilon_{i,j} \) and \( \varepsilon_{2,j} \), with unit variances and the correlation coefficient \( \rho \) (Butler, 1996).

\[
y_{1,j}^* = x_{1,j} \beta_1 + \varepsilon_{i,j} \text{ for } i = 1, \ldots, N
\]

\[
y_{2,j}^* = x_{2,j} \beta_2 + \varepsilon_{i,j} \text{ for } i = 1, \ldots, N
\]

\[
\begin{bmatrix}
\varepsilon_{1,j} \\
\varepsilon_{2,j}
\end{bmatrix} \sim N
\begin{bmatrix}
0 & 1 \\
0 & \rho
\end{bmatrix}
\text{ for } i = 1, \ldots, N
\]

In the univariate (not censored) case, it is assumed that each \( y_{1,j} \) is Bernoulli distributed, with a parameter \( \pi \), which is modeled as \( E(y_{1,j}) \), which, itself, is a probit transformation of \( y_{1,j}^* \). Without the sample selection, the following holds true:

\[
Pr(y_{1,j} = 1) = Pr(y_{1,j}^* \geq 0) = \int_{-\infty}^{x_{1,j} \beta_1} \phi(s) ds = \Phi(x_{1,j} \beta_1) \quad \text{for } i = 1, \ldots, N
\]

where \( \phi \) is the normal probability density function, and \( \Phi \) is the normal cumulative density function. The probability of \( y_{1,j} \) being equal to 0 is found analogously. However, in the case of a censored probit

\[
Pr(y_{1,j} = 1) = Pr(y_{1,j}^* \geq 0 | y_{2,j}^* \geq 0) = \frac{Pr(y_{1,j}^* \geq 0, y_{2,j}^* \geq 0)}{Pr(y_{2,j}^* \geq 0)} =
\]

108
\[
\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} \phi(u, v) du \, dv = \int_{-\infty}^{\infty} \left( \int_{-\infty}^{\infty} \phi(u | v) du \right) \phi(v) dv = \int_{-\infty}^{\infty} \Phi\left( \frac{x_{1i} \beta_1 + \rho v}{\sqrt{1 - \rho^2}} \right) \phi(v) dv
\]

(\text{in the case of the bivariate normal distribution of two random variables } Y_1 \text{ and } Y_2, \text{ with unit variances and the correlation coefficient } \rho, \ Y_1 | (Y_2 = v) \sim N(\rho v, 1 - \rho^2) ). \text{ The probability of } y_{1,i} \text{ being equal to 0 if found analogously. Clearly,}

\[
\Phi(x_{1i} \beta_1) \neq \Phi(x_{2i} \beta_2)
\]

unless \( y_{1,i} \text{ and } y_{2,i} \) are independent. This can be tested using the likelihood ratio test for the need to include \( \rho \) into the estimation framework. If this inclusion does not significantly improve the log-likelihood, then the decision to grant cert and the decision on the merits are independent and could be estimated as such (separate probit analyses).

Thus the likelihood function, \( L \), for the censored probit will take on the following form:

\[
L = \prod_{i=1}^{N} \left( \Pr(y_{1,i}^* \geq 0, y_{2,i}^* \geq 0) \right)^{y_{1,i} y_{2,i}} \left( \Pr(y_{1,i}^* < 0, y_{2,i}^* \geq 0) \right)^{1-y_{1,i}} \left( \Pr(y_{2,i}^* < 0) \right)^{1-y_{2,i}}
\]

Taking a natural logarithm of this function results in a straightforward maximum likelihood optimization problem. However, suppose that the matters are not as straightforward, and the actual model suffers from unobserved heterogeneity across Congresses: each Congress is likely to have some unobserved characteristics that sets it apart from other Congresses. Thus the actual latent model of the decision to invalidate and a decision to grant is
\[ y_{1,k,j}^{**} = x_{1,k,j} \beta_1 + \varepsilon_{1,k,j} + u_{1,k}, \forall j,k; \]

\[ y_{1,k,j} = 1 \text{ if } y_{1,k,j}^{**} \geq 0, \text{ and } y_{1,j} = 0 \text{ otherwise} \]

\[ y_{1,k,j}^{**} = x_{1,k,j} \beta_1 + \varepsilon_{1,k,j} + u_{2,k}, \forall j,k; \]

\[ y_{2,k,j} = 1 \text{ if } y_{2,k,j}^{**} \geq 0, \text{ and } y_{2,j} = 0 \text{ otherwise} \]

Where \( y_{s,k,j}^{**} - y_{s,k,j}^* = u_{s,k}, s=1,2 \). \( u_{1,k} \) and \( u_{2,k} \) are realizations from two univariate normal distributions (the means are zero, and the variances are \( \sigma_1^2 \) and \( \sigma_2^2 \) respectively) and are independently and identically distributed. Also \( E(u_{1,k}, u_{2,k}) = 0, \forall k, \) and

\[ E(u_{s,k}, \varepsilon_{s,k,j} | x_s) = 0, \forall s, j, k. \]

\( u_t \) is a realization of a random variable (a random effect) that is present across \( k \) Congresses in the invalidation equation, and \( u_{2_t} \) is a random effect across \( k \) Congresses in the selection/cert equation. Each cluster \( k \), consists of \( j \) Congresses. The problems with failing to account for random effects are well-documented in the existing literature and are due to the fact that \( Corr(u_{s,k} + \varepsilon_{s,k,j}, u_{s,k} + \varepsilon_{s,k,r} | x_s) = \frac{\sigma_s^2}{(1 + \sigma_s^2)}. \) (Green, 2003)

This results in standard errors that are not consistent (Hsiao, 2003). To account for this problem, one needs to modify the likelihood function specified above.

\[
L = \prod_{k=1}^K \prod_{j=1}^J \left( \Pr(y_{1,k,j}^{**} \geq 0, y_{2,k,j}^{**} \geq 0 ) \right)^{v_{1,k,j}^{y_{2,k,j}}} \times \\
\left( \Pr(y_{1,k,j}^{**} < 0, y_{2,k,j}^{**} \geq 0 ) \right)^{v_{1,k,j}^{1-y_{2,k,j}}} \\
\left( \Pr(y_{2,k,j}^{**} < 0 ) \right)^{v_{2,k,j}^{1-y_{2,k,j}}} \\
\left( \Pr(y_{2,k,j}^{**} < 0 ) \right)^{v_{2,k,j}^{1-y_{2,k,j}}}
\]

---

37 This does not have to be the case, however, this condition is used to simplify notation. Abandoning this assumption is straightforward. The dataset used in this Chapter does not meet this condition.
Define
\[
D(u_{1,k}, u_{2,k}) = \prod_{j=1}^{J_k} \left( \Pr(y_{1,k,j}^* + u_{1,k} \geq 0, y_{2,k,j}^* + u_{2,k} \geq 0) \right)^{y_{1,k,j}^*-y_{2,k,j}^*} \times \\
\left( \Pr(y_{1,k,j}^* + u_{1,k} < 0, y_{2,k,j}^* + u_{2,k} \geq 0) \right)^{(1-y_{1,k,j}^*)y_{2,k,j}^*} \left( \Pr(y_{2,k,j}^* + u_{2,k} < 0) \right)^{y_{2,k,j}^* - 1}.
\]

Therefore,
\[
L = \prod_{k=1}^{K} D(u_{1,k}, u_{2,k}).
\]

Because the random effects are not observed they are integrated out from both equations, resulting in the likelihood function taking on the following form
\[
L = \prod_{k=1}^{K} \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} D(v, w)\phi(v)\phi(w)dv dw^{38}.
\]

Taking the natural logarithm of the expression above results in a log-likelihood that could be estimated using the maximum-likelihood optimization routine after integrating out the random effect using a simulation procedure (Train, 2003), or it could be estimated using the method of the Markov Chain Monte Carlo (MCMC) (Gelman et al, 2003). It is also possible to extend the statistical model above to create a more complicated, hierarchical random effect structure, where various clusters are nested within larger clusters or an even more complicated, cross-classified structure (see Appendix F).

Butler (1996) recommends estimating the censored probit model in a Bayesian context, which allows placing appropriate constraints on the model’s parameters priors, which avoids a more difficult computation of the constrained maximum likelihood in the

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38 It is relatively straightforward to extend this case to a situation when both random effects are realizations from the bivariate normal distribution, although the computation becomes considerably more complicated.
frequentist sense. I conduct both analysis, and achieve results that are almost identical\(^{39}\).

I conduct my analyses in R 2.4 and in Winbugs 1.4 (Spiegelhalter et al, 2000), which requires a Bayesian method of estimation, which requires specification of the prior distribution for the model’s parameters\(^{40}\).

The Winbugs 1.4 censored probit setup is very similar to its bivariate probit framework (Congdon, 2005); however, its censored values are treated as missing data, which are estimated in the process of sampling from the posterior. Both in Winbugs and in R, I treat the random effects in the invalidation equation and in the selection equation as uncorrelated across these two stages\(^{41}\).

Results

The value of \(\rho\) that maximizes the likelihood is -.06, and I fail to reject the likelihood ratio test of the independence of the two decisions (\(p>.84\)). The likelihood ratio tests also allow me to reject the need to include the random effects distributed across Congresses. I also attempted a cross-classified random effect structure, where the random components were distributed across congresses and across clusters of cases that had the grant-vacate-remand orders (while omitting the dummy variables Booker and

\(^{39}\) MCMC estimation in Winbugs 1.41 took 12 hours, while optimizing the simulated likelihood in R 2.4 took over 40 hours using the same computer.

\(^{40}\) The Bayesian paradigm does not view the statistical model’s parameters as fixed; therefore, by sampling from their distributions, one can obtain all the necessary statistics (means and quintiles) that would allow testing statistical hypotheses (in a frequentist sense of this expression). By combining prior distributions with the likelihood function, one obtains the posterior distribution, which is driven by prior knowledge and data. By sampling from this posterior distribution, one gains knowledge about (estimates) the model’s parameters.

\(^{41}\) I specify diffuse priors to make sure that the draws from the posterior distribution are determined primarily by my data, rather than by any arbitrary knowledge (prior distributions) that I impose on the model’s parameters.

\(^{41}\) I relax this assumption and reestimate the Winbugs analysis to account for this cross-decisional correlation, however, the draws for parameters of interest fail to converge to a stationary distribution after 100.000 draws (thinned by 10), which speaks of a considerably poorer fit.
Kimel) in light of a decision in a particular case. The estimation was conducted in Winbugs 1.41, and after a few hundred thousands of iterations it failed to converge, which speaks of a considerably poor fit.

Thus, I am comfortable running separate probit models for each level of Supreme Court decision making without the random effect specification. This rejection of the need to estimate a sample selection model also offers some evidence in support of the analysis of the decisions on the merits done without accounting for the decisions to grant cert in Chapter 3.42

This process of testing for independence between decisions to grant cert and decisions to invalidate also offers a substantive interpretation. The finding that the two are independent suggests that the cases involving challenges to federal statutes are so important that, when the Justices on the Court decides to review such a case, it does it out of considerations of policy importance (the ability to leave its stamp on the nation’s most important policies) rather than reviewing a case only when guaranteed to be in the majority coalition at the stage on the merits.

The results of the two estimations are presented in Table 4.2 and Table 4.3. Table 4.2 shows the effects of covariates on the probability of invalidation. Table 4.3 shows the effects of covariates on the probability of granting cert.

First examine Table 4.2. None of the theoretical variables, with the exception of Only Senate, reaches statistical significance at a conventional level. This possibly suggests two conclusions.

42 I also estimated a probit equation, where I examined the effects of both the agenda-setting covariates and the decision on the merits covariates on the probability of granting cert. Using the likelihood ratio test, I ruled out the need to include the decision on the merits covariates in this stage of the estimation process (p>.594).
It is very likely that the decision whether to invalidate is done at the agenda-setting stage; therefore, this analysis becomes superfluous. However, by adding the decision on the merits covariates to the agenda setting probit analysis, the model does not improve the fit. In fact, the likelihood ratio test rejects the need to include these additional covariates (which are different from the agenda setting covariates) in the agenda setting equation. Thus, it might seem that the theoretical variables Legislative Resource, Price for Suitability, and Inverse of Price for Ideological Changes are not relevant to Supreme Court decision making. However, it is also the case that this analysis looks at just a snapshot (11 terms) of Supreme Court decision making. After expanding the dataset to include more judicial terms, the results might change, and, in fact, they do, as has been demonstrated in Chapter 3.

Nevertheless, whenever the Senate is the only branch producing research on a particular statutory provision subsequently challenged in federal courts, this provision is 30% more likely to be overturned by the Court than a provision that was not researched only by the upper chamber of Congress.

One control variable reaches statistical significance at a conventional level: Time, the recency effect, has a negative effect on the probability of invalidation, which suggests that the longer is the time between a statute’s enactment and its challenge, the more likely this statute will be upheld by the Supreme Court. One could think of it as withstanding the test of time: the longer a statute has been in existence without invalidation, the less likely this statute goes against the interests of potential litigants, and the more likely this statute is a good policy that achieves the intended consequences.
Table 4.3 presents results that are much more interesting. Both Suitability and Only Senate achieve 95% statistical significance (one-tailed tests), and both have an effect in the predicted direction. Although the theoretical model does not speak of the agenda setting stage of Supreme Court decision-making, this could be interpreted along the model’s predictions. As the fit between a statutory provision’s goal and the provision’s actual consequences worsens, the Court is more likely to review the case that challenges this provision. In other words, the Court will take up a case that is poorly suited for the state of the worlds and, as has been shown in Table 4.1 and in Chapter 3, the Court will be very likely to invalidate such laws.

The ideology of the enacting Congress by itself has no statistically significant effect on the probability of review at a conventional level of significance. However, once it is interacted with the lower court invalidation, the interaction becomes statistically significant in the predicted direction. The more conservative is the Congress (on either DW Nominate dimension) that enacted a statutory provision invalidated by a lower court, the more likely the Supreme Court is to review the case. This is akin to the error-correcting behavior discussed by Ulmer (1972): the Court reviews the case when it is likely to disagree with a lower court. Here, the conservative Rehnquist Supreme Court will hear an invalidation by a lower court of those laws that were passed by conservative Congresses. Additionally, the United States is likely to be a petitioner and the Solicitor General is likely to request cert whenever lower courts invalidate federal statutes, which explains why Lower Court Invalidation (the main effect) is hugely significant.

Several control variables achieve statistical significance. As discussed by Caldeira and Wright (1988), as the number of amicus briefs at the agenda stage increases,
the Court becomes more likely to grant cert. Also, similarly to the analysis of the decisions on the merits, as the time between statutory provisions’ enactment and challenges increases, the probability of granting cert decreases. Finally, cases that are similar in nature to Kimel v. Florida Board of Regents and that raise the same questions are more likely to be reviewed by the Court\textsuperscript{43}.

Turning to analysis of substantive significance of the covariates, consider Figures 4.1 through 4.3.

Figure 4.1 shows that holding categorical variables at 0 and the rest of the variables at their means, as Suitability of a particular statutory provision increases from its minimum, 0, to its maximum, over 130, the probability of Supreme Court review drops from .3 to around .05. This suggests that the Court does take into account how well a particular statutory provision is researched in its agenda-setting stage, and, when the suitability score is very high (Congress produces well researched, suitable legislation), it is less likely to be reviewed by the Court.

Figures 4.2 demonstrates that holding categorical variables at 0, and the rest of the variables at their means, \textit{when a lower court invalidates a federal statutory provision}, as the legislative branch becomes more conservative on the first dimension of the DW Nominate scores (the economic issues), the conservative Rehnquist Court becomes increasingly more likely to grant cert to review a lower court invalidation. As the legislative median changes from its extreme liberal position to its extreme conservative position, the probability of review jumps from .55 to .85.

\textsuperscript{43} In actuality, these cases are granted cert, vacated, and remanded to lower courts. There is no formal oral argument or the Supreme Court opinion associated with these cases.
Figure 4.3 shows the substantive importance of the legislative median location on the second dimension of the DW Nominate scores, when a lower court invalidates a federal statutory provision. When a lower court invalidates a federal statutory provision, holding categorical variables at 0, and the rest of the variables at their means, as the legislature becomes more conservative on the questions of race and equal protection, the conservative Rehnquist Court becomes increasingly more likely to review a court case that invalidates a federal law. As the legislature become more conservative in the area of equal protection, the probability of review rises from .45 (for a very liberal legislature) to .99 (for a very conservative legislature).

Finally, whenever the Senate is the only congressional chamber that researches a statutory provision, if a challenge to this provision reaches the Supreme Court’s docket, this challenge is 48.85% more likely to be reviewed than a law that was not researched only by Senate.

Conclusion.

This chapter examined the Supreme Court decision whether to uphold or invalidate a federal statute in combination with the decision of whether to grant cert. I found that the two decisions are independent of each other, which provides some evidence that the analysis in Chapter 3 does not suffer from selection bias. I estimated these two analyses separately. Most of the theoretical variables did not have statistically significant effects on the probability of invalidation; still, whenever the Senate is the only chamber conducting research on a statutory provision, this provision, if challenged, has a
higher probability of invalidation. The lack of statistical significance in this analysis of other covariates could be explained by the short period of time in this examination.

Conversely, both suitability and both ideological variables do have an effect on whether the Court grants cert, reviews a lower court decision. The worse is the research level of a federal statutory provision, the more likely, if challenged, this provision would be reviewed by the Court. In other words, the Court tends to ignore constitutional court cases involving well researched provisions. The more conservative is a Congress that produced a challenged piece of legislation, the more likely the Court is to review a lower court decision, if it invalidates legislation produced by this conservative Congress. This relationship holds for scores on both DW Nominate dimensions. Although these findings are not derived from the theoretical model, they suggest that the effect of suitability of a federal statute might be more pronounced and that the suitability may affect more stages of judicial decision making than originally suggested.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judicial Invalidation</td>
<td>0</td>
<td>1</td>
<td>0.228</td>
</tr>
<tr>
<td>Legislative Resources</td>
<td>2.607</td>
<td>16.647</td>
<td>14.317</td>
</tr>
<tr>
<td>Suitability</td>
<td>0</td>
<td>136.5</td>
<td>18.738</td>
</tr>
<tr>
<td>Only Senate</td>
<td>0</td>
<td>1</td>
<td>0.077</td>
</tr>
<tr>
<td>Legislative Median 1</td>
<td>-0.189</td>
<td>0.159</td>
<td>-0.040</td>
</tr>
<tr>
<td>Legislative Median 2</td>
<td>-0.094</td>
<td>0.082</td>
<td>-0.051</td>
</tr>
<tr>
<td>Inverse of Price for Ideology</td>
<td>43</td>
<td>167</td>
<td>76.279</td>
</tr>
<tr>
<td>Cost of Suitability</td>
<td>.001</td>
<td>.037</td>
<td>0.011</td>
</tr>
<tr>
<td>Challenge as Applied</td>
<td>0</td>
<td>1</td>
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</tr>
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<td>BCFR</td>
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<td>Republican Takeover</td>
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<td>0.341</td>
</tr>
<tr>
<td>Time Since Enactment</td>
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<td>Complexity</td>
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Table 4.1: Summary Statistics of the Variables
<table>
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<tr>
<th>Variable</th>
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<th>Max</th>
<th>Mean</th>
</tr>
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<td>1</td>
<td>0.362</td>
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<td>Lower Court Invalidation</td>
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<td>Lower Court Invalidation x Legislative Median 1</td>
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<td>Lower Court Invalidation x Legislative Median 2</td>
<td>-0.094</td>
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<tr>
<td>Amicus Briefs</td>
<td>0</td>
<td>20</td>
<td>1.585</td>
</tr>
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<td>Overturn</td>
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<td>1</td>
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<tr>
<td>Dissent</td>
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<td>1</td>
<td>0.240</td>
</tr>
<tr>
<td>Kimel</td>
<td>0</td>
<td>1</td>
<td>0.024</td>
</tr>
<tr>
<td>Booker</td>
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<td>0.021</td>
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Table 4.1 (continued): Summary Statistics of the Variables
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<th>Variable</th>
<th>Estimate</th>
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<th>p value</th>
</tr>
</thead>
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<td>Constant</td>
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<td>1.907</td>
<td>0.129</td>
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<tr>
<td>Legislative Resources</td>
<td>-0.058</td>
<td>0.111</td>
<td>0.606</td>
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<tr>
<td>Suitability</td>
<td>0.007</td>
<td>0.007</td>
<td>0.370</td>
</tr>
<tr>
<td>Only Senate</td>
<td>1.455</td>
<td>0.517</td>
<td>0.005</td>
</tr>
<tr>
<td>Legislative Median 1</td>
<td>3.030</td>
<td>5.065</td>
<td>0.550</td>
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<td>Legislative Median 2</td>
<td>11.332</td>
<td>10.617</td>
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<td>Inverse of Price for Ideology</td>
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<td>0.656</td>
</tr>
<tr>
<td>Cost of Suitability</td>
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<td>34.608</td>
<td>0.140</td>
</tr>
<tr>
<td>Challenge as Applied</td>
<td>0.103</td>
<td>0.811</td>
<td>0.899</td>
</tr>
<tr>
<td>BCFR</td>
<td>-0.718</td>
<td>0.744</td>
<td>0.335</td>
</tr>
<tr>
<td>Republican Takeover</td>
<td>-1.803</td>
<td>1.358</td>
<td>0.184</td>
</tr>
<tr>
<td>Time Since Enactment</td>
<td>-0.087</td>
<td>0.034</td>
<td>0.012</td>
</tr>
<tr>
<td>Complexity</td>
<td>0.000</td>
<td>0.001</td>
<td>0.656</td>
</tr>
</tbody>
</table>

Note. N=122. Log likelihood=-65.312. The statistical model is preferred to the constant only model, p<0.000. PCP=0.746. PRE=0.404

Table 4.2: Summary of the Probit Analysis for Variables Predicting Invalidation
<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimate</th>
<th>SE</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.276</td>
<td>0.822</td>
<td>0.737</td>
</tr>
<tr>
<td>Suitability</td>
<td>-0.012</td>
<td>0.007</td>
<td>0.071</td>
</tr>
<tr>
<td>Only Senate</td>
<td>0.937</td>
<td>0.330</td>
<td>0.005</td>
</tr>
<tr>
<td>Legislative Median 1</td>
<td>-1.694</td>
<td>3.248</td>
<td>0.602</td>
</tr>
<tr>
<td>Legislative Median 2</td>
<td>9.892</td>
<td>7.078</td>
<td>0.162</td>
</tr>
<tr>
<td>Lower Court Invalidation</td>
<td>2.924</td>
<td>0.685</td>
<td>0.000</td>
</tr>
<tr>
<td>Lower Court Invalidation x</td>
<td>7.094</td>
<td>2.724</td>
<td>0.009</td>
</tr>
<tr>
<td>Legislative Median 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Court Invalidation x</td>
<td>16.500</td>
<td>9.541</td>
<td>0.084</td>
</tr>
<tr>
<td>Amicus Briefs</td>
<td>0.352</td>
<td>0.141</td>
<td>0.012</td>
</tr>
<tr>
<td>Overturn</td>
<td>0.212</td>
<td>0.212</td>
<td>0.317</td>
</tr>
<tr>
<td>Dissent</td>
<td>0.162</td>
<td>0.241</td>
<td>0.427</td>
</tr>
<tr>
<td>BCFR</td>
<td>-0.640</td>
<td>164.200</td>
<td>0.997</td>
</tr>
<tr>
<td>Republican Takeover</td>
<td>-0.214</td>
<td>0.763</td>
<td>0.779</td>
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<tr>
<td>Time Since Enactment</td>
<td>-0.045</td>
<td>0.022</td>
<td>0.044</td>
</tr>
<tr>
<td>Complexity</td>
<td>-0.000</td>
<td>0.000</td>
<td>0.427</td>
</tr>
<tr>
<td>Booker</td>
<td>7.513</td>
<td>321.300</td>
<td>0.981</td>
</tr>
<tr>
<td>Kimel</td>
<td>2.420</td>
<td>0.744</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Note.  N=337.  Log likelihood=-116.354.  The statistical model is preferred to the constant only model, $p<0.000$.  PCP=0.840.  PRE=0.467

Table 4.3:  Summary of the Probit Analysis for Variables Predicting Certiorari
Figure 4.1: The Effect of Suitability on the Probability that the Supreme Court Grants Certiorari.
Figure 4.2: The Effect of Legislative Ideology on the First Dimension of DW Nominate Scores Given Lower Court Invalidation on the Probability that the Supreme Court Grants Certiorari.
Figure 4.3: The Effect of Legislative Ideology on the Second Dimension of DW Nominate Scores Given Lower Court Invalidation on the Probability that the Supreme Court Grants Certiorari.
CHAPTER 5

EMPIRICAL ANALYSIS OF JUDICIAL INVALIDATIONS OF FEDERAL LAWS OVER TIME

The previous two chapters concentrated on the merits stage and the agenda stage of Supreme Court decision making. Both analyses showed support for the main theoretical predictions. However, to complete the image of judicial behavior and characteristics of federal statutes, I examine the fate of federal statutes over time. I look at the timing between statutes’ enactment and their invalidation to test the theoretical model’s hypotheses. This allows taking a closer look at an entirety of the statutes enacted in a particular period to determine what statutory characteristics increase the likelihood of invalidation. Although the theoretical model does not speak of time between enactment and invalidation, the model’s prediction could be easily extended to account for this: factors that increase invalidation should also decrease the time to invalidation and vice versa. Because the emphasis is on statutes rather than statutory provisions, certain predictors used in previous analyses are not appropriate as independent variables in this part of the project. Therefore, to be consistent, only a few hypotheses will be tested within this framework.
Holding other factors constant, the probability that the Supreme Court will uphold a statutory provision or accept a lower court decision upholding a statute increases:

1. With the suitability of the statute.

2. With the amount of resources available to the legislature (because that volume will affect the suitability of the statute).

3. With the closeness between the Court’s preferred policy position and the position preferred by Congress.

4. As the cost of policy movement declines (because high costs reduce congressional efforts to make the statute suitable and constitutionally valid).

The following analysis concentrates on constitutional invalidations of Public Laws over time. Because this approach involves an obvious temporal dimension, and because the interest is in the event of Supreme Court invalidation of a provision of a Public Law, an event history approach is the appropriate framework for statistical analysis. Thus, the interest is in the effect that relevant covariates have on the hazard of a Public Law invalidation by the Supreme Court. Another study has already attempted investigation of Congress-Court interactions using techniques of event history. Harvey and Friedman (2004) looked at all Public Laws created by the 100th through 106th Congresses. Their analysis suggests that the Court is constrained by Congress in constitutional cases; however, as was argued above, it is unlikely to be so.

First, this chapter outlines the variables used in this analysis. Second, the chapter outlines a relatively recent development in the area of event-history/duration analysis,
cure models with a duration frailty component. Third, the chapter summarizes the results of the estimation and compares them to the results of Harvey and Friedman (2004).

Data

The dataset used in this analysis is composed of Public Laws passed in the 100th Congress through 106th Congress, which means that the laws were created between 1987 and 2000. 1987 is the year after William H. Rehnquist became the Chief Justice. The Court between 1987 and 2000 is commonly known as conservative.

In this period, there were only 23 invalidations by the Supreme Court, however Congress enacted over 3,000 statutes. This presents a challenge for the event history framework. Almost all of the observations are censored. To partially account for this problem I exclude from consideration all the laws of commemorative nature or laws that deal with appointment of various individuals to the Board of Regents of the Library of Congress, or similar institutions, as well as laws involving the matter of presidential libraries, federal rewards, and foreign movies. These laws lack any controversy or substance, and they are never challenged in federal courts.

This slims down the dataset by several hundred observations. The dataset is organized in a time spell format: each observation accounts for one Public Law. There are 2,624 observations and 23 events. Following this data selection strategy makes the

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44 Table 5.1 contains descriptive statistics for the variables used in this analysis
45 Notable excluded pieces of commemorative legislation include “National Geography Awareness Day” and “National Goat Milk Day”, as well as numerous “Baltic Freedom Days.”
46 All laws in the dataset come from the Library of Congress (available at http://thomas.loc.gov) and Lexis-Nexis Congressional Universe.
analysis below not directly comparable to the work of Harvey and Friedman (2004), however, one could still compare the substantive implications of both analyses.

Still, the fact that less than one percent of the observations experience the event is a cause for concern, but it also suggests a natural framework of estimation. The small number of invalidations suggests that the data generating process has to include the possibility of no invalidations. That is, some laws will never be invalidated. Ignoring this structure by conducting a regular duration analysis is equivalent to assuming that all laws are eventually invalidated, which produces incorrect results. To avoid this problem a cure model is estimated. More details on the cure model are given in the section on estimation below.

Independent and Control Variables

As was discussed in Chapter 3, measuring a statute’s suitability presents a challenge. In Chapter 3, one way I use to get around this problem is by examining the ratio of committee pages to committee provisions in a report dedicated to researching the consequences of a challenged provision. Ideally, I would have the same measure of suitability in this analysis, however, given the size of the dataset this would be impractical. Each public law is likely to enact several provisions. Some of the omnibus bills include several dozens of often unrelated provisions. Thus, 2,624 laws of substantive nature passed between 1987 and 2000 are likely to have thousands of
provisions that would need to be associated with relevant committee reports. The cost of data collection can quickly become prohibitive\(^\text{47}\).

Another measure of suitability used in two previous empirical chapters is an indicator variable accounting for whether the only committee report(s) comes from the Senate. Chapter 3 contains justification for this variable. When only the Senate produces committee reports describing the meaning and intent of a particular statutory provision, this provision is unlikely to be very suitable to achieve the intended goals, therefore, it is more likely to be invalidated. I can use a similar logic to derive a measure of suitability of a generic public law. When only the Senate produces committee reports describing the meaning and intent of a particular Public Law, it should decrease the time to invalidation. This variable is Only Senate.

Additionally, I use a measure that gauges the total number of committee reports accompanying an Act of Congress. The larger is the number of reports, the better the law is researched, the more likely it corresponds to the right state of the world and is suitable. Thus, the higher is the number of committee reports (variable Total Reports), the greater should be the time of survival (time to invalidation).

Similarly to the first two empirical analysis, I am justified in omitting the variable measuring judicial ideology and examining only the measure of legislative ideology for

\(^{47}\) This problem also appears in Chapter 6. There, I solve it by taking a random sample of all laws, and I examine the suitability of each provision enacted by each selected law. However, in this chapter, I have only two dozen invalidations and over 2,000 enacted laws of a substantive nature. Even if I were to collect a sample that would include all invalidations, I would still have a problem of creating a random sample due to the sheer number of all the provisions that were never invalidated. If there are over 12,000 provisions that were never invalidated, randomly sampling just 10\% of these provisions still gives a very large number of observations (over 1,200), however, the statistical analysis would have to be adjusted to correct for this sample selection. Thus, I do not win much by attempting to sample provisions rather than looking at all the public laws passed between 1987 and 2000. Also, because I concentrate on Public Laws, I cannot use any of the committee based measures that might have appeared in the first two analyses, with the exception of the two variables described below.
its effect on the timing to invalidation. I use the average of the chamber median DW Nominate scores on the first dimension for each Congress between 1987 and 2000 to compute the measure of legislative ideology. The scores’ creators, Poole and Rosenthal (1998) suggest that after 1980, the first dimension accounts for a large majority of roll call outcomes, which is why I do not control for the second dimension scores in this analysis. The model predicts that as the chambers ideology and the Court’s ideology converge, the hazard of invalidation should decrease. In other words, as the average DW Nominate scores of the House and Senate medians increase (become more conservative), the time to invalidation should increase (a positive effect on the time of survival).

Similarly to the first two analyses, I control for the Republican Party take over that occurred after the 1994 congressional elections. To control for the period of congressional dominance by the Republican Party, I use the variable Republican Takeover, which takes on the value of 1 if a law is enacted in or after 1995 and takes on the value of 0 otherwise. Also, as is argued in Chapter 3, if laws produced after Republican takeover are invalidated quicker than the laws produced before the takeover, it would speak against the idea that the Court is constrained by Congress in cases involving the constitutionality of federal statutes.

Just as in the first two empirical analyses, I am interested in the effect that the amount of legislative resources might have on the timing to invalidation. I use the ratio of legislative appropriations for a particular year to the Consumer Price Index. For justification, see Chapter 3. The larger is the value of the legislative resources, the lower should be the hazard of invalidation (the longer should be the time to invalidation).
Also, similarly to the first two analyses, the number of freshmen legislators serves as the proxy for the price of ideological movement. The variable name is Inverse of Price for Ideology (it has an inverse relationship with the price for ideology). It is computed by adding the number of new legislators entering the House and Senate. The larger is this number, the less costly should be ideological changes, which results in the lower probability of invalidation, or longer timing to invalidation (smaller hazard)\(^{48}\).

Finally, to control for complexity of the legislation, which may have separate influence on the likelihood of invalidation, I compute the number of pages of each statute. The larger is the number of pages in a statute, the more different aspects of public policy it is affecting. Thus a very long statute is likely to attempt to achieve many goals, which makes it more complicated. This variable is Complexity.

Measures that vary over time are not included due to the problem of estimating parametric models with time-varying covariates.

Statistical Analysis

Estimating a duration model is appropriate in this setting, because a duration model would account for important time dependencies present in the longitudinal data. However, another important issue remains to be addressed. Not all laws created by the United States Congress are reviewed by the Supreme Court. This should be obvious. Each year Congress enacts and the President signs hundreds of laws. With the Chief Justiceship of William H. Rehnquist, the Court’s workload decreased from over a

\(^{48}\) I do not test the effect of the price of suitability on the time to invalidation, because the variable used to measure this concept in the first two analyses is committee based. Given the nature of my data in this analysis, I cannot afford to use any of the committee based variables with the exception of Only Senate.
hundred cases per term to around eighty cases per term. A substantial minority of the cases involve challenges to federal laws, which means that the Court is constrained in how many federal laws it can review. This suggests that there will always be laws that are never threatened by invalidation. A duration framework solution for this problem is the split population (also known as the cure) model (Hettinger and Zorn, 2005; Harvey and Friedman, 2004, Box-Steppensmeier et al, 2005). As the name suggest, the split population model, also known as the cure model, assumes that data consist of two groups. One group contains observations that will never experience the event, and another group contains observations that will eventually experience the event. Putting it in the context of this project, the dataset containing laws passed in the 100th through 106th Congress consists of two sets: a set of laws that will never be invalidated by the Court and a set of laws that will eventually be invalidated by Supreme Court. Their unconditional survivor function, $S(t)$, takes on the following form:

$$S(t) = 1 - \rho + \rho S_0(t)$$

where $\rho$ represents the probability of belonging to the susceptible group of laws (those laws that will be invalidated). Conversely, $1 - \rho$ is the probability of never experiencing invalidation, $S_0(t)$ is the survivor function of an observation/Public Law that belongs to the set of laws that will eventually be invalidated. When $\rho$ takes on the value of 1, the observation will eventually experience the event. Thus, the unconditional survivor function has to take into account the probability of belonging to either set of laws and the

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49 It is possible that without these limits the Court would invalidate a greater number of federal statutes. To get at this question, one would need to examine the agenda setting (cert) stage of the judicial process. Presumably, the laws that are left as invalidated but that the Court refuses to review are of lower quality than the laws whose challenges are reviewed and rejected.

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probability of survival if belonging to the susceptible group (the group of laws that will be eventually invalidated).

The cure/split population approach accounts for one type of heterogeneity: the presence of multiple laws that will never be invalidated. However, a different type of heterogeneity is the second issue that needs to be accounted for in this section. It is very likely that there are unobserved factors that influence the speed to invalidation of various laws, and it is very likely that these factors vary across observations. Each law contains many different provisions, and the Court may eventually invalidate some of them. It would be impractical to attempt to measure all relevant factors that go into making a Public Law and that potentially have influence on the judicial decision makers. The usual solution that accounts for this problem is to include the frailty term (a random effect) that varies across groups or observations\(^{50}\). In this case, the frailty element is included, and it varies across Public Laws, which accounts for any intrinsic influence that Public Laws may have on the speed of invalidation.

More formally, assume that \(Y\) is a random variable accounting for individual frailty. Assume that \(F(y)\) is its distribution function; following Price and Manatunga (2001), the hazard rate at time \(t\) for an individual with frailty \(Y\) is the following

\[
h(t \mid Y = y) = y h_0(t) \exp(\beta' x).
\]

\(^{50}\) There are several solutions to the problem of heterogeneity. One solution is to use a random effect frailty model. Another solution involves using fixed effects, dummy variables controlling for potential levels of heterogeneity. Yet a third solution involves correcting heterogeneity by weighing the variance covariance matrix. In this chapter, I assume presence of heterogeneity across individual observations, which makes the latter two solutions inappropriate. Weighing each observation or using over 2,000 dummy variables is inefficient and is likely to be computationally impossible.
In this expression, \( h_0(t) \) is the baseline hazard rate, \( y \) is the random effect (frailty) term, \( x \) is a vector of covariates, and \( \beta \) is the vector of coefficients. If \( Y \) is a constant that is equal to 1, the expression reduces to a regular hazard rate parameterized with covariates and their coefficients.

A natural extension of these two approaches is a statistical model that both allows for the existence of a non-susceptible group of cases and allows for unobserved heterogeneity among those observations that will eventually experience the event; that is, Public Laws that will never experience invalidation, and those Public Laws that will eventually be invalidated and whose time to invalidation is influence by unobserved factors.

To continue, one needs to understand a relationship between survivor functions, hazard functions, and the Laplace transformations. In the case without unobserved heterogeneity (and no covariates),

\[
S(t) = \exp\left(-\int_0^t h(u)du\right) = \exp(-H_0(t)),
\]

where \( H_0(t) \) is the cumulative hazard rate. When frailty is included (\( y \) is a realization of a random variable \( Y \), which accounts for random shocks), the survivor function becomes

\[
S(t \mid y) = \exp(-y\int_0^t h(u)du) = \exp(-yH_0(t))
\]

Thus, the marginal survivor function is

\[
S(t) = E[\exp(-y\int_0^t h(u)du)] = E[\exp(-yH_0(t))],
\]
which is exactly the formula for the Laplace transform of a variable that is distributed as \( F(y) \). Thus, \( S(t) = L_Y(H_0(t)) \). (Box-Steffensmeier and Jones, 2004) In other words, taking the Laplace transform of the cumulative hazard rate allows us to simultaneously derive the marginal survivor function and to take care of the random effect.

Longini and Halloran (1996) and Price and Manatunga (2001) suggest a manner of estimating a cure model with frailty that they call a frailty mixture model. It combines the probability of belonging to the cured fraction with the possibility that the uncured observations demonstrate unobserved heterogeneity. Here, the survival function takes on the usual form associated with cure models, however, the baseline survivor function is the Laplace transform of the cumulative hazard function.

\[
S(t) = 1 - \rho + \rho S_\rho(t) = 1 - \rho + \rho L_Y(H_0(t)), \quad 0 < \rho \leq 1
\]

where \( \rho \) is the probability of belonging to the group that will eventually experience the event of interest. In this case, \( Y \) is a frailty distribution with the usual condition \( E(Y) = 1 \) (which means that in the case of the gamma distribution, the shape parameter is equal to one divided by the scale parameter). Interpretation of the survivor function is as above. The Laplace transform of a product of the gamma distributed frailty and the cumulative hazard function takes on the following form:

\[
L_Y(H_0(t)) = \left( 1 + \frac{H_0(t)}{\theta} \right)^{-\theta},
\]

where \( \theta \) is the parameter of the gamma distribution (the shape parameter and the scale parameter take on the same value). Inserting the Laplace transform into the equation above gives the formula for the marginal survivor function.
\[ S(t) = 1 - \rho + \rho \left( 1 + \frac{H(t)}{\theta} \right)^{-\theta}, \quad 0 < \rho \leq 1, \theta > 0 \]

Assuming that the hazard of invalidation is parametrically distributed allows modeling parameters of the statistical distributions as a linear combination of independent variables and their coefficients. In turn, this allows a straightforward construction of the likelihood function, where the duration to event and the probability of belonging to a susceptible group as functions of covariates could be estimated separately using widely available numerical computation routines. Using interrelationships between the hazard, density, and survivor functions and assuming that the time to invalidation follows the Weibull distribution (as an example) results in the following likelihood function

\[
L = \prod_i \left\{ \rho \alpha \exp(\beta' x_i) t_i^{a-1} \left( 1 + \frac{\exp(\beta' x_i) t_i^a}{\theta} \right)^{-\theta a} \right\}^{d_i} \left\{ 1 - \rho + \rho \left( 1 + \frac{\exp(\beta' x_i) t_i^a}{\theta} \right)^{-\theta} \right\}^{(1-d_i)}
\]

where \( t_i = \min(\text{observed time to failure, censored time}) \), \( d_i \) is a non-censored indicator, \( x_i \) is the covariate profile for a particular observation, and \( \beta \) is a vector of coefficients to be estimated. Additionally, one needs to estimate \( \alpha (>0) \), \( \theta (>0) \), and \( \rho (0 < \rho \leq 1) \). The estimation is done using a regular numerical optimization routine, and the asymptotic standard errors are obtained by inverting the Information matrix.

Additionally, it is useful to estimate the probability of belonging to the set of laws that never experience invalidation as a function of the model’s parameters. Thus, following the usual practice, \( \rho_i \), the probability of the \( i \)th observation belonging to the set of laws that will eventually be invalidated, is modeled as a logistic function of covariates and coefficients,
\[ \rho_i = \frac{1}{1 + \exp(-z_i \zeta)}, \text{ } i=1, 2, \ldots N, \]

where \( z_i \) is a covariate profile corresponding to the \( i \)th observation and \( \zeta \) is the coefficient vector.

Statistical checking for whether the frailty or cure elements need to be included in the multivariate analysis framework is accomplished using likelihood ratio tests. For example, a regular Weibull cure model is nested within the cure frailty Weibull model, thus it is possible to test the need to account for the cured fraction (the proportion of laws that will never be invalidated) by conducting the likelihood ratio test. Similarly, a regular exponential cure model is nested within the cure frailty exponential model. One has to keep in mind that the test statistic does not have the standard chi-square distribution. Maller and Zhou (1996) show that when one is testing inclusion of a parameter that is bounded by 0 (such as a random parameter) into a statistical model without covariates, the limiting distribution of the log-likelihood test statistic is a 50-50 mixture of the chi-square with one degree of freedom and the chi-square with no degrees of freedom.

Before proceeding with the estimation it is important to note that assuming that social science data follow a particular distribution is tenuous at best. Thus, a much more appropriate method of estimation is a semi-parametric model that does not impose a parametric structure on the time to invalidation. However, when the observations that experience the event make up less than one percent of the data, estimating the Cox model is unlikely to be the best choice\(^{51}\). Additionally, the arbitrariness of imposing parametric

\(^{51}\) Given that there are only two dozen events in a dataset of over 2,000 observations, using a partial likelihood model will result in over 2,000 ties for the last event instance. In this case, a parametric model is
assumptions could be limited by testing for different parametric specifications. In the
discussion below, I will select between a cure frailty statistical model that specify the
duration as distributed exponentially, Weibull, Gompertz, log-normal, and log-logistic\(^{52}\).

Results\(^{53}\)

Table 5.2 contains the log-likelihoods of all the estimated models. Examining the
log-likelihoods of the Exponential cure frailty model, the Weibull cure frailty model, the
Gompertz cure frailty model, the log-normal cure frailty model, and the log-logistic cure
frailty model indicates that the data prefers the log-logistic cure frailty model to all other
cure frailty specifications. The AIC (the Akaike Information Criterion) statistic for the
log logistic cure frailty model is also much lower than the AIC statistics for the remaining
cure frailty models, indicating that the log-logistic model should be used to analyze the
cure frailty framework. Also, the AIC value for this model is much lower than the AIC
values for the cure models without the cure proportion and for the log-logistic models
without the cure proportion and without covariates.

Comparing the regular log-logistic cure model and the log-logistic cure frailty
model suggests the need to include the frailty term in the analysis. The likelihood ratio
test statistic is a 50-50 mixture of the chi-square with one degree of freedom and the chi-
square with 0 degrees of freedom (point mass at 0). For the 95% confidence level, the
critical value is given as

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\(^{52}\) As an additional check on the statistical model’s result, I estimate a case controlled statistical model, a
rare events logit (King and Zeng, 2001), which produced results that are substantively similar to the results
derived in this chapter.

\(^{53}\) Estimation is conducted in R 2.4.
\[ \frac{1}{2} + \frac{1}{2} P(\chi_1^2 < \text{cut point}) = .95 \] (Price and Manatunga, 2001).

Rearranging the values produces the critical value corresponding to
\[ P(\chi_1^2 < \text{cut point}) = .9, \] which results in the critical value of 2.706.

\[-2*(\text{log-likelihood(cure frailty model)}-\text{log-likelihood(cure model)})=13.674, \] which exceeds the critical value. Additionally, the likelihood ratio test prefers the cure frailty model to the regular model without the cure component\(^{54}\). Together, these results suggest that one needs to explicitly model the cure fraction and the unobserved heterogeneity when considering which federal laws are invalidated by the United States Supreme Court.

Table 5.3 contains the estimates, their standard errors, and the \( p \) values of the log-logistic cure frailty model.

Because the duration part is assumed to be log-logistic, it is estimated in the accelerated failure time format. The coefficients in the duration part indicate the effect of a variable on the natural log of time of survival: positive coefficients correspond to longer survival.

Only Senate achieves statistical significance at an alpha level of .05 and is negative. This means that the laws of poor suitability are likely to be invalidated more quickly than the laws that were researched with more rigor, which should make them more suitable. This result supports one of the model’s hypotheses. Unfortunately, the other suitability variable, Total Reports, is not statistically significant.

Legislative Median 1 is statistically significant at .05 level, and it is positive. This result suggests that as Congress becomes more conservative, the laws that it produces

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\(^{54}\) The test statistic is over 100, which is obviously much larger than the critical value regardless of whether it is distributed as chi-square or a chi-square mixture.
will be invalidated at a slower pace than the laws produced by liberal congresses. This corresponds to the theoretical model’s prediction dealing with the ideologies of both bodies.

The Republican Takeover variable reaches statistical significance and is negative. Chapter 3 explains what could account for this result. When Republicans took over Congress in 1995, they instituted numerous internal reforms that resulted in cutting legislative funds and laying off numerous staff members. A drop in research funds for personnel is likely to produce legislation of poorer quality, which, in turn, results in a greater likelihood of judicial invalidation. Thus, laws made after the Republican takeover are invalidated quicker than laws created before the takeover. This result clearly goes against Harvey and Friedman (2004), because both the enacting and the present Congress are ideologically very similar (conservative), which means that the Court is not constrained by the threat of congressional retribution in the constitutional cases.

Another theoretical prediction, the negative effect of the price for a policy shift on the time of survival (the positive effect of the Inverse of Price for Ideology) is supported by the multivariate statistical analysis. Inverse of Price for Ideology achieves statistical significance at an alpha lever of .05 and is positive, suggesting that as the price for policy movement decreases (the number of returning incumbents drops), there is a greater availability of resources that will be spent on policy shifts, and the remainder will be spent on suitability to appease the Court.

The measure of complexity also reaches statistical significance at the .05 level and is negative. This means that as a law attempts to tackle more issues, as the nature of a statute becomes more complicated, there are more grounds on which this statute could
be challenged. Therefore, the more complex a law is, the quicker is its time to 
invalidation (shorter survival time).

Unfortunately, the measure of resources (Legislative Resources) does not achieve 
statistical significance. It is likely to be the fact that between 1987 and 2000 there was 
not much variation in congressional purchasing power (the measure varies between 13.5 
and 16.4 every year), so the observations do not differ much with respect to the resources 
of enacting congresses. Also, as argued above, Republican Takeover is likely to account 
for some of the influence of Legislative Resources.

Although none of the variables reach statistical significance at the .05 level in the 
part of the statistical model measuring the probability of eventual invalidation, the 
likelihood ratio tests between the log-logistic cure frailty model and the regular log-
logistic model with covariates and between the log-logistic cure model and the regular 
log-logistic model with covariates indicate the need for explicit modeling of the cure 
fraction.\textsuperscript{55} This result goes against Harvey and Friedman (2004), who found no statistical 
support for the need to account for the cure component in their discrete time duration 
model.

For substantive interpretation consider Figures 5.1 through 5.5. Each figure 
shows the probability of survival of statutes given various covariate profiles assuming 
that these statutes belong to the uncured group of laws (which will eventually experience 
invalidation). An obvious implication, which is clearly seen in these figures, is that 
amost all the variables that reach statistical significance have limited impact on the 

\textsuperscript{55} The former test statistic is distributed as a 50-50 mixture of the chi-square with 9 degrees of freedom and 
the chi-square with 8 degrees of freedom. The critical chi-square (.05 alpha level) is 16.28, and the 
computed test statistic is 40.928. The latter test statistic is distributed as chi-square. The critical chi-square 
(.05 alpha level and 8 degrees of freedom) is 15.507, and the computed tests statistic is 27.252.
probability of survival. Figure 5.1 compares an average statute (all continuous independent variables are set to their means and all dichotomous independent variables are set to zero) with a statute that shares the same characteristics except it is produced by a liberal Congress. After magnifying the y axis to range from .9 to 1, one could see that the probability of survival for a statute produced by a liberal Congress is lower than the probability of survival of an average statute (produced by a moderate Congress). This relationship exists; however, it is limited. After 20 years in existence, the probability of survival of a statute produced by a liberal congress is still over .9. Additionally, conservative statutes are almost never invalidated by a conservative Supreme Court.

Figure 5.2 shows the probability of survival given average and maximum complexity (variable Complexity). The probability of survival for a very complex statute declines faster than the probability of survival for an average statute. The probability of survival of a very complex statute is still over .9 after 20 years in existence. Again, although the relationship exists, it is very limited.

The situation does not improve when considering the substantive impact of the Inverse of Price for Ideology (Figure 5.3). As the number of new legislators entering chambers of Congress increases, it becomes easier to pass bills and spend remaining resources on ensuring suitability of a statute. However, after 20 years in existence, although the differences in the probability of survival based on the levels of Inverse of Price for Ideology do exist, they are barely noticeable. Twenty years since enactment, both probabilities are over .9.

The situation hardly improves with Figure 5.4. Again, after 20 years in existence the probability of survival of a poorly researched statute is lower than the probability of
survival of an average statute, however, this difference is very small. Twenty years after enactment, both probabilities are over .9.

Finally, Figure 5.5 shows a much more pronounced difference in the probabilities of survival\textsuperscript{56}. An average law passed after 1994 (after the Republican takeover) has a probability of survival of about .1 after 20 years in existence (assuming that this law is eventually overturned). This result goes against the findings of Harvey and Friedman (2004), who suggest that the Supreme Court should defer to the most recent Congress in constitutional cases. In this analysis, the Court tends to invalidate laws produced by recent Congresses (Republican Congresses) more quickly than laws produced before the Republican takeover. That is, the laws produced by the Republican Congress AND that are likely to be overturned will be overturned very quickly. Similarly to the results in Chapter 3, this result indicates that the Court is not constrained by Congress. Reviewing laws produced by recent Congresses and invalidating them speaks of an independent judiciary. As was argued in Chapter 3, this invalidation is due to the low suitability of federal statutes produced after the Republican takeover because of cuts in congressional committees’ staffs and budgets.

Conclusion

How should one evaluate these results? The obvious implication of the results is that when analyzing the time to invalidation of federal statutes, one has to account for the fact that not all laws are eventually overturned and that there is likely to be unobserved

\textsuperscript{56} A possible reason why these differences are so much more clear in this figure than in four previous figures is because the dataset contains a small number of laws that are ever overturned and a sizeable proportion of these laws is passed after 1994.
heterogeneity across federal statutes. However, even after accounting for the proportion of laws that do not experience invalidation, the probability of survival is almost 1 for important covariate profiles. Knowing this, one could make two additional points. First, although the relationships between ideology, quality of legislation, statutes’ complexity, and the price for ideological shifts and the time to invalidation do exist, they are very small substantively. The best guess one can make about the fate of a federal statute is that it will never be invalidated. However, there is a different point to be made. The dominant view of the interactions between Congress and Supreme Court ignores the possible influence of factors other than ideology on the decision making process. This analysis has shown that ideology does matter, but such considerations as quality and complexity of legislation should also be included as explanatory factors when examining the instances of judicial invalidation. Thus, if we continue to emphasize the effect of ideology on invalidation of federal statutes even when it has a very limited impact on the total number of invalidated statutes, one has to include considerations of suitability, because its relative substantive impact is not much lower than that of ideological influence.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>1</td>
<td>18</td>
<td>11.419</td>
<td>4.274</td>
</tr>
<tr>
<td>Invalidation</td>
<td>0</td>
<td>1</td>
<td>0.009</td>
<td>0.093</td>
</tr>
<tr>
<td>Senate Only</td>
<td>0</td>
<td>1</td>
<td>0.071</td>
<td>0.256</td>
</tr>
<tr>
<td>Legislative Median 1</td>
<td>-0.168</td>
<td>0.159</td>
<td>-0.030</td>
<td>0.140</td>
</tr>
<tr>
<td>Complexity</td>
<td>1</td>
<td>920</td>
<td>19.155</td>
<td>62.615</td>
</tr>
<tr>
<td>Republican Takeover</td>
<td>0</td>
<td>1</td>
<td>0.409</td>
<td>0.492</td>
</tr>
<tr>
<td>Total Reports</td>
<td>0</td>
<td>81</td>
<td>1.937</td>
<td>3.262</td>
</tr>
<tr>
<td>Inverse of Price for Suitability</td>
<td>22</td>
<td>61</td>
<td>34.811</td>
<td>13.409</td>
</tr>
</tbody>
</table>

Table 5.1: Summary Statistics of the Variables.
<table>
<thead>
<tr>
<th>Model</th>
<th>Log Likelihood</th>
<th>AIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cure Frailty Exponential</td>
<td>-145.41</td>
<td>324.824</td>
</tr>
<tr>
<td>Cure Frailty Weibull</td>
<td>-144.53</td>
<td>325.056</td>
</tr>
<tr>
<td>Cure Frailty Gompertz</td>
<td>-142.68</td>
<td>325.056</td>
</tr>
<tr>
<td>Cure Frailty Log-Normal</td>
<td>-139.71</td>
<td>315.412</td>
</tr>
<tr>
<td><strong>Cure Frailty Log-Logistic</strong></td>
<td><strong>-137.85</strong></td>
<td><strong>311.7</strong></td>
</tr>
<tr>
<td>Cure Exponential</td>
<td>-154.78</td>
<td>341.558</td>
</tr>
<tr>
<td>Cure Weibull</td>
<td>-144.36</td>
<td>322.726</td>
</tr>
<tr>
<td>Cure Gompertz</td>
<td>-149.47</td>
<td>332.948</td>
</tr>
<tr>
<td>Cure Log-Normal</td>
<td>-144.64</td>
<td>323.276</td>
</tr>
<tr>
<td>Cure Log-Logistic</td>
<td>-144.69</td>
<td>323.374</td>
</tr>
<tr>
<td>Log-Logistic (no covariates)</td>
<td>-187.9</td>
<td>377.8</td>
</tr>
<tr>
<td>Log-Logistic (with covariates)</td>
<td>-158.31</td>
<td>334.628</td>
</tr>
</tbody>
</table>

Table 5.2: Model Selection Results.
<table>
<thead>
<tr>
<th>Duration</th>
<th>Probability of Invalidation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
</tr>
<tr>
<td>Constant</td>
<td>10.314</td>
</tr>
<tr>
<td>Senate Only</td>
<td>-1.889</td>
</tr>
<tr>
<td>Legislative</td>
<td>34.901</td>
</tr>
<tr>
<td>Median</td>
<td></td>
</tr>
<tr>
<td>Legislative</td>
<td>0.279</td>
</tr>
<tr>
<td>Resources</td>
<td></td>
</tr>
<tr>
<td>Complexity</td>
<td>-0.003</td>
</tr>
<tr>
<td>Republican</td>
<td>-10.215</td>
</tr>
<tr>
<td>Takeover</td>
<td></td>
</tr>
<tr>
<td>Total Reports</td>
<td>-0.008</td>
</tr>
<tr>
<td>Inverse of</td>
<td>0.035</td>
</tr>
<tr>
<td>Price for</td>
<td></td>
</tr>
<tr>
<td>Suitability</td>
<td></td>
</tr>
</tbody>
</table>

Note. N=2,624. Log-Likelihood=-137.85. The statistical model is preferred to the constant only model, \( p<0.000 \). Test for the inclusion of the frailty parameter, \( p<0.000 \) (\( \chi^2 \) is 13.674 and \( \chi^2 \) mixture of 1 degree of freedom with probability of 0.5 and 0 degrees of freedom with probability 0.5 is 2.71).

Table 5.3: Summary of the Log Logistic Cure Frailty Analysis for Variables Predicting Time to Invalidation in the AFT Format and the Probability of Eventual Invalidation.
Figure 5.1: Changes in the Probability of Survival of a Statute Over a Period of 20 Years Conditional on Different Levels of Legislative Ideology.
Figure 5.2: Changes in the Probability of Survival of a Statute Over a Period of 20 Years Conditional on Different Levels of Statutory Complexity.
Figure 5.3: Changes in the Probability of Survival of a Statute Over a Period of 20 Years Conditional on Different Levels of the Inverse of Price of Suitability.
Figure 5.4: Changes in the Probability of Survival of a Statute Over a Period of 20 Years Conditional on Whether Only the Senate Produces Reports.
Figure 5.5: Changes in the Probability of Survival of a Statute Over a Period of 20 Years Conditional on Whether the Statute Is Passed Before or After the Republican Takeover.
CHAPTER 6

EMPIRICAL ANALYSIS OF JUDICIAL INFLUENCE ON CONGRESSIONAL RESEARCH EFFORTS

The possibility of judicial influence on congressional decision making is usually ignored by congressional scholars. At times, congressional studies discuss potential effects of a presidential veto (Krehbiel, 1998) or the effects of administrative discretion on decisions made by members of Congress (Epstein and O’Halloran, 1999); however, a possibility of judicial impact on federal legislators is overlooked. With the exception of Martin (2001b), studies of Congress ignore the role that the Supreme Court plays in forcing Congress to temper ideological impact of federal statutes, and none of the studies address the effect that the Court has on congressional research efforts. In this chapter, I address this problem by directly concentrating on Supreme Court influence over congressional attempts to improve the suitability of federal statutes.

Three previous empirical chapters tested just one side of the theoretical argument, the impact that ideology and suitability have on judicial behavior. The results of these analyses generally support the notion that the U.S. Congress does influence the behavior of the Supreme Court in constitutional cases by manipulating the ideological location and suitability of individual statutes. However, these analyses did not answer the question of
whether Congress is influenced by the threat of judicial invalidation. This chapter will examine whether the ideological preferences of the judicial branch impact the extent of research (the level of suitability) conducted within the legislative branch. This chapter completes the process of empirical testing of the theoretical predictions.

I test the following theoretical predictions:

A legislative statute’s suitability increases whenever

1. the amount of legislative resources increases

2. the Court and Congress diverge ideologically

3. the price for policy movement decreases

4. the price for suitability decreases

5. the probability of facing a divergent court increases. This prediction comes from the incomplete information framework.

To be consistent, I operationalize covariates similarly to my first three empirical chapters, and to maintain consistency and due to prohibitive costs of data gathering, I do not test for the effects of the intensity of legislative and judicial preferences.

In this empirical chapter, I use two dependent variables that served as measures of suitability in the previous analyses. The first measure is computed by taking a ratio of committee report pages to provisions researched by this report, and the second measure

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57 Since Congress would always like to maximize its ideological benefits before improving the suitability of federal statutes, if I can show that the Supreme Court’s influence results in an increased suitability, then the model’s prediction that the Court tempers congressional attempts at ideological shifts in public policy by making it pay attention to suitability would also be supported.

Martin (2001b) found support for the possibility that the decisions of members of Congress on the ideological dimension are influenced by the United States Supreme Court.

58 Chapter 3’s results have shown that neither intensity is statistically significant.
gauges whether only the Senate conducts research on a particular provision of a bill\textsuperscript{59}. These are the Suitability Score and Only Senate variables from the previous empirical chapters. Given previous analyses, these two measures should be related to each other. An appropriate statistical framework would account for the correlation structure between these dependent variables. The Seemingly Unrelated approach is designed to solve this problem by jointly modeling the errors in equations predicting different dependent variables. However, most of the existing estimation techniques are designed to account for the joint errors of the variables measured at the same level. For example, continuous dependent variables with correlated errors give rise to the Seemingly Unrelated Regression, and discrete dependent variables with correlated errors give rise to the multivariate probit framework. Unfortunately, the ratio of committee report pages to provisions is a continuous measure, and the indicator of whether the Senate is the only branch conducting research is dichotomous. To account for this problem, I rely on relatively recent developments in the Markov Chain Monte Carlo (MCMC) methods of multivariate estimation. I jointly estimate a linear probability model (predicting Suitability Score) and a generalized linear model (predicting Only Senate) and account for possible correlation structures between these two variables.

The estimation results support most of the theoretical predictions with respect to the effect of covariates (listed below) on the continuous measure of suitability, Suitability Score; however, the indicator of senatorial research, Only Senate, seems unaffected by most of the independent variables. These results suggest that the Court does seem to influence legislative research that is conducted in committees; however, the Court has no

\textsuperscript{59} As has been shown in the previous analysis, the Senate produces research of poorer quality than the House of Representatives, which results in the higher probability of Supreme Court invalidation.
effect on whether a particular chamber of Congress takes up research responsibilities with respect to particular statutory provisions.

First, this chapter discusses data used in this analysis. Second, the chapter outlines the statistical method used to analyze congressional behavior. Third, the chapter summarizes results obtained from the statistical procedure.

Data

I concentrate on the 95th through 107th Congresses, and I take a random sample of 320 Public Laws. The proportion of laws sampled from each Congress in this period is equal to the proportion of laws passed by each Congress relative to the total number of Public Laws passed in this time period. For example, the 100th Congress passed 10% of all public laws enacted in this time period, which means that I sample 32 laws from the 100th Congress. Table 6.1 contains the list of all sampled laws.

Once I collect the sample of Public Laws, I examine each law’s summary to identify all the objectives that each law is designed to achieve. To do this, I use the Lexis-Nexis Congressional Universe. The Lexis-Nexis summary of each Public Law provides a detailed account of legislative objectives. Thus, I examine summaries of individual laws, identify each law’s goals, and use these goals as the unit of analysis in subsequent data analyses. I will use the terms legislative goals, objectives, and provisions interchangeably.

60 Variables used in this analysis are summarized in Table 6.2.
61 I select this time period due to accessibility of information. Ideally, the period would include all the post World War II Congresses, however, most of the information needed for the 80th through 94th Congresses is located on microfiche at the university library which was in the process of renovation and not accessible.
62 Short titles of the sampled laws are available upon request from the author.
There are 320 Public Laws in the dataset. 159 Public Laws are designed to accomplish just one legislative goal. 61 are designed to accomplish two legislative goals. 38 are designed to accomplish 3 legislative goals, and 62 are designed to accomplish more than 3 objectives. The Public Law with the largest number of provisions is 104-208, the Omnibus Consolidated Appropriations Act, that apart from allocating appropriations to the executive agencies, included provisions for Oregon resource conservation, measures directed against illegal immigrants, small business programs, establishment of the ecosystem management program in the San Francisco Bay area, and many other provisions. This law was created to achieve 104 legislative objectives. The average number of provisions for the whole sample is 3.45 provisions for each Public Law. The standard deviation is 8.178. The total number of observations is 1,106.

It is obvious that one cannot assume independence between legislative objectives found in a Public Law. This complicates the estimation of the multivariate error structure described above with the need to account for dependency within clusters of legislative provisions. Fortunately, the MCMC method described below can accommodate this complication.

Dependent Variables

To compute the dependent variables, I examine whether a particular legislative provision has an accompanying committee report. The Lexis-Nexis Congressional service stores the legislative history of each Public Law, which allows identification of all

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63 Why did I select a somewhat unusual number, 320, of laws? Initially, I concentrated on a smaller subset of congressional sessions, and I planned on sampling just 250 laws. However, to ensure generalizibility of my results, I included several additional Congresses, which brought the total number of sampled laws to 320.
committee reports associated with particular provisions. The first dependent variable, Suitability Score, is computed by identifying a committee report that researches a legislative provision and dividing the total number of committee pages by the number of committee provisions. If there are no committee reports that research the legislative objective found in a Public Law, this legislative objective receives a score of 0 (Suitability Score is equal to 0). A more complete description of this variable is given in Chapter 3. It is possible that the complex nature of a Public Law might influence the suitability of the law’s provisions. To control for this possibility, as one of the predictors, I use the variable accounting for the total number of pages in a law: the higher is the number of pages, the more complicated is the law.

The second dependent variable is an indicator of the Senate being the only branch that researched a legislative provision. As described in Chapter 3 and supported by all three previous empirical analyses, the Senate produces inferior research that is likely to be invalidated by the Court. Thus, the second dependent variable takes on the value of 1 if the Senate is the only branch that published a committee report evaluating the impact of a legislative provision and takes on the value of 0 otherwise. This variable is Only Senate.

Independent and Control Variables

To maintain consistency with previous analyses and to test the predictions of the theoretical model, I use the following measures as the independent variables. The independent variables that are predicted to increase suitability have a positive effect on Suitability Score (the committee research ratio) and negative effect on Only Senate.
DW Nominate scores (Poole and Rosenthal 1998) serve as indicators of legislators’ ideal points. DW Nominate scores are also available for each chamber median for each Congress. I take the average of both chamber medians for each year to create a measure that would test hypotheses related to the behavior of the legislative median. DW Nominate offers scores on two main dimensions, however, the second dimension loses its relevance after 1980 (Poole and Rosenthal 1998). Consequently, I use the House-Senate median average on the first dimension as my measure of legislative ideology. Higher scores represent a more conservative Congress. The name of this variable is Legislative Median 1.

Following the reasoning outlined in Chapter 3, by looking at just the measure of legislative ideology I can examine the effect of judicial ideology on legislative behavior: as the legislature becomes more conservative, it converges with the Court, which between 1970’s and 2000 is always more conservative than Congress. However, one can always make an argument that, in the analysis used in this chapter, it is facially improper to control for judicial ideology with the measure of legislative ideology. That is, I am interested in looking at the effect of judicial ideology on the level of suitability, but, as a proxy for judicial ideology, I use the measure of legislative ideology. To improve validity of my analyses, I need to use a measure of judicial ideology. Unfortunately, the overwhelming majority of ideological scores for the Supreme Court members all suffer from the same problem: the scores are derived from the Supreme Court members’ votes in the decisions on the merits. These scores do not take into account the possibility of suitability influencing Supreme Court decisions, which makes them inappropriate for this

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64 It is different from the previous analysis, where I used a measure of legislative ideology to control for legislative ideology under the same assumption of extreme judicial conservatism.
Fortunately, there is another measure of the Justices’ ideology that is completely exogenous from their votes on the Court. Segal and Cover (1989) examined the editorials discussing Supreme Court nominees published in major newspapers. Using this information, they developed ideological scores that I will use in the subsequent analysis. The scores range from 0 to 1, where 0 is the most conservative judicial position, and 1 is the most liberal position. To make these scores easier to interpret in light of the measure of legislative ideology, I use the negative of these scores: higher scores mean a more conservative judicial median. I am interested in the ideological score of the pivotal judicial actor for each year analyzed in the dataset, the median judicial score for each year. This variable is Judicial Median.

Because the judicial scores are always more conservative than congressional scores, as the judicial median score increases, the Court moves further away from Congress. Thus, as the Court becomes more conservative, the model predicts that the legislature needs to make more effort to satisfy the judicial body by improving suitability. Conversely, as the Court becomes more liberal, Congress and the Court converge, and Congress should spend fewer resources on ensuring suitability. A convergent Court would agree with congressional acts because of the corresponding ideological benefits even if the legislative proposals are not very suitable for the existing state of the world.

By analyzing the legislative behavior, I can test the theoretical model’s predictions with respect to uncertainty over ideological preferences of the judicial branch. The theoretical model predicts that as the probability of facing an ideologically divergent court increases, the suitability of legislative provisions should also increase. To test this prediction, I interact the time in years that the Court maintained its membership with the
measure of judicial ideology. As the length of time that the Supreme Court maintains its current membership (the natural Court) increases, the legislature becomes more certain about the type of the Court. Thus, if this time increases and the Court’s median is relatively liberal, then the legislature becomes more certain that it faces an ideological favorable judicial body, which results in a lower suitability of legislative proposals. The variable measuring the tenure of the natural Court (the time in years that the membership remains unchanged) is Tenure, and the interaction between this variable and the ideological preferences of the Court is Tenure x Judicial Median.

The other theoretical predictions that I test in this analysis involve the effect of legislative resources, the price for suitability research, and the price for ideological changes on the suitability ratio and on the probability that only the Senate researches a legislative proposal.

Similarly to previous analyses, I measure the amount of available legislative resources by concentrating on the amount of yearly legislative appropriations divided by the Consumer Price Index. The name of this variable is Legislative Resources. The larger is the amount of resources available to the legislature, the higher should be the suitability of legislative provisions, because Congress would have enough resources to make ideological changes and to spend resources on ensuring the suitability of legislative proposals.

As in the prior analyses, to gauge the price for ideological repositioning, I examine freshmen legislators entering Congress. As argued in Chapter 3, large numbers of freshmen legislators have a negative relationship with the difficulty/price of ideological change. The number of freshmen legislators should serve as the proxy for the
price of ideological movement. The variable name is Inverse of Price for Ideology (it has an inverse relationship with the price for ideology). It is computed by adding the number of new legislators entering the House and Senate. The larger is this number, the less costly should be ideological changes, which should increase the suitability of legislative proposals.

Following previous analyses, another prediction refers to the price for suitability. The larger is this price, the lower should be suitability. Just as in Chapter 3, I measure the suitability price by examining the number of rookies (members of Congress serving their first time on a committee) serving on standing committees. I follow the procedure outlined in Chapter 3, but to improve the estimation process, I multiply this ratio by 100. The variable name is Price for Suitability.

I do not test the theoretical predictions that account for intensity of preferences of both branches. The first analysis that examined the effects of various covariates on the probability of judicial invalidation showed no evidence that the intensity of preferences has an effect on judicial invalidation. Thus, I am justified in not including these covariates in the statistical model in this analysis. Additionally, in the first analysis, I measure the intensity of judicial preferences by examining how many cases that raise a similar substantive question (such as First Amendment or Federalism challenges) were heard by the Court in the previous year. It is clearly impossible to do in this analysis, because each legislative provision could result in multiple questions raised before the Court.
I use two control variables. The first variable has already been discussed. The variable measuring pages of a Public Law gauges that law’s complexity. I also control for the Republican takeover of 1994.

Statistical Analysis

Several methods have been developed to model joint behavior of the continuous and dichotomous variables. Cox and Wermouth (1992) and Fitzmaurice and Laird (1995) suggest methods of joint estimation of one binomial and one continuous variable, however, these studies do not provide information on the correlation between the dependent variables, which may be of substantive interest. A difficulty with so-called mixed modeling is that there is no multivariate distribution that would accumulate multiple variables some of which are discrete and some of which are continuous (Gueorguieva and Agresti, 2001). However, Chib and Greenberg (1998) develop a method of estimating multivariate probit equations that assumes that binary dependent variables serve as indicators of latent variables that are distributed multivariate normal. Using the MCMC algorithm, one is able to sample from the distribution of these latent variables and than model them as continuous outcomes. This suggests a possible solution for joint estimation of binary and continuous variables. The following discussion will closely follow Dunson (2000) and Browne et al (2003).65

65 The use of MCMC algorithms become increasingly more popular as statistical analyses become increasingly more complex. Usually, when the likelihood function becomes either intractable or too computationally intense, the MCMC methods provide a simple yet powerful estimation solution. However, the MCMC methods have some disadvantages. Often, one has to rely on visual examination of the trace plots to determine the location of convergence. One also needs to account for a possibility of high autocorrelation within values sampled from the posterior distribution. Finally, as the number of observations increases the process of estimation/simulation from the posterior density slows down.
Assume that there is a vector of J responses for observation i,

\[ y_i = (y_{i,1}, y_{i,2}, ..., y_{i,j}, ..., y_{i,J}) \].

Further, assume that the first L responses are continuous and the remaining J-L variables are dichotomous. These dichotomous variables

\( (y_{i,J-L+1}, ..., y_{i,J}) \) are indicators of latent continuous variables \( (y^*_{i,J-L+1}, ..., y^*_{i,J}) \), where

\[ y_{i,J-L+k} = 1 \text{ if } y^*_{i,J-L+k} \geq 0 \text{ and } y_{i,J-L+k} = 0 \text{ if } y^*_{i,J-L+k} < 0, \text{ for } 0 < k \leq L. \]

Assume that you can represent the expected value of each dependent variable as

\[ E(y_{i,j} \mid \mu_{i,j}) = \Phi(\mu_{i,j}) \], if \( j > J-L \)

\[ E(y_{i,j} \mid \mu_{i,j}) = \mu_{i,j} \], if \( j \leq J-L \)

where \( \mu_{i,j} = x_i^T \beta_j \) and \( \Phi(\mu_{i,j}) \) is the normal cumulative distribution function. This representation allows one to jointly model the continuous observed and latent response variables as realizations from the multivariate normal distribution, \( MVN(\mu_i, \Psi_{JxJ}) \), where \( \mu_i \) is a vector of the expected values that depends on a vector of covariates \( x_i \) and coefficients \( \beta \), and \( \Psi_{JxJ} \) is the precision (inverse of the variance) matrix. To ensure identifiability, the diagonal elements of the precision matrix for the realizations of the binary elements are set to 1.

The problem of estimating a mixed-response statistical model could be complicated by adding a random component, \( u_s \), that is distributed across \( S \) clusters of observations. This would be relevant in situations when groups of observations have something in common which is not directly observed\(^{66} \). In this case, the expected value of each response has to be modified to include the random effect, \( \mu_{i,j,s} = x_i^T \beta + u_{s,j} \).

\(^{66}\) Clusters of statutory provisions enacted by the same Public Law fit this description.
Notice that the random effect could independently vary across the responses (e.g.: the random effect in the Suitability Score equation is independent of the random effect in the Only Senate equation), could be correlated across the responses (e.g.: the random effect in the Suitability Score equation and the random effect in the Only Senate equation are drawn from a multivariate distribution), or could be kept constant across all responses (the same clusters of provisions across both equations share the same random effect). Below I try all types of parameterization; however, the substantive results remain the same. I assume that $u_{s,j}$ is normally distributed with mean 0 and precision (inverse variance) matrix (or a scalar) $\tau$.

I conduct estimation in WinBUGS 1.4, which provides for Bayesian methods of analysis that require specification of prior distributions for the parameters estimated in the model.

I assume the following prior specifications. The off-diagonal elements of the precision matrix $\Psi_{JxJ}$ are distributed uniformly between -1 and 1. The diagonal elements of $\Psi_{JxJ}$ that are not equal to 1 are distributed uniformly between 0 and a reasonably large number.$^{67}$ $\beta$ parameters for each response are distributed multivariate normal, with the expected mean of this distribution distributed uniformly from -1000 to 1000, and the precision matrix of each set of $\beta$ parameters is distributed inverse Wishart, with the degrees of freedom that are equal to the number of $\beta$ parameters in each equation. The precision of the random effect $u_{s,j}$ is Gamma distributed with the shape parameter .001

$^{67}$ This slightly more informative specification might be necessary when sampling from the normal distribution truncated at 0 where the upper limit of the distribution is prespecified.
and the scale parameter of .001. These priors are non-informative in that they allow sampling over a very large parameter space.

I use the method outlined above to jointly estimate the effect of covariates on the level of Suitability Score and the probability of the Senate being the only branch researching legislative provisions while controlling for possible dependencies across legislative provisions enacted by the same Public Law.

Estimation is conducted in WinBUGS 1.4 (Spiegelhalter et al, 2000). The main difficulty with estimation is in designing a method of translating the dichotomous measure into a continuous one. I use two approaches to solve this problem. Chib and Greenberg (1998) sample the latent multivariate response variables from the truncated multivariate normal distribution. They sample from the positive support of the normal distribution, if the indicator variable takes on the value of 1, and they sample from the negative support of the normal distribution, if the indicator variable takes on the value of 0. To sample a vector of observations from the truncated multivariate normal distribution in WinBUGS, one needs to set the limits of truncation for all values of a vector. Suppose the vector consists of two elements, a binary variable and a continuous variable. The continuous variable is obviously not distributed truncated normal; however, WinBUGS still requires truncation limits. To overcome this complication, I set the lower and upper truncation limits for the continuous element of the vector at -100000 and 100000, respectively. A different way of overcoming this problem is by assuming that the latent variable and its indicator are related through the probit link transformation. Assume that the indicator variable is distributed binomially with the parameter $p$. An inverse normal transformation of this parameter yields the value of a latent variable, which is then
sampled from the multivariate normal distribution together with the realization of the
continuous response variable. Additionally, I estimate an MCMC model that allows for
independent distributions of random components across the responses, a model that
allows for the correlation between random components across the responses, and a model
that allows for the same realizations of random components across the clusters of
observations across the dependent variables.

Preliminary runs indicated the need to account for high autocorrelation in the
sampling process. I take 250,000 draws using the GIBBS Sampler MCMC algorithm
and store each second draw, which brings the total number of draws to 500,000. Using a
PC with Intel Duo Core Centrino processor, 2GHZ, and 2 GB of RAM, each estimation
with the same random component per cluster for both responses takes about 16-17 hours.
Each estimation with varying random components across equations takes twice as long.
Examination of the trace and history plots indicates that the GIBBS Sampler reached the
high probability parameter space after about 8,000-9,000 iterations. To account for this, I
discard (burn-in) the first 10,000 iterations. The posterior estimates of the covariate
coefficients are practically identical across all estimation and so are their Bayesian
credible intervals. In Table 6.2, I summarize the results of the posterior estimation using
one of the least restrictive models, the model that samples multivariate response vectors
from the truncated multivariate normal with the random effects distributed independently
across separate responses.

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68 High autocorrelation of draws may result in the inability to sample across the whole parameter space,
because the draws are made very close to the previous realization. To overcome this difficulty, one needs
to increase the number of the MCMC draws and, possibly, store only each second or third draw, which is
called thinning.
Results

Table 6.3 contains the results of the posterior simulation. The first column contains the names of the independent variables. The second column contains the means of the MCMC draws for each coefficient. Their substantive interpretation is similar to the usual interpretation of the maximum likelihood of the least squares estimators. The third through sixths columns contain the value of the 2.5th percentile, 5th percentile, 95th percentile, and 97.5th percentile of an estimator distribution. These are the so-called Bayesian credible intervals. Although they are not entirely similar, one could interpret these intervals as the levels of statistical significance of the maximum likelihood results that are based on the normal asymptotical theory. If a 95% credible interval (the interval between the 2.5th percentile and the 97.5th percentile in the case of a two tailed test) does not contain a value of 0, then the posterior probability of a parameter being different from 0 is at least .95. Notice that when predicting a direction of the statistical model’s coefficient, it is possible to test the one-tailed, as well as, the two-tailed hypotheses, by concentrating on the upper (95th percentile) or the lower (5th percentile) bound of the credible intervals.

The first set of coefficients in Table 6.3 describes the effect of covariates on Suitability Score, the ratio of committee report pages to provisions. Six covariates have coefficients that are different from 0 with a posterior probability of at least .95.

The effect of legislative ideology on Suitability Score is negative and different from 0 with a posterior probability of at least .95. As Congress becomes more conservative, the average of its chambers’ medians becomes more conservative, Congress moves closer to the conservative Supreme Court, which lowers the need to make highly
suitable laws. A conservative Supreme Court approves conservative acts of Congress, even if they are not very appropriate for the existing state of the world.

The effect of judicial ideology on Suitability Score is positive and different from 0 with a posterior probability of at least .95. As the Court becomes more conservative, because it is always more conservative than Congress, it moves away from Congress on the ideological continuum. This forces Congress to create more suitable laws that would appeal to a divergent Supreme Court and would make the Court more likely to side with Congress.

Neither the tenure of the Supreme Court nor its interaction with judicial ideology reaches a posterior probability of being different from 0 that is larger than .95. This suggests that the theoretical predictions with respect to incomplete information over the ideological preferences of the Supreme Court are not supported. It is possible that Congress has very good information about the Court’s preferences, because every member of the Court has to receive approval of the upper chamber, which discloses if not all then most of the information about judicial nominees’ ideology. Consequently, regardless of how long the Court members have been serving together, Congress is likely to know the ideological location of the Court’s median.

Both the inverse of the price for ideological changes and the price for suitability coefficients reach the posterior probability of being different from 0 of at least .95. The inverse of the price for ideological changes is positive. As more new members enter both chambers of Congress, it becomes less costly to make changes to the ideological status quo, which increases the amount of resources that Congress can spend on improving the suitability of legislative proposals, which, in turn, increases suitability. Conversely, as
the price for suitability increases, it becomes costlier to ensure that the legislative objectives are appropriate for the existing state of the world, which decreases the level of suitability.

Another estimate that is different from 0 with a posterior probability of at least .95 is the effect of complexity on Suitability Score. This effect is positive. As congressional legislation increases in its complexity (the Public Laws become longer, include more provisions), Congress becomes likely to conduct better research in its committees to ensure suitability.

Finally, legislative resources seem to have the opposite of the predicted effect on the continuous measure of suitability, and their effect is different from 0 with a posterior probability of at least .95. Resources have a negative effect on suitability of legislation. This result contradicts both the theoretical prediction and results obtained in Chapter 3. This finding suggests that as the amount of available legislative resources increases, the ratio of committee report pages to committee report provisions (Suitability Score) decreases. However, it is very likely that this result is an artifact of a relatively short time period examined in this chapter. Here, I only look at the 95th through 107th Congresses, which gives 26 different data points for legislative resources. In Chapter 3, I look at a time frame that is two times longer, which allows a better examination of the effect that legislative resources have on the dependent variable. Additionally, it is very likely that the measure of resources is heavily influenced by a change in congressional party control, which may explain this unexpected result. A large proportion of time examined in the dataset used in this chapter looks at the Republican domination of both congressional chambers. By itself, the Republican takeover of 1995 does not achieve an effect that is
different from 0 at a conventional level. However, the change in party control resulted in a considerable decrease in the amount of resources available to congressional committees. A simple t-test of legislative resources before and after 1995 shows a statistically significant difference with p-value of .0001, with the mean value of relative legislative resources before the takeover being larger than the mean value of the relative legislative resources after the takeover. In other words, the legislative resources in this analysis could be interpreted as a proxy for Republican cuts in funding and personnel. Because legislative resources account for the takeover effect, the indicator for the Republican takeover loses its importance\(^{69}\). Seen in this light, the legislative resources variable appears to be in agreement with previous analyses.

Moving to the second set of coefficients, the effect of the model’s covariates on the probability that only the Senate researches a legislative provision, one can see that almost none of the covariates have an effect with a posterior probability larger than .95. The only covariate that is different from 0 at a posterior probability of .95 is the price for suitability, but its effect is negative, which is different from the anticipated direction. One can conclude that Congress approaches the question of which chamber conducts research, publishes committee reports, to ensure that legislative provisions are appropriate means of achieving particular social objectives differently than predicted by the theoretical model. It is likely that some provisions are researched only by the Senate because these provisions result in benefits only for the members of the Senate. Or, it is possible that only Senators research certain legislative proposals because the Senate has traditionally been seen as having jurisdiction over these aspects of public policy. It is

\(^{69}\) Dropping Republican Takeover variable from this analysis does not result in substantive changes.
also possible that the two branches split workload to accommodate institutional pressures. The decision of Congress to split committee research between different chambers offers an interesting question for future research; however, the present analysis indicates the preferences of the Supreme Court Justices do not influence this decision.

The last set of results in Table 6.2 shows the estimates of the correlation coefficient between Suitability Score and Senate Only errors, the estimate of the standard deviation of the predicted values of Suitability, and the standard deviations of the random effects. The correlation coefficient is negative\(^{70}\), which suggests that the latent variable of Only Senate and Suitability Score has a negative correlation, which shows some support for the theoretical expectations. Legislative provisions that were not researched only by the Senate (Senate =0) tend to have high Suitability Score values. However, given the discussion above, not much else is supported with respect to the probability of the Senate being the only branch researching a statutory provision.

The standard deviation of the predicted values of Suitability Score is 22.37, which in itself does not offer much substantive interpretation. However, the standard deviations of the variance components have a more important substantive interpretation. The standard deviation subscripted with Only Senate shows the estimate of the standard deviation of the random component that is distributed across Public Laws in the binomial response equation. The standard deviation subscripted with Suitability Score shows the estimate of the standard deviation of the random component that is distributed across Public Laws in the continuous response equation. One can see that these estimates are different from 1 and different from each other with a posterior probability level.

\(^{70}\) The credible interval for this estimate is largely irrelevant, because the correlation is always bounded between -1 and 1.
exceeding. This justifies the inclusion of the random effects, as well as the modeling of the random effects separately for each equation.

Below I describe the substantive effects of legislative ideology, judicial ideology, the inverse of the price for ideology, the price for suitability, and complexity on the level of Suitability Score, the ratio of committee report pages to provisions. I obtain these predictions by treating the equation with the continuous dependent variable as a linear probability model. As the location of the legislative median moves from its most liberal to its most conservative location, the ratio of committee report pages to provisions researching legislative objectives drops by 21.653. As the location of the judicial median moves from its most liberal to its most conservative position, the ratio of committee report pages to provisions researching legislative objectives increases by 51.722. As the number of new legislators entering both chambers increases from its in-sample minimum to its in-sample maximum, the ratio of committee report pages to provisions increases by 14.165. As the price for suitability increases from its in-sample minimum to its in-sample maximum, the ratio of committee report pages to provisions decreases by 69.29.

Finally, as the amount of legislative resources increases from its in-sample minimum to its in-sample maximum, the ratio of committee report pages to provisions decreases by 16.

Conclusion

Given the results of prior analyses, how should one interpret the findings of this statistical model? It seems clear that, when Congress conducts research, it takes into account its own ideological proximity to the ideological location of the judicial body. It
comports well with previous findings that uncover positive effects of ideological disagreement and negative effects of suitability research on the probability of judicial invalidation of federal statutes. In other words, this chapter supports the argument that Congress and the Court tend to influence each other.

A possibly more interesting finding is that the factors that influence legislative research might not be the same features influencing judicial decisions. Previous analyses have shown that the Court views legislative provisions researched only by the Senate as not very suitable means of achieving the intended goals, which increases their chance of invalidation. It is possible that the members of Congress are fully aware of it; however, they persist in producing reports that are not researched by both chambers. This indicates the existence of other pressures that might compete with the threat of judicial invalidation, such as workload. Furthermore, it is also possible that when only the Senate researches legislative provisions, these provisions are not the most important pieces of legislation, and Congress can afford to see them occasionally invalidated. These are conjectures; however, they represent a direction for an important new study that arises directly from this project.

Additionally, Congressional behavior with respect to thoroughly researching committee proposals seems to depend on the price for ideological movements and the price for suitability research. That is, members of Congress are likely to produce a better researched Public Law if it is not expensive to do. However, this does not seem to affect judicial behavior. The Court does not care how costly it is to move the ideological status quo or how much resources it takes to research a legislative objective. This is understandable. The Court looks at the outcome, a statute’s ideological and suitability
components. However, the legislature must pay attention to these two prices in order to achieve the preferred outcome.

Do resources matter? The first empirical analysis has shown that the Court pays attention to the amount of legislative resources in possession of the legislature. Unlike the price for suitability and the price for ideological changes, the Court makes a connection between the quality of the legislative proposal and the amount of resources that the legislature can spend on research. However, the legislature seems to experience the opposite effect. This seems inconsistent; however, there is a plausible explanation: the legislative resources variable picks up the influence of the Republican takeover. The legislative resources variable in this analysis serves as a proxy for the Republican cuts in committee staffs and budgets.
<table>
<thead>
<tr>
<th>Congress</th>
<th>Frequency</th>
<th>Public Laws</th>
</tr>
</thead>
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<tr>
<td>95</td>
<td>28</td>
<td>30, 77, 110, 11, 159, 177, 241, 251, 255, 257, 273, 288, 309, 320, 327, 328, 333, 373, 374, 385, 409, 416, 448, 512, 519, 533, 534, 613</td>
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<td>98</td>
<td>28</td>
<td>55, 70, 90, 114, 133, 134, 170, 188, 198, 224, 243, 263, 315, 324, 333, 352, 373, 390, 416, 425, 432, 446, 473, 495, 514, 545, 605, 612</td>
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<tr>
<td>99</td>
<td>30</td>
<td>5, 36, 47, 176, 180, 189, 199, 200, 215, 221, 264, 278, 283, 304, 318, 320, 335, 339, 375, 376, 443, 445, 466, 519, 530, 542, 583, 630, 636, 638</td>
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<td>100</td>
<td>32</td>
<td>48, 55, 65, 109, 121, 126, 152, 187, 202, 228, 230, 235, 237, 238, 242, 249, 271, 301, 326, 495, 528, 536, 542, 544, 560, 574, 597, 629, 633, 658, 697, 701</td>
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Table 6.1: Sampled Public Laws
<table>
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<th>Congress</th>
<th>Frequency</th>
<th>Public Laws</th>
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<td>101</td>
<td>29</td>
<td>4, 62, 70, 74, 81, 98, 123, 140, 143, 147, 148, 154, 224, 277, 334, 391, 438, 449, 474, 486, 496, 511, 513, 542, 562, 607, 614, 635, 648</td>
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<td>103</td>
<td>21</td>
<td>3, 6, 13, 31, 37, 111, 152, 176, 185, 206, 220, 266, 302, 329, 344, 378, 409, 411, 418, 426, 461</td>
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<td>104</td>
<td>15</td>
<td>55, 57, 63, 76, 79, 87, 93, 150, 200, 203, 208, 223, 275, 276, 323,</td>
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<td>106</td>
<td>27</td>
<td>5, 9, 18, 23, 41, 60, 110, 136, 154, 177, 189, 212, 261, 277, 307, 332, 343, 369, 404, 427, 443, 458, 476, 484, 508, 527, 538</td>
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<td>107</td>
<td>18</td>
<td>63, 72, 99, 105, 121, 131, 150, 151, 153, 186, 187, 188, 240, 249, 319, 327, 333, 350</td>
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<tr>
<td>Variable</td>
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<td>Max</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>Constant</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Legislative Resources</td>
<td>2.578</td>
<td>16.647</td>
</tr>
<tr>
<td>Legislative Median</td>
<td>0</td>
<td>104.438</td>
</tr>
<tr>
<td>Inverse Price for Ideology</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ideology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price for Suitability</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Complexity</td>
<td>-0.189</td>
<td>0.159</td>
</tr>
<tr>
<td>Republican Takeover</td>
<td>-0.094</td>
<td>0.081</td>
</tr>
<tr>
<td>Judicial Median</td>
<td>1</td>
<td>204</td>
</tr>
<tr>
<td>Judicial Stability</td>
<td>0</td>
<td>28.44</td>
</tr>
<tr>
<td>Judicial Median x</td>
<td>21.53</td>
<td>67.942</td>
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Table 6.2: Summary Statistics of the Variables
### Table 6.3: Summary of the Mixed Response Analysis for Variables Predicting Suitability Score and the Probability of Only Senate Producing a Report

<table>
<thead>
<tr>
<th>Variable</th>
<th>2.5%</th>
<th>5%</th>
<th>95%</th>
<th>97.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suitability Score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>112.9</td>
<td>53.59</td>
<td>61.8</td>
<td>169.6</td>
</tr>
<tr>
<td>Legislative Resources</td>
<td>-5.513</td>
<td>-8.825</td>
<td>-8.324</td>
<td>-5.444</td>
</tr>
<tr>
<td>Legislative Median</td>
<td>-64.16</td>
<td>-119.8</td>
<td>-112.6</td>
<td>-63.29</td>
</tr>
<tr>
<td>Inverse Price for Ideology</td>
<td>0.179</td>
<td>0.073</td>
<td>0.091</td>
<td>0.269</td>
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<tr>
<td>Ideology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complexity</td>
<td>0.029</td>
<td>0.012</td>
<td>0.015</td>
<td>0.044</td>
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<tr>
<td>Republican Takeover</td>
<td>0.851</td>
<td>-17.17</td>
<td>-14.45</td>
<td>15.97</td>
</tr>
<tr>
<td>Judicial Median</td>
<td>84.1</td>
<td>6.786</td>
<td>17.47</td>
<td>157.2</td>
</tr>
<tr>
<td>Judicial Stability</td>
<td>-7.685</td>
<td>-18.7</td>
<td>-16.37</td>
<td>0.671</td>
</tr>
<tr>
<td>Judicial Median x</td>
<td>-29.29</td>
<td>-67.43</td>
<td>-59.31</td>
<td>0.104</td>
</tr>
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Continued
Table 6.3. Continued.

<table>
<thead>
<tr>
<th>Probability of Only Senate</th>
<th>Mean</th>
<th>2.5%</th>
<th>5%</th>
<th>95%</th>
<th>97.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-7.774</td>
<td>-22.13</td>
<td>-19.48</td>
<td>3.355</td>
<td>5.74</td>
</tr>
<tr>
<td>Legislative Resources</td>
<td>0.260</td>
<td>-0.380</td>
<td>-0.266</td>
<td>0.798</td>
<td>0.914</td>
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<tr>
<td>Legislative Median</td>
<td>4.162</td>
<td>-4.814</td>
<td>-3.312</td>
<td>13.12</td>
<td>15.11</td>
</tr>
<tr>
<td>Inverse Price for Ideology</td>
<td>-0.001</td>
<td>-0.023</td>
<td>-0.019</td>
<td>0.016</td>
<td>0.019</td>
</tr>
<tr>
<td>Price for Suitability</td>
<td>-0.621</td>
<td>-1.088</td>
<td>-1.014</td>
<td>-0.235</td>
<td>-0.162</td>
</tr>
<tr>
<td>Complexity</td>
<td>0.003</td>
<td>-0.001</td>
<td>-0.005</td>
<td>0.003</td>
<td>0.008</td>
</tr>
<tr>
<td>Republican Takeover</td>
<td>-0.376</td>
<td>-3.907</td>
<td>-3.263</td>
<td>2.396</td>
<td>2.943</td>
</tr>
<tr>
<td>Judicial Median</td>
<td>-5.226</td>
<td>-24.73</td>
<td>-20.98</td>
<td>10.68</td>
<td>13.98</td>
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<tr>
<td>Judicial Stability</td>
<td>1.439</td>
<td>-0.545</td>
<td>-0.230</td>
<td>3.204</td>
<td>3.615</td>
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<tr>
<td>Judicial Median x Judicial Stability</td>
<td>4.045</td>
<td>-2.883</td>
<td>-1.746</td>
<td>10.11</td>
<td>11.5</td>
</tr>
</tbody>
</table>

\[ \rho \]
- 0.5971

\[ \sigma \]

\[ \sigma_u \text{ for Only Senate} \]
- 1.823 1.214 1.290 2.475 2.641

\[ \sigma_u \text{ for Suitability Score} \]

Note. N=1,106. Draws=250,000. Burn-in period=10,000.
CHAPTER 7

CONCLUSION

In Chapter 1, I embarked on a path of examining the interactions between the United States Congress and the Supreme Court in questions involving the constitutionality of federal statutes. I posited that the existing theoretical models of the interactions between the two branches are incomplete in that they either misrepresent the nature, the sequence, of the interactions between the Court and Congress, or that they fail to consider any preferences that account for the decisions of the two bodies other than ideological considerations. A consequence of these gaps in our knowledge is a misperception of judicial and, at times, legislative behavior that hinders our ability to explain, understand, and predict the outcomes of American policy-making. To correct for these problems, I built a theoretical model that correctly structures the sequence of interactions, and I expand the set of preferences that motivate behavior of both branches of government to include preferences over suitability. I argue that the two political bodies influence each other’s behavior: the Court evaluates the quality of federal statutes when it decides on their constitutionality, and, as the federal legislature attempts to avoid judicial invalidation, it must take judicial preferences into account and ensure that its laws are suitable for the existing state of the world. In the chapters of this dissertation, I
subjected my theory to rigorous empirical testing. I have shown that considerations over federal statutes’ suitability for the existing state of the world, their ability to reach the intended social benefits, have an important substantive influence on the decisions of the Supreme Court. I have also shown that the threat of judicial invalidation forces Congress to produce more suitable laws.

In this chapter, I summarize the main findings reached in the previous chapters and discuss their implications for our current state of knowledge and for the future empirical and theoretical research in the area of Court-Congress interactions.

Summary of Findings

Chapter 2 Findings

In Chapter 2, I construct a mathematical model of the interactions between the U.S. Congress and Supreme Court. I contend that when Congress makes the first move in the sequence of interactions, creates a federal statute, it bases its decision both on the need to minimize ideological loss and on the desire to benefit from the suitability of federal statutes. I define statutory suitability as statutory appropriateness for the existing state of the world. A statute is highly suitable whenever it comes close to achieving the goal that it was created to achieve. I argue that both Congress and the Court have preferences over ideology and suitability, so when Congress makes a new law (selects an ideological position for a statute and a corresponding level of suitability) it takes into account judicial preferences to avoid invalidation by Supreme Court. A key result from
the model: the Supreme Court will uphold ideologically divergent legislation if it is highly suitable.

I argue that when creating new statutes, Congress does not have unlimited resources. That is, changing the ideological status quo and ensuring proper suitability are not free; there are certain amounts of effort, time, and even money that members of Congress have to pay for changes in the status quo. If this was not the case, there would be no poverty or crime, because the federal government with its unlimited resources would design highly suitable legislation solving all the major national problems. I also argue that the behavior of both branches depends on the price of ideological changes and on the price for suitability, as well as the intensity of preferences.

I am primarily interested in examining the two main propositions derived from the theoretical framework. As Congress and Supreme Court converge ideologically, the probability of judicial invalidation of statutes produced by this Congress decreases. This argument resembles the dominant, attitudinal, approach to the study of the interactions between the two branches. More importantly, I test whether the suitability of federal statutes influences the probability of invalidation of federal statutes. My theory suggests that this influence exists and is negative: as a federal statute becomes more suitable, more appropriate for the existing state of the world (becomes close to the goal that it is designed to achieve), the lower should be the probability of judicial invalidation. I test this argument in Chapters 3 through 5. In the last empirical chapter, Chapter 6, I test whether the reverse of this argument holds: whether the threat of judicial invalidation increases the suitability of federal statutes.
Chapter 3 Findings

In Chapter 3, I examine all the testable theoretical predictions using the dataset that includes all Supreme Court decisions on the constitutionality of federal statutes heard by the Court between 1971 and 2004. In this chapter, I look at the effects of ideology, suitability, resources, intensity of preferences, and prices for suitability and ideological changes on the probability of Supreme Court invalidation.

Two considerations present methodological challenges. First, it is difficult if not impossible to find an objective measure of suitability, of how appropriate a statute is in achieving its real world goals. To overcome this difficulty, I examine the measures of congressional research. Whenever Congress produces legislation, to make sure that this legislation accomplishes what it is supposed to achieve, that the legislation is suitable, congressional committees conduct research evaluating the consequences of provisions contained within this legislation. When committees conduct such research they produce reports that actually contain the summary of congressional findings with respect to statutory suitability.

For every statutory provision reviewed by the Supreme Court, I examine whether there is an associated committee report. If such a report exists, I compute the suitability score for the challenged provision by dividing the total number of report pages by the total number of objectives listed by a report in question. The more pages a report dedicates to a particular provision, the better researched is this provision, the more suitable it should be for achieving the intended goals, be appropriate for the existing state of the world. I compute the suitability score variable by averaging the pages to goals ratio for both chambers.
Additionally, I check for whether the research process in either congressional chamber has a separate effect on the probability of invalidation. In other words, whenever the Senate is the only branch that produces a committee report evaluating the consequences of a federal statute, this research may be of different quality than research produced in other ways. To control for this possibility, I employ a dichotomous variable that takes on the value of 1 if the Senate is the only chamber that produces a committee report researching the challenged provision, and the variable takes on the value of 0, otherwise. I control for the instances of the House being the only chamber researching statutory provisions in a similar manner.

The second important methodological consideration involves the need to compare the ideological preferences of Congress and Supreme Court. One of the main hypotheses has to do with ideological convergence of the two branches. However, the two bodies operate in differing political environments and are subject to different political pressures. Fortunately, by concentrating only on the ideological measures of Congress, it is possible to test theoretical predictions with respect to political ideology and the probability of Supreme Court invalidation. That is, between 1971 and 2004 the Supreme Court is controlled by conservative forces. At this time, the Court is controlled by the Nixon and Reagan appointees, and the Burger Court (1971-1987) as well as the Rehnquist Court (1987-2004) are known to be conservative, more conservative than Congress. This suggests that as Congress becomes more conservative, it becomes ideologically more similar to Supreme Court, and laws produced by this Congress should enjoy a lower probability of invalidation. I use the DW Nominate averages of chamber median scores (McCarty et al, 1997) as the measure of congressional ideology.
The results of the statistical probability model indicate that when the Court decides whether to uphold or invalidate a federal statute, it bases its decision both on ideological considerations and on considerations of suitability.

Similar to the dominant, attitudinal, view, the empirical tests support the view that the Court will uphold statutes enacted by ideologically proximate Congresses. However, more importantly, the Court takes into account how well federal statutes are designed to achieve their intended social benefits. The suitability score variable, the ratio of committee report pages to committee report goals, is highly significant and has a negative effect on the probability of invalidation. This serves as a clear indication that the Supreme Court is not a self-serving group of lawyers legislating personal political preferences, which is a natural conclusion derived from the attitudinal paradigm. The Court tends to reward highly suitable legislation by protecting it from invalidation.

Additionally, the variable gauging the instances of the Senate being the only branch that conducts research in its committees is statistically significant and has a positive effect on the probability of invalidation. In other words, the Court is very likely to invalidate the laws that were researched only by the Senate. As argued in Chapter 3, this is likely to be due to the Senate’s not being able to dedicate as many resources to suitability research and because of the nature of representation in each chamber: Senators care about policy affecting states, while the House members evaluate policy consequences for their districts, which allows for more thorough suitability research.

Chapter 3 findings show that the Court is more likely to invalidate laws produced after the 1994 Republican takeover, because these laws are likely to be of poorer
suitability. This also goes against the argument that the Court is constrained by Congress in the constitutional cases.

Chapter 3 has shown that the United States Supreme Court relies on more than just political ideology when it reaches decisions in cases involving challenges to federal statutes.

Chapter 4 Findings

In Chapter 4, I examine theoretical predictions by accounting for the possibility of a sample selection bias associated with examining only the Court’s decisions on the merits.

Before the Court decides to uphold or to invalidate a federal law, the Justices decide whether to grant cert/bring a case up for review. It is possible that the cases that the Court reviews are systematically different from the cases that the Court chooses not to review; therefore, looking only at the latter stage of the process may result in a selection problem. To account for this problem, I fit the censored probit model.

I look at the decisions of the Court to grant cert and at the decisions to invalidate in cases placed on the Supreme Court docket between 1994 and 2004. I test the main hypotheses derived from the mathematical model outlined in Chapter 2 using the variables described in Chapter 3. Additionally, I examine the effect that the measures of suitability, the Suitability Score and the Senate being the only branch researching legislation, have on the probability of Supreme Court review.

Using the likelihood ratio test, I fail to reject the possibility of independence of the two decisions, which lets me estimate two separate probit models. The independence
between the two decisions suggests that the analysis performed in Chapter 3 does not suffer from sample selection bias.

Most of the theoretical variables did not have statistically significant effects on the probability of invalidation, still, whenever the Senate is the only chamber conducting research on a statutory provision, this provision, if challenged, has a higher probability of invalidation. The lack of statistical significance of other covariates could be explained by the short period of time in this examination, which was not a problem in the Chapter 3 analysis.

Conversely, both suitability variables and both ideological variables do have an effect on whether the Court grants cert, reviews a lower court decision. The worse is the research level of a federal statutory provision (the lower is the suitability score and whenever the Senate is the only chamber producing committee reports) the more likely, if challenged, this provision would be reviewed by the Court. In other words, the Court tends to ignore constitutional cases involving well researched provisions.

Similarly to the Chapter 3 findings and similar to the attitudinal approach, the more conservative is a Congress that produced a challenged provision, the more likely the Court is to review a lower court decision, if a lower court invalidates legislation produced by a conservative Congress.

Chapter 4 has demonstrated that the decision to review a challenge to a federal statute is independent from the decision to uphold or invalidate this statute. This chapter also shows that the decision to review is influenced by considerations of political ideology and suitability.
Chapter 5 Findings

In Chapter 5, I examine the timing between enactment of federal statutes and their invalidation. I am particularly interested in knowing whether ideological preferences and considerations of suitability have influence on how quickly federal laws are invalidated. Although the theoretical framework does not say much about the speed of invalidation, a natural extension of the theoretical argument is a prediction that laws created by ideologically divergent congresses will be invalidated much more quickly than laws produced by ideologically convergent congresses. Similarly, unsuitable laws should be invalidated much more quickly than laws that are highly suitable. This analysis leads me down the path of survival models.

I examine all laws of substantive nature produced by Congress between 1987 and 2000. I follow their timeline to determine if they are eventually invalidated or are censored. To test the prediction with respect to the effect of suitability on the speed to invalidation, I am unable to use the suitability score variable, because each law consists of many different provisions, and looking at each statutory provision enacted by each statute between 1987 and 2002 would impose prohibitive costs. However, although I limit myself to entire federal laws rather than provisions of these laws, I can still employ a reliable measure of suitability that has been used in the previous empirical chapters. I examine whether the Senate is the only chamber of Congress that conducted research for any provisions associated with a particular congressional act. If, indeed, the Senate is the only chamber that produced committee reports associated with a particular public law, then, for the reasons stated above, this law is poorly researched and has inferior
suitability. Therefore, laws researched only by the Senate should be invalidated more quickly than all other laws.

A natural framework of estimation for my data is survival analysis. However, two methodological challenges require special attention. A regular survival analysis framework assumes that all laws are eventually invalidated. The laws that have not been invalidated during the time selected for the analysis will be invalidated sometime in the future. However, this assumption is clearly incorrect. Even by looking at the Supreme Court workload, one comes to a realization that, each year, Congress creates many more laws than the Court hears cases. Thus, at the very least, the Court is simply unable to invalidate all federal statutes because of workload constraints. A solution to this problem is given by cure or split-population models (Box-Steffensmeier and Jones, 2004). Applying such a model to my dataset, I explicitly assume that the entire population of federal laws enacted between 1987 and 2000 consists of two groups, where one group consists of all laws that will eventually be invalidated, and the second group consists of all laws that will never be invalidated (cured laws).

The second concern involves the presence of unobserved heterogeneity across individual observations. Since an observation is a public law, a very large and complex outcome of congressional research and deliberation, it is very likely that there are unobserved factors that influence the time to invalidation of each law. To account for this, I fit a cure model that allows for unobserved heterogeneity (frailty) across the laws that eventually experience invalidation.

Similar to the previous empirical chapters, the results of the survival analysis indicate that as Congress becomes more conservative, laws produced by this Congress
will have a greater time until invalidation. Conversely, whenever the Senate is the only branch that researches federal legislation, this legislation is not very suitable and will be invalidated quickly. Additionally, laws passed after the 1994 Republican takeover are invalidated faster than the laws passed before the takeover, which rejects the argument that the Court is constrained by Congress. These results support the results obtained in Chapter 3 and Chapter 4 and naturally flow out of the predictions in Chapter 2.

Chapter 6 Findings

This chapter differs from the previous three empirical chapters by switching the focus away from Supreme Court behavior to examining the nature of congressional research to ensure suitability of these provisions. In this chapter, I examine whether Congress takes into account the preferences of the Supreme Court when it conducts committee research. That is, in this chapter, suitability is the dependent variable. To be consistent with the previous analyses, I look at two dependent variables: Suitability Score and the Senate being the only branch producing committee reports. Since one of the variables is dichotomous and the other one is continuous, I fit a mixed-response model.

In this chapter, I test theoretical predictions with respect to legislative behavior and suitability. As the Court and Congress diverge ideologically, to avoid invalidation, Congress needs to produce better researched laws. That is, as Congress becomes more liberal or the Court becomes more conservative, the suitability score should increase and the probability of the Senate being the only chamber researching the consequences of federal statutory provisions should decrease. Another prediction suggests that as
Congress becomes more certain about facing an ideologically divergent Court, the level of suitability should increase (resulting in an increase in suitability scores and in a decrease in the probability of the Senate being the only chamber researching suitability). To test these hypotheses, I look at a random sample of laws passed between 1977 and 2002. I identify each statutory provision enacted by these laws, and I investigate the provisions’ levels of suitability.

I could still concentrate only on the measure of legislative ideology to examine my predictions: as Congress becomes more conservative, it becomes ideologically similar to the Court. However, to add more weight to my results, I also employ a measure of Supreme Court ideology, the Segal-Cover scores, which are not estimated from the Justices’ votes (Segal and Cover, 1989). By interacting this measure with the measure of the Court’s stability (the measure of certainty of facing a particular type of Supreme Court), I test and reject the hypothesis of whether certainty about facing a conservative Court results in greater suitability. This indicates that Congress is always certain about the type of Supreme Court it is facing.

The results indicate that as Congress becomes more liberal, it has to produce more thorough committee research, dedicate more pages to committee reports’ objectives, to ensure a low probability of future invalidation. The same holds for the situations when the Court becomes more conservative (moves away from Congress): as the Court becomes more conservative, the suitability scores increases, which means that Congress spends more time in committees on evaluating the costs and benefits of statutory provisions to ensure a high level of suitability. These results support the main predictions of the theoretical model that suggest that Congress has to take into account the
probability of judicial invalidation (preferences of the Supreme Court), when it conducts legislative research.

Unfortunately, none of the main predictions are supported with respect to the Senate-only research. Using the credible Bayesian intervals, I cannot reject the Null Hypotheses of judicial ideological preferences having no effect on the probability of the Senate being the only branch that produces committee report. This indicates that the decision to let the Senate be the only branch that ensures suitability of legislation is done for institutional purposes, such as the optimal distribution of congressional workload, rather than for avoiding future invalidations of the Supreme Court.

Thus, the results of the last empirical chapter generally support the theoretical predictions outlined in Chapter 2.

Taken together, Chapters 3 through 5 indicate the presence of a clear interest on the part of the Court in seeing well researched legislation. All three analyses suggest that, when the Court makes its decisions on the merits and during the agenda setting stage, the Court pays attention to whether the United States Congress produces legislation that is appropriate for the goals that it is designed to achieve. These three chapters support my hypotheses and improve the understanding of the Supreme Court decision making mechanism. Although ideology is an important consideration behind the Justices’ actions, it is far from being the only motivation. Moreover, the Chapter 6 results generally support my congressional behavior hypotheses, and, viewed in light of the Chapter 3 through Chapter 5 findings, I could argue that my mathematical model is supported and that it correctly depicts the state of the interactions between the United
States Congress and Supreme Court. Also, and very importantly, Chapter 6 is one of the rare analyses that concentrate on the effect of the judicial constraint on congressional actions.

Implications

The findings presented in this dissertation have implications for the study of judicial politics, as well as for research in legislative politics.

Although this dissertation employs a mathematical model of the interactions between legislative and judicial branches, which places it among the ranks of the so-called strategic studies, this project supports the findings Segal (1996) and Segal and Spaeth (2002) as they relate to the Supreme Court decision making in the area of constitutional law. This project is explicit in assuming that the Court is not constrained by Congress in the area of constitutional law, and the empirical findings suggest that there are instances when the Court will invalidate federal statutes, even if Congress would like to see these statutes upheld. The findings in Chapters 3 and 5 reject the idea that the Court is constrained by Congress. However, unlike Segal and Spaeth (2002) and most of the studies conducted by the supporters of the attitudinal model, this project suggests that there is more to judicial decision making than simple reliance on ideological preferences. One is not incorrect in viewing ideology as an important motivational force influencing Supreme Court decision making; however, one would be remiss in assuming that the Court only cares about ideology.

This dissertation represents a departure from the common approach to investigating Supreme Court behavior. The dominant approach, the attitudinal model,
suggests that the Court bases its decisions only on considerations of political ideology. The majority of the earlier studies that espouse the attitudinal model argue that the Court is isolated from political pressures of elected politicians, the members of the Court serve for life, their decisions cannot be overturned, which places them in a perfect position to make decision on the basis of personal political preferences. My theory is in partial agreement with these studies: the Court does rely on political preferences of its members when it reaches decisions in constitutional cases. My findings that ideology plays an important role as a motivational force on the Court are in line with the existing Supreme Court scholarship. As earlier studies have indicated and as I have confirmed in this project, the Court is driven by ideology when it decides which cases to hear and when it decides whether to uphold constitutionality of federal statutes. However, this project departs from the majority of the existing studies by arguing that ideology is not the only consideration affecting judicial decision making. My theory explicitly accounts for the possibility that the Court takes into account an additional consideration. I argue that the Court actually cares about objective policy consequences. This is not an ideological evaluation of policy, but rather, whether policy results in particular social benefits. There are just a few studies that explore this possibility, and I believe that this project adds to and expands the findings of these studies. Ignoring this possibility is likely to result in an incorrect conclusion regarding the Court’s behavior.

The dissertation posits and finds support for the notion that the Supreme Court takes into account the suitability of legislation, whether statutes are appropriate vehicles of policy, are able to reach their intended social goals/benefits. Rather than usurping the moral and social values of the nation and presenting the Court as the image of “what’s
wrong with America” (Biskupic, 1996), the Supreme Court actually improves the policy making process in the United States. The third branch serves as a check on poor legislation, and the best situation for the American public might occur when the Court and Congress are controlled by members of opposing ideological groups, in which case Congress would be forced to produce suitable legislation. The findings of this project suggest that the policy making process is served better by having an independent judiciary. Too often politicians who run for office portray the Court as an institution out of touch with the mainstream America, an institution bent on changing the American political landscape, and an institution whose harmful influence over policy needs to be reined in (Biskupic, 1996). However, in this dissertation I find that the Court is a branch of government that cares about the suitability/effectiveness of federal policies, and it serves as a powerful check on the congressional propensity to create ideologically motivated laws that may not be suitable for the existing state of the world. Thus, the democratic process of American policy making is improved by letting the Court have the last word in the congressional-judicial interactions that involve constitutionality of federal statutes.

Expanding the set of judicial preferences indicates a step in a direction that will eventually allow the scholars of Supreme Court decision making to account for the entire set of judicial preferences, not just ideology and suitability. This project should also result in reexamination of Supreme Court statutory cases, to include the possibility that the Court and Congress care about suitability, and it should also result in reevaluating the view of Supreme Court decision making with respect to challenges to state laws. One does not have to stop here; another study that is suggested by this project is examining
decision making in the federal courts of appeals. If the Supreme Court Justices care about suitability, so do the appellate court judges, and given the low likelihood of Supreme Court review of the lower courts’ decisions (Klein, 2002), the courts of appeals judges are likely to be unconstrained in their decision making, and they are likely to apply considerations of suitability to their evaluations of the constitutionality of federal statutes.

It is also likely that the Court takes into account the suitability of a state law, the law’s ability to reach the intended goals benefiting state residents when the Court makes its decision on the constitutionality of state statutes. Taking this further, it is also important to examine the effect of suitability on decision making in state supreme courts. It is likely that there is variation in the role the suitability plays at the state level: in some states, it is relatively easy to amend the state constitution, which means that in these states supreme courts are likely to be more willing to uphold the ideological view of the majority rather than ensure that only the most suitable laws remain on the books. Conversely, in states where it is more complicated to amend the state constitution, the supreme courts are likely to be able to rely more on their evaluation of the state statutes’ suitability, when deciding whether these statutes are constitutional.

One important task that is also left for future investigation is examining the behavior of individual members of the Court. The theoretical model in Chapter 2 speaks in terms of pivotal actors, who determine the behavior of an entire political body; however, to gain a complete understanding of the Justices’ behavior at an individual level, one needs to examine how suitability and ideology influence individual decisions for or against a challenged federal statute. The theoretical predictions should hold in this
setting: the more suitable is a statute, the lower is the probability of an individual vote against this statute.

This project also examines behavior of the members of Congress. I think of it along the lines of researchers who evaluate congressional efforts to achieve good, well-informed policy (Krehbiel, 1991). Similarly to the proponents of the informational theory (Gilligan and Krehbiel, 1987; Gilligan and Krehbiel, 1989), I look toward congressional committees in my attempts at gauging congressional research efforts. However, I examine these efforts as being partially shaped by the threat of judicial invalidation. With rare exceptions (Martin, 2001b), scholars of Congress generally ignore the possibility that the members of Congress are interested in the potential reaction of the Supreme Court to their statutes. This project is a step in helping us understand how research of congressional committees is influenced by judicial considerations. As argued in Chapter 2 and supported in Chapter 6, when the members of Congress conduct research in committees, they are influenced by the Court’s preferences. Additionally, as has been argued in Chapter 6, the House and the Senate, subjected to different political pressures, appear to divide the jurisdiction over policy research: some laws may be researched only by the Senate while other laws may be researched only by the House. This is a very interesting question that taps into the nature of congressional behavior. Identifying the jurisdictions of both branches will allow us better understanding of congressional decision making and will allow us to make more precise inferences.

This project also contributes to the area of political research that looks only at the interactions between the two branches, the so-called games of Separation of Powers. Unlike the overwhelming majority of these games, I structure the sequence of
interactions between the Supreme Court and Congress in a chronologically correct order: Congress makes law, and only after that the Court has a chance of responding to congressional actions. Failure to observe the correct structure of interactions results in improper inference that incorrectly assigns the agenda-setting influence to the Supreme Court rather than Congress.

I believe that the dissertation also offers methodological contributions to the fields of judicial and legislative politics, and the discipline of American Politics as a whole. It provides directions on how to estimate a complex statistical model with complicated error structure. In Chapter 4, I demonstrate how to estimate a censored probit model while accounting for simple and cross-classified heterogeneity. This could easily be extended to account for the instances requiring estimation of bivariate and other multivariate probits. In Chapter 5, the project estimates a cure model with heterogeneity across observations that eventually experience the event in question. This method could be easily applied to other questions in political science; extending it to account for heterogeneity among observations that never experience the event in question is straightforward. Finally, in Chapter 6, the dissertation employs a mixed-response model, which promises to be the next important development in the area of generalized linear models. Throughout all my analyses, I attempted to pay close attention to the issues of unobserved heterogeneity, the problem that deserves more attention in the area of quantitative political science.
Conclusion

This dissertation provides a rigorous theoretical framework for investigating the interactions between the United States Supreme Court and the United States Congress, and it is careful to choose appropriate methods for testing the theoretical predictions. Empirical support for my theory indicates that future scholars working in the area of the Court-Congress interactions, or just in the area of Supreme Court decision making, should consider deviating from the major, attitudinal, position by accounting for other motivating forces behind the Court’s decisions, which will result in better understanding of Supreme Court behavior.
APPENDIX A

The Theoretical Model. Complete Information.

Proposition 1.

a. The legislative median will never propose \( x < q \).

b. The legislative median will only propose \( x \), if \( p \alpha \geq \).

Proof:

Since \( m > q \), there are three cases to consider: \( x < q, q < x < m, \) and \( x > m \). Assume that the court’s constraint is always satisfied.

Case 1. \( x < q \)

\[
U_m(x, T) = -\alpha(m-x) + T. \text{ Since } E_r = T + p|x - q|, U_m(x, T) = -\alpha(m-x) + E_r - p(q-x).
\]

\[
\frac{\partial (U_m(x, T))}{\partial x} = \alpha + p.
\]

Since the utility function is increasing in \( x \), its maximum in this case is attained at \( x = q \). Because, the status quo policy location is at \( q \), the legislative median will not want to deviate in the decreasing direction.

Case 2. \( q < x < m \)
\[ U_m(x, T) = -\alpha(m-x) + T. \] Since \( E_r = T + p|x - q| \), \( U_m(x, T) = -\alpha(m-x) + E_r - p(x-q) \).

\[ \frac{\partial(U_m(x, T))}{\partial x} = \alpha - p. \]

If the relative price paid for the policy move, \( p \), is larger than the intensity of preferences, then the utility function in this case is maximized at \( q \). In this situation, the legislative median prefers the status quo. However, if \( \alpha \geq p \), then the utility function is maximized at \( m \). A policy move will occur only in the latter situation (proving part b).

Case 3. \( x > m \)

\[ U_m(x, T) = -\alpha(m-x) + T. \] Since \( E_r = T + p|x - q| \), \( U_m(x, T) = -\alpha(x-m) + E_r - p(x-q) \).

\[ \frac{\partial(U_m(x, T))}{\partial x} = -\alpha - p. \]

In this case, the utility function of the legislative median is maximized at \( m \).

Notice that assuming \( \alpha \geq p \), the legislative median will always attempt to move the policy \( x \) to its own ideal point \( m \). This suggests that the legislature cares more about the policy outcome than “suitability.”

I will ignore Case 1 in the subsequent discussion.

The legislative median participation constraint is satisfied when:

1. \( -\alpha(m-x) + E_r - p(x-q) \geq -\alpha(m-q) + T_0 \), which means

\[ x \geq q - \frac{E_r - T_0}{\alpha - p} \]

2. \( -\alpha(x-m) + E_r - p(x-q) \geq -\alpha(m-q) + T_0 \), which means
\[
x \leq \frac{(2a)m - (a - p)q + E_r - T_0}{\alpha + p}.
\]

To avoid degenerate case such that

\[
x \geq q - \frac{E_r - T_0}{\alpha - p} \geq m,
\]

which means that the legislative median will only approve the move from \(q\), when such move is made past \(m\), I assume that \(E_r \geq T_0 - (m - q)(\alpha - p)\), otherwise, the legislature attempts no move. Notice, that in addition to

\[
x \geq q - \frac{E_r - T_0}{\alpha - p} \geq m,
\]

when \(E_r < T_0 - (m - q)(\alpha - p)\),

\[
q - \frac{E_r - T_0}{\alpha - p} > \frac{(2a)m - (a - p)q + E_r - T_0}{\alpha + p}.
\]

Thus, my assumption of no change when \(E_r < T_0 - (m - q)(\alpha - p)\) is justified.

\(E_r < T_0 - (m - q)(\alpha - p)\) also implies \(T_0 < a(m - q)\).

To examine when the judicial median will accept the new combination of policy and “suitability,” one has to examine 3 cases: \(c < q\), \(q < c < x\), and \(x < c\).

Case 1. \(c < q\)

\[-\alpha(x - c) + E_r - p(x - q) \geq -\alpha(q - c) + T_0, \text{ which is satisfied when}
\]

\[
x \leq q + \frac{E_r - T_0}{\beta + p}
\]

Case 2. \(q < c < x\)
\[-\alpha(x - c) + E_r - p(x - q) \geq -\alpha(c - q) + T_0, \text{ which is satisfied when }\]
\[
x \leq \frac{(2\beta)c - (\beta - p)q + E_r - T_0}{\beta + p}
\]

Case 3. \(x < c\)

\[-\alpha(c - x) + E_r - p(x - q) \geq -\alpha(c - q) + T_0, \text{ which is satisfied when }\]
\[
x \geq q - \frac{E_r - T_0}{\beta - p}.
\]

There are four major cases to consider: \(E_r \geq T_0\) and \(E_r \geq p(m-q)\), \(E_r < T_0\) and \(E_r \geq p(m-q)\), \(E_r \geq E^* < p(m-q)\), and \(E_r < T_0\) and \(E_r < p(m-q)\).

\(E_r \geq p(m-q)\) means that there is enough resources to afford a policy move to the legislative median ideal point.

Case 1. \(E_r \geq T_0\) and \(E_r \geq p(m-q)\)

\[
q + \frac{E_r - T_0}{\beta + p} \geq x \geq \frac{E_r - T_0}{\alpha - p},
\]

which means that whenever \(c < q\), the legislative median can move the policy location up to

\[
q + \frac{E_r - T_0}{\beta + p}.
\]

The optimal policy location for the legislative median is \(m\), thus, the case \(q < c < x\), is equivalent to \(q < c < m\).
When, \( q < c < m \), the legislative median will be able to move the policy to

\[
\frac{(2\beta)c - (\beta - p)q + E_r - T_0}{\beta + p}.
\]

intersects

\[
q + \frac{E_r - T_0}{\beta + p}
\]

when \( c = q \), which avoids any discontinuities.

When,

\[
c \geq \frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta},
\]

the court will allow a policy move to \( m \).

\[
q \leq \frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta} \leq m,
\]

if \( E_r \geq T_0 - (m - q)(\alpha - p) \) and \( E_r \geq T_0 - (m - q)(\beta - p) \).

When, \( c > m \), the legislative median will be able to make a policy move to \( m \), if

\[
m \geq q - \frac{(E_r - T_0)}{(\beta - p)},
\]

which is satisfied when \( E_r \geq T_0 - (m - q)(\beta - p) \).

Proposition 2.

\( E_r \geq T_0 - (m - q)(\beta - p) \) (which also implies that \( T_0 \leq \beta(m - q) \))

Proof:
Simply realizing that $E_r \geq T_0$, could be enough, however when that does not hold or when it holds and $\beta < p$, the legislature either makes no offer, or a situation can arise when $c$ does not act optimally.

Assume the opposite. In this case, whenever $c > m$, the court median will accept only those proposals that place the policy at $q - (E_r - T_0)/(\beta - p)$, which is larger than $m$.

Suppose that $c = m + \delta$ and $x_1 = m + \delta$ ($x_1$ is affordable), where $\delta$ is very small and positive, and $m + \delta < q - (E_r - T_0)/(\beta - p)$. Let $x_2 = m + \delta + \epsilon$ ($x_2$ is affordable), where $\epsilon$ is positive, such that $x_2 = q - (E_r - T_0)/(\beta - p)$. Then a simple comparison of utilities indicates that the court ($c = m + \delta$) prefers $x_1$ to $x_2$. That is, the court would prefer the combination of $x_1$ and “suitability” to $x_2$ with the same “suitability.” However, given the requirement of $x \geq q - (E_r - T_0)/(\alpha - p)$ and the condition $E_r < T_0 - (m - q)(\beta - p)$, the optimal selection would include $x_2$ over $x_1$. This is inconsistent with the assumption of rational behavior.

The requirement that $x \geq q - (E_r - T_0)/(\alpha - p)$ and the rational behavior assumption would only be satisfied (in the case $c > m$) when $m \geq q - (E_r - T_0)/(\beta - p)$. Therefore,

$$E_r \geq T_0 - (m - q)(\beta - p).$$

$$E_r \geq T_0 - (m - q)(\beta - p)$$ suggests that

$$q \leq \frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta} \leq m$$

and that

$$\frac{\alpha(m - q) + \alpha m + pq}{\alpha + p} - \frac{E_r - T_0}{\alpha + p}$$

crosses $m$ when

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If \( q + (E_r - T_0)/(\beta + p) > m \), equivalent to \( E_r \geq T_0 + (m - q)(\beta + p) \), then when \( c < q \), \( c \) will accept \( m \) as the new policy location. This means, that given this amount of legislative resources, the judicial median will always accept \( m \)'s proposal.

**Case 2.** \( E_r < T_0 \) and \( E_r \geq p(m-q) \)

In this case, \( q + (E_r - T_0)/(\beta + p) < q < (E_r - T_0)/(\alpha - p) \). This means that as long as \( c < q \), there will be no policy move.

The legislative participation constraint intersects

\[
\frac{2\beta c - (\beta - p)q + E_r - T_0}{\beta + p}
\]

only when

\[
c \geq q - \frac{(E_r - T_0)(\alpha + \beta)}{(2\beta)(\alpha - p)} > q.
\]

Thus, as long as

\[
c < q - \frac{(E_r - T_0)(\alpha + \beta)}{(2\beta)(\alpha - p)},
\]

\( q \) will remain the policy status quo. The court will allow a policy move to the status quo when

\[
c \geq \frac{m + q}{2} + \frac{(m-q)p}{2\beta} - \frac{E_r - T_0}{2\beta}.
\]

Given \( E_r \geq T_0 - (m-q)(\beta - p) \) and \( E_r \geq T_0 - (m-q)(\alpha - p) \), it holds true that
\[ q < q - \frac{(E_r - T_0)(\alpha + \beta)}{(2\beta)(\alpha - p)} \leq \frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta} < m, \]

And, when \( c > m \), the legislative median allows a policy movement to \( m \), with the remaining resources spent on “suitability.”

As was stated before, when \( E_r < T_0 - (m - q)(\alpha - p) \), the legislature does not make any attempts at a policy change.

Case 3. \( E_r \geq T_0 \) and \( E^* < p(m-q) \)

As was indicated above, when the legislative median is does not have enough resources to move the policy location all the way to \( m \), it will attempt to make a move as far as possible spending all its resources on policy, and allocating no resources on “suitability.”

The legislative median prefers \( x = q + E_r / p \). \( q + E_r / p \geq q - (E_r - T_0) / (\alpha - p) \), only when \( E_r \geq pT_0 / \alpha \). A necessary condition is \( T_0 < \alpha(m-q) \).

When \( c < q \), the legislative median will only be able to make a policy move to \( q + (E_r - T_0) / (\beta + p) \) if \( q + E_r / p > q + (E_r - T_0) / (\beta + p) \). When \( E_r \geq T_0 + (m - q)(\beta + p) \), the legislature is never constrained. When \( c = q \),

\[ q + \frac{E_r - T_0}{\beta + p} = \frac{(2\beta)c - (\beta - p)q + E_r - T_0}{\beta + p}. \]

The court does not prevent the policy move to the legislative median’s preferred policy location until

\[ \frac{(2\beta)c - (\beta - p)q + E_r - T_0}{\beta + p} = q + \frac{E_r}{p}, \]

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which occurs when \( c \geq q + (\beta E_r + p T_0)/(2 p \beta) \).

\[
q + (\beta E_r + p T_0)/(2 p \beta) \leq q + E_r/p \text{ occurs only when } E_r \leq T_0 \leq \beta(m - q).
\]

Proposition 3.

\( T_0 \leq \beta(m - q) \)

Proof:

Assume the opposite., and proceed along the lines of the proof for Proposition 2.

When \( c > q + E_r/p \), the legislative median attains its preferred policy location, with no resources spent on “suitability.”

Case 4. \( E_r < T_0 \) and \( E_r < p(m-q) \)

This is a combination of Case 2 and Case 3. The legislature maintains the status quo until

\[
c \geq q - \frac{(E_r - T_0)(\alpha + \beta)}{(2 \beta)(\alpha - p)} > q
\]

and the new policy becomes equal to

\[
\frac{(2 \beta) c - (\beta - p)q + E_r - T_0}{\beta + p},
\]

as long as \( c \geq q + (\beta E_r + p T_0)/(2 p \beta) \), after which the new policy status quo is \( q + E_r/p \).

\( E_r \geq p T_0/\alpha \), \( T_0 < \alpha(m - q) \), and \( T_0 \leq \beta(m - q) \) still have to hold.
The discussion above offers four major and three minor cases. The first minor case occurs when \( q + (E_r - T_0)/(\beta + p) > m \), equivalent to \( E_r \geq T_0 + (m - q)(\beta + p) \). This is applicable regardless of the legislative ability to reach its own ideal point on a policy dimension. The legislature offers \( m \) as the policy location, spends the remaining amount of resources on “suitability,” and the court approves.

The second and third minor cases occur when \( E_r < T_0 - (m - q)(\alpha - p) \) and \( T_0 > \beta(m - q) \), respectively. In these situations, the legislature offers no policy change, and the status quo policy and “suitability” remain.
APPENDIX B

The Simple Spatial Game

Without the loss of generality and for comparison purposes, I assume $q < m$. The legislature makes the first move by selecting $x$, the new policy location, and the court either accepts it or rejects it. Notice that this game lacks both the legislative resources and the “suitability” components.

\[
U_m(x, T) = -\alpha |m - x|
\]
\[
U_c(x, T) = -\beta |c - x|
\]

As before, the legislature will only propose a change if $-\alpha |m - x| \geq -\alpha |m - q|$. The court will only accept the proposal if $-\beta |c - x| \geq -\beta |c - q|$. Proceeding as before, an unconstrained legislative median would like to move the policy location toward its own ideal point, $m$.

There are 2 cases to consider:

when $x < m$, $-\alpha (m - x) \geq -\alpha (m - q) \Rightarrow x \geq q$.

when $m < x$, $-\alpha (x - m) \geq -\alpha (m - q) \Rightarrow 2m - q \geq x$.

It is clear that a rational legislature will never make a proposal that would exceed the range $[q, 2m - q]$. 

The court will accept a proposal whenever the following is satisfied:

when \( c < q < x \), \(-a(x-c) \geq -a(q-c) \Rightarrow q \geq x \). This will never be satisfied.

when \( q < c < x \), \(-a(x-c) \geq -a(c-q) \Rightarrow 2c - q \geq x \).

When \( x < c \), \(-a(c-x) \geq -a(c-q) \Rightarrow x \geq q \). This will always be satisfied.

One could see that the legislature would be able to propose its own ideal point without the fear of the court’s rejection, when \( 2c - q \geq m \), or \( c \geq (m + q)/2 \).

In the situation with the resources and “suitability” components, the court allows the legislature to propose \( m \) as the policy location whenever

\[
c \geq \frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta}
\]

or \( c \geq q + (\beta E_r + pT_0)/(2p\beta) \). Depending on whether \( E > p(m-q) \), when \( E < p(m-q) \), the legislature is unable to attain \( m \) on the policy dimension, therefore, I will ignore this case in the comparison between the simple spatial model and the model with “suitability.”

\[
\frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta} \leq \frac{m + q}{2} \Rightarrow E \geq T_0 + (m - q).
\]

If the expression above holds, the legislature in the model with “suitability” attains its ideal policy before the legislature in a spatial model.
Incomplete Information

In this game, the legislative median is unsure about which type of court it is facing. There are two types of courts, the “weak” type and the “tough” type. The “weak” type of court always allows the legislature to make a further move than the “tough” type given the same amount of legislative resources, \( E_r \). The following relationships are always true:

\[
\text{c tough} > \text{c weak}
\]

\[
U_{c \text{ tough}}(x(c \text{ tough}), T) > U_{c \text{ tough}}(x(c \text{ weak}), T)
\]

\[
U_{m}(x(c \text{ weak}), T) > U_{m}(x(c \text{ tough}), T)
\]

The probability of encountering the “weak” type is \( \pi \). Conversely, the probability of encountering the “tough” type is \( 1-\pi \). Whenever \( \pi \) is 0 or 1, the game of incomplete information is transformed into a game of perfect information, which has already been solved in

The following is the utility calculation used by the legislative median to determine whether it prefers a payoff associated with the “weak” type of court with probability \( \pi \)
combined with the status quo payoff with probability $1 - \pi$ to a certain payoff associated with the “tough” court:

$$\pi(E_r - \alpha(m - x) - p(x - q)) + (1 - \pi)(T_0 - \alpha(m - q)) \geq E_r - \alpha(m - y) - p(y - q),$$

where $x$ is the policy location accepted by the “weak” court, and $y$ is the policy location accepted by the “tough” court.

Overall, there are six non-trivial, non-redundant cases to consider:

**Case 1.** $E_r \geq T_0$, $c_{tough} < q$ and $q < c_{weak} < \frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta}.$

Here, $x = \frac{(2\beta)(c_{weak}) - (\beta - p)q + E_r - T_0}{\beta + p}$

and $y = q + (E_r - T_0)/(\beta + p)$.

The legislative median prefers the lottery to a certain payoff whenever

$$c_{weak} \geq q + \frac{(E^* - T_0)(\beta + \alpha)(1 - \pi)}{2\beta(\alpha - p)\pi}.$$

**Case 2.** $E_r \geq p(m-q)$, $E_r \geq T_0$, $c_{tough} < q$ and $\frac{m + q}{2} + \frac{(m - q)p}{2\beta} - \frac{E_r - T_0}{2\beta} \leq c_{weak}.$

Here, $x = m$ and $y = q + (E_r - T_0)/(\beta + p)$.

The legislative median prefers the lottery to a certain outcome whenever

$$E_r \leq T_0 + \pi \frac{(\alpha + \beta)(\alpha - p)(m - q)}{\alpha + \beta - \pi(\beta + p)}.$$

Since the fraction is always positive, there are values of $E$ that will satisfy the inequality in this case.
Case 3. $q < c\mbox{tough} < c\mbox{weak} < \frac{m+q}{2} + \frac{(m-q)p}{2\beta} - \frac{E_r - T_0}{2\beta}$, $c\mbox{tough} - c\mbox{weak} = l$.

Here,

$$x = \frac{(2\beta)(c\mbox{tough} + l) - (\beta - p)q + E_r - T_0}{\beta + p}, y = \frac{(2\beta)(c\mbox{tough}) - (\beta - p)q + E_r - T_0}{\beta + p}.$$  

The legislative median prefers the lottery to a certain outcome whenever

$$c\mbox{tough} \leq q - \frac{(E_r - T_0)(\alpha + \beta)}{2\beta(\alpha - p)} + l - \frac{\pi}{1 - \pi}.$$  

This case is relevant only if $c\mbox{tough} > q$. Thus, the range of $c\mbox{tough}$ that would satisfy the inequality above exists only if

$$l \geq \frac{(E_r - T_0)(\alpha + \beta)(1 - \pi)}{2\beta(\alpha - p)\pi}.$$  

Case 4. $E_r \geq p(m-q)$, $q < c\mbox{tough} < m < c\mbox{weak}$.

Here, $x = m$ and

$$y = \frac{(2\beta)(c\mbox{tough}) - (\beta - p)q + E_r - T_0}{\beta + p}.$$  

The legislative median prefers the lottery to a certain outcome whenever

$$c\mbox{tough} \leq q + \frac{(m-q)(\beta + p)\pi}{2\beta} - \frac{(E_r - T_0)(\beta + \alpha - \pi(\beta + p))}{2\beta(\alpha - p)}.$$  

Case 5. $E_r \geq T_0$, $E_r < p(m-q)$, $c\mbox{tough} < q$, and $q + (\beta E_r + pT_0)/(2p\beta) < c\mbox{weak}$. 

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Here $x = q + E/p$ and $y = q + (E_r - T_o)/(\beta + p)$. The legislative median prefers the lottery to a certain outcome whenever

$$E_r \leq \frac{T^*(p(\alpha + \beta) - \pi p(\beta + p))}{p(\alpha + \beta) - \pi(\beta + p)}.$$

Since $E_r \geq T_o$, in this case, the legislative median will always prefer the certain outcome.

Case 6. $E_r < p(m-q), \quad q < c\ tough \leq q + (\beta E_r + pT_o)/(2p\beta) < c\ weak$.

Here, $x = q + E/p$ and

$$y = \frac{(2\beta)(c\ tough) - (\beta - p)q + E_r - T_o}{\beta + p}.$$

The legislative median prefers the lottery to a certain outcome whenever

$$c\ tough \leq q - \frac{E_r(p(\alpha + \beta) - \pi(\beta + p))}{2p\beta(\alpha - p)} + \frac{T(\alpha + \beta - \pi(p + \beta))}{2\beta(\alpha - p)}.$$

Notice that in cases 1, 3, 4, 5, and 6, an increase in $E$ corresponds with the increased likelihood of choosing policy and a level of “suitability” that satisfy the “tough” court. Conversely, an increase in $\pi$ results in the greater likelihood of selecting a policy position and “suitability” that would satisfy the “weak” court. Also, in case 3, the greater is the distance between the two types of courts the greater is the likelihood of choosing the lottery.
APPENDIX D

Derivation of Hypotheses

$$\frac{\partial(q + \frac{E_r - T_0}{\beta + p})}{\partial \beta} = -(E_r - T_0)^*(\beta + p)^{-2}.$$  

The expression above is negative when $E_r \geq T_0$. Since this policy location is relevant only when $E_r \geq T_0$ and when $c < q$, as the intensity of judicial preferences increases, the policy outcome is likely to be closer to the original status quo.

\[
\frac{\partial(q + \frac{(T_0 - E_r)(\alpha + \beta)}{2(\alpha - p)\beta})}{\partial E} = -\frac{(\alpha + \beta)}{2(p_r \alpha - p_q)\beta} < 0
\]

\[
\frac{\partial(q + \frac{(T_0 - E_r)(\alpha + \beta)}{2(\alpha - p)\beta})}{\partial T_0} = \frac{p_r(\alpha + \beta)}{2(p_r \alpha - p_q)\beta} > 0
\]

\[
\frac{\partial(q + \frac{(T_0 - E_r)(\alpha + \beta)}{2(\alpha - p)\beta})}{\partial \alpha} = \frac{p_r T_0 - E}{2(\alpha - p_q)\beta} - \frac{(p_r T_0 - E)(\alpha + \beta)}{2(p_r \alpha - p_q)^2 \beta} < 0
\]

\[
\frac{\partial(q + \frac{(T_0 - E_r)(\alpha + \beta)}{2(\alpha - p)\beta})}{\partial \beta} = \frac{p_r T_0 - E}{2(\alpha - p_q)\beta} - \frac{(p_r T_0 - E)(\alpha + \beta)}{2(p_r \alpha - p_q)\beta^2}
\]
The expression above is negative when $E^* < T_0$, which is the only time when this cutpoint is relevant.

\[
\frac{\partial (q + \frac{(T_0 - E_r)(\alpha + \beta)}{2(\alpha - p)\beta})}{\partial p_q} = \frac{(p_r T_0 - E)(\alpha + \beta)}{2(p_r \alpha - p_q)^2 \beta} > 0
\]

\[
\frac{\partial (q + \frac{(T_0 - E_r)(\alpha + \beta)}{2(\alpha - p)\beta})}{\partial p_r} = \frac{T_0 (\alpha + \beta)}{2(p_r \alpha - p_q)\beta} - \frac{\alpha (p_r T_0 - E)(\alpha + \beta)}{2(p_r \alpha - p_q)^2 \beta}
\]

The expression above is negative because

\[E_r \geq \frac{pT_0}{\alpha}.
\]

\[
\frac{\partial (q + \frac{(T_0 - E_r)(\alpha + \beta)}{2(\alpha - p)\beta})}{\partial q} = 1
\]

\[
\frac{\partial (\frac{(m + q) + (m - q) p - E_r + T_0}{2^{\frac{2}{\beta}}})}{\partial m} = \frac{1}{2} + \frac{p}{2\beta} > 0
\]

\[
\frac{\partial (\frac{(m + q) + (m - q) p - E_r + T_0}{2^{\frac{2}{\beta}}})}{\partial q} = \frac{1}{2} - \frac{p}{2\beta}.
\]

The expression above is positive only when $\beta > p$.

\[
\frac{\partial (\frac{(m + q) + (m - q) p - E_r + T_0}{2^{\frac{2}{\beta}}})}{\partial \beta} = \frac{E_r - T_0 - (m - q) p}{2 \beta^2}
\]

This expression above is negative only when $E_r < T_0 + p(m - q)$.
\[ \frac{\partial \left( \frac{(m+q) + (m-q)p - E_x + T_0}{2} \right)}{\partial E} = -\frac{1}{p_T 2\beta} < 0 \]

\[ \frac{\partial \left( \frac{(m+q) + (m-q)p - E_x + T_0}{2} \right)}{\partial T_0} = \frac{1}{2\beta} > 0 \]

\[ \frac{\partial \left( \frac{(m+q) + (m-q)p - E_x + T_0}{2} \right)}{\partial p_q} = \frac{(m-q)}{2\beta p_T} > 0 \]

\[ \frac{\partial \left( \frac{(m+q) + (m-q)p - E_x + T_0}{2} \right)}{\partial p_T} = \frac{E - p_q (m-q)}{2 p_q^2 \beta}, \]

which is positive because \( E_x \geq p(m-q) \)

\[ \frac{\partial (q + \frac{\beta E_x + p T_0}{2p \beta})}{\partial q} = 1; \frac{\partial (q + \frac{\beta E_x + p T_0}{2p \beta})}{\partial E} = \frac{1}{2p} > 0; \frac{\partial (q + \frac{\beta E_x + p T_0}{\beta + p})}{\partial T_0} = \frac{1}{2\beta} > 0 \]

\[ \frac{\partial (q + \frac{\beta E_x + p T_0}{2p \beta})}{\partial \beta} = -\frac{T_0}{\beta^2} < 0 \]

\[ \frac{\partial (q + \frac{\beta E_x + p T_0}{2p \beta})}{\partial p_q} = -\frac{E}{p_q^2} > 0 \]

\[ \frac{\partial (q + \frac{\beta E_x + p T_0}{2p \beta})}{\partial p_T} \text{ does not exist} \]

\[ \frac{\partial (q + \frac{E_x - T_0}{\beta + p})}{\partial E} = \frac{1}{p_T \beta + p_q} > 0; \frac{\partial (q + \frac{E_x - T_0}{\beta + p})}{\partial T_0} = -\frac{p_T}{p_T \beta + p_q} < 0 \]
\[
\frac{\partial (q + \frac{E_r - T_0}{\beta + p})}{\partial p_T} = - \frac{T_0}{p_T \beta + p_q} - \frac{E - p_T T_0}{(p_T \beta + p_q)^2} < 0
\]

\[
\frac{\partial (q + \frac{E_r - T_0}{\beta + p})}{\partial p_q} = - \frac{E - p_T T_0}{(p_T \beta + p_q)^2} < 0
\]

\[
\frac{\partial (q + \frac{E_r - T_0}{\beta + p})}{\partial q} = 1; \quad \frac{\partial (q + \frac{E_r - T_0}{\beta + p})}{\partial \beta} = - \frac{E_r - T_0}{(\beta + p)^2} < 0
\]

\[
\frac{\partial (q + \frac{T_0 - E_r}{\alpha - p})}{\partial q} = 1; \quad \frac{\partial (q + \frac{T_0 - E_r}{\alpha - p})}{\partial E} = - \frac{1}{\alpha - p} < 0; \quad \frac{\partial (q + \frac{T_0 - E_r}{\alpha - p})}{\partial T_0} = \frac{1}{\alpha - p} > 0
\]

\[
\frac{\partial (q + \frac{T_0 - E_r}{\alpha - p})}{\partial \alpha} = - \frac{T_0 - E_r}{(\alpha - p)^2} < 0; \quad \frac{\partial (q + \frac{T_0 - E_r}{\alpha - p})}{\partial p_q} = \frac{p_T T_0 - E_r}{(p_T \alpha - p_q)^2} > 0
\]

\[
\frac{\partial (q + \frac{T_0 - E_r}{\alpha - p})}{\partial p_T} = \frac{p_T T_0 - E_r}{(p_T \alpha - p_q)^2}
\]

This expression is positive because \( E_r \geq pT_0 / \alpha \)

\[
\frac{\partial (2\beta c - (\beta - p)q + E_r - T_0)}{\beta + p} = \frac{2\beta}{\beta + p} > 0
\]

\[
\frac{\partial (2\beta c - (\beta - p)q + E_r - T_0)}{\beta + p} = \frac{p}{\beta + p} - \frac{\beta}{\beta + p} > 0.
\]

The expression above is negative when \( \beta > p \).
\[
\frac{\partial}{\partial \beta} \left( \frac{(2\beta)c - (\beta - p)q + E_r - T_0}{\beta + p} \right) = \frac{2c - q}{\beta + p} - \frac{2\beta c - (\beta - p)q + E_r - T_0}{\beta + p}
\]

The expression above is negative when \( c < q + (E_r - p_T T)/(2 p_q) \)

\[
\frac{\partial}{\partial p_q} \left( \frac{(2\beta)c - (\beta - p)q + E_r - T_0}{\beta + p} \right) = \frac{q}{p_T \beta + p_q} - \frac{2\beta c - (\beta - p)q + E_r - T_0}{(p_T \beta + p_q)^2}
\]

The expression above is positive when \( c < q + (p_T T_0 - E)/(2 p_T \beta) \). This case is only relevant when \( c > q \). Therefore the optimal \( x \) will depend on \( c \), such that

\( q < c < q + (p_T T_0 - E)/(2 p_T \beta) \). \( q < c < q + (p_T T_0 - E)/(2 p_T \beta) \) only occurs when

\( E_r < T_0 \). When \( c = q \), optimal \( x \) is equal to \( q + (E^*_r - T_0)/(\beta + p) \). However this cutpoint is only relevant when \( E_r \geq T_0 \). When \( c = q + (p_T T_0 - E)/(2 p_T \beta) \), the optimal \( x = q \), which means no policy change. Thus,

\[
\frac{\partial}{\partial p_T} \left( \frac{(2\beta)c - (\beta - p)q + E_r - T_0}{\beta + p} \right) = \frac{q}{p_T \beta + p_q} - \frac{2\beta c - (\beta - p)q + E_r - T_0}{(p_T \beta + p_q)^2},
\]

which is positive when \( c > q + (p_T T_0 + \beta E)/(2 p_q \beta) = q + (\beta E_r + p T_0)/(2p \beta) \), which means that in relevant situations the FOC is negative

\[
\frac{\partial}{\partial \alpha} \left( \frac{\alpha E_r - p T_0}{\alpha - p} \right) \frac{\alpha}{E} > 0
\]

\[
\frac{\partial}{\partial \alpha} \left( \frac{\alpha E_r - p T_0}{\alpha - p} \right) \frac{p}{T_0} < 0
\]
\[
\frac{\partial (\alpha E_z - pT_0)}{\alpha - p} = \frac{E_r}{\alpha - p} - \frac{\alpha E_z - pT_0}{(\alpha - p)^2} > 0
\]

\[
\frac{\partial (\alpha E_z - pT_0)}{\alpha - p} = \frac{-T_0}{p_T \alpha - p_q} + \frac{\alpha E_z - p_qT_0}{(p_T \alpha - p_q)^2} < 0
\]

\[
\frac{\partial (\alpha E_z - pT_0)}{p_T} = -\frac{\alpha}{(p_T \alpha - p_q)^2} < 0
\]

\[
\frac{\partial (\beta E_z + pT_0)}{\beta + p} = \frac{\beta}{E} > 0
\]

\[
\frac{\partial (\beta E_z + pT_0)}{\beta + p} = \frac{p}{T_0} > 0
\]

\[
\frac{\partial (\beta E_z + pT_0)}{\beta} = \frac{E_r}{\beta + p} - \frac{\beta E_z + pT_0}{(\beta + p)^2} > 0
\]

\[
\frac{\partial (\beta E_z + pT_0)}{p_q} = \frac{T_0}{p_T \beta + p_q} - \frac{\beta E_z + p_qT_0}{(p_T \beta + p_q)^2} < 0
\]

\[
\frac{\partial (\beta E_z + pT_0)}{p_T} = -\frac{\beta}{(p_T \beta + p_q)^2} < 0
\]

\[
\frac{\partial (E - p_q(m - q))}{p_T} > 0
\]
\[ \frac{\partial \left( \frac{E - p_q(m-q)}{p_r} \right)}{m} < 0 \]

\[ \frac{\partial \left( \frac{E - p_q(m-q)}{p_r} \right)}{q} > 0 \]

\[ \frac{\partial \left( \frac{E - p_q(m-q)}{p_r} \right)}{p_q} < 0 \]

\[ \frac{\partial \left( \frac{E - p_q(m-q)}{p_r} \right)}{p_r} < 0 \]

\[ \frac{\partial \left( \frac{\beta E + p_q T_0 - 2p_q \beta (m-q)}{p_r \beta + p_q} \right)}{E} > 0 \]

\[ \frac{\partial \left( \frac{\beta E + p_q T_0 - 2p_q \beta (m-q)}{p_r \beta + p_q} \right)}{T_0} > 0 \]

\[ \frac{\partial \left( \frac{\beta E + p_q T_0 - 2p_q \beta (m-q)}{p_r \beta + p_q} \right)}{m} < 0 \]

\[ \frac{\partial \left( \frac{\beta E + p_q T_0 - 2p_q \beta (m-q)}{p_r \beta + p_q} \right)}{q} > 0 \]
\[
\frac{\partial}{\partial \beta} \left( \frac{\beta E + p_q T_0 - 2 p_q \beta (m - q)}{p_T \beta + p_q} \right) = \frac{E - 2 p_q (m - q)}{p_T \beta + p_q} - \frac{\beta E + p_q T_0 - 2 p_q \beta (m - q)}{(p_T \beta + p_q)^2} > 0, \text{ if } \frac{c}{q} < \frac{E^* - T_0}{2 p},
\]

\[
\frac{\partial}{\partial \beta} \left( \frac{\beta E + p_q T_0 - 2 p_q \beta (m - q)}{p_T \beta + p_q} \right) < 0
\]

\[
\frac{\partial}{\partial \beta} \left( \frac{\beta E + p_q T_0 - 2 p_q \beta (c - q)}{p_T \beta + p_q} \right) = \frac{T_0 - 2 \beta (c - q)}{p_T \beta + p_q} - \frac{\beta E + p_q T_0 - 2 p_q \beta (c - q)}{(p_T \beta + p_q)^2},
\]

The expression above is positive if \( c < q + (T_0 - E^*)/(2 \beta) \), which is similar to the FOC of the policy location with respect to \( p_q \), which means that

\[
\frac{\partial}{\partial \beta} \left( \frac{\beta E + p_q T_0 - 2 p_q \beta (c - q)}{p_T \beta + p_q} \right) < 0.
\]
APPENDIX E

Construction of the Suitability Score Variable.

Identifying reports analyzing consequences of challenged provisions is not an easy task. If the Court opinion cites a committee report published during the same Congress as the enacted provision and Lexis-Nexis Congressional Universe service includes this report into the legislative history of the law in question, this report is used for computing the suitability ratio. If the Court’s opinion or the lower court’s opinion explicitly states that a particular provision was introduced on the floor but was never a part of a committee report in either chamber, the provision receives a score of 0. The next step involves examining all committee reports (for the same Congress) through Lexis-Nexis Congressional Universe, which allows doing so beginning with the 91st Congress. If a law has no committee reports in both chambers, its provisions receive a suitability score of 0. If a law has an associated committee report, the report’s description is examined for the presence of analysis broadly dealing with the provision in question. If the description does not indicate any research on provision in question, the whole report is examined. If it does not deal with the issue in question, the provision receives a suitability score of 0. If there are more than one reports associated with a particular provision, the report that most closely deals with the provision in question is
chosen. In situations when the bill is referred to multiple committees, the involved committees normally produce a single report (split in parts). In these situations, the total number of pages and the total number of provisions are used. Information stored in the published volumes of Congressional Record offers data on committee reports before the 91st Congress. Congressional Information Service (CIS) Serial Set microphiche contains information on committee reports published prior to the 91st Congress.

Each report contains a description of the bill’s purpose, and it also indicates the number of pages. The following strategy guides computing the number of provisions analyzed by each report:

1. Examine the description for the explicitly listed specific/principal provisions and count them.
2. If the information above is not available, count the number of titles outlined by the report. The assumption is that each title is responsible for a different issue.
3. If the information above is not available, examine the text of the purpose of the bill outlined in the report and count the number of separate objectives.

Whenever a report deals with budget or appropriations, each different agency is counted as a separate provision. Whenever a report description mentions making changes to existing laws, each change is counted as a separate provision (normally a report description does not mention changes of purely technical/grammatical nature). The variable suitability ratio will be referred to as Suitability in the discussion below. According to the model, the larger is suitability score associated with a particular provision, the lower is the likelihood of holding the provision unconstitutional.
Cross-Classified Random Effects Selection Probit

Assume that the two latent variables and the corresponding error structure satisfy the following assumptions:

\[ y^{***}_{1,k,r,j} = x_{1,k,r,j} \beta_1 + \epsilon_{1,k,r,j} + u_{1,k} + v_{1,r}, \quad j, r, k; \quad y^{***}_{1,k,r,j} - y^*_{1,k,r,j} = u_{1,k} + v_{1,r} \]

\[ y^{***}_{1,k,r,j} = 1 \text{ if } y^{***}_{1,k,r,j} \geq 0, \text{ and } y^{***}_{1,k,r,j} = 0 \text{ otherwise} \]

\[ y^{***}_{2,k,r,j} = x_{1,k,r,j} \beta_1 + \epsilon_{1,k,r,j} + u_{2,k} + v_{2,r}, \quad j, r, k; \quad y^{***}_{2,k,r,j} - y^*_{2,k,r,j} = u_{2,k} + v_{2,r} \]

\[ y^{***}_{2,k,r,j} = 1 \text{ if } y^{***}_{2,k,r,j} \geq 0, \text{ and } y^{***}_{2,k,r,j} = 0 \text{ otherwise} \]

\[ \left[ \begin{array}{c} \epsilon_{1,k,r,j} \\ \epsilon_{2,k,r,j} \end{array} \right] \sim N \left( \left[ \begin{array}{c} 0 \\ 0 \end{array} \right], \left[ \begin{array}{cc} 1 & \rho \\ \rho & 1 \end{array} \right] \right), \quad j, r, k \]

\[ u_s \sim N(0, \sigma_{u,s}^2); \quad w_s \sim N(0, \sigma_{w,s}^2) \]

\[ E(u_{s,k}, \epsilon_{s,k,r,j} | x_s) = 0; \quad E(w_{s,r}, \epsilon_{s,k,r,j} | x_s) = 0 \]

\[ E(u_{1,k}, u_{2,k}) = 0; \quad E(w_{1,r}, w_{2,r}) = 0; \quad E(u_{s,k}, w_{s,r}) = 0 \]

\[ Corr(u_{s,k} + w_{s,r} + \epsilon_{s,k,r,j}, u_{s,k} + w_{s,r} + \epsilon_{s,k,r,j} | x_s) = \frac{(\sigma_{u,s}^2 + \sigma_{w,s}^2)}{1 + \sigma_{u,s}^2 + \sigma_{w,s}^2}. \]

There are two types of clusters, \( k \) and \( r \). It is possible that they overlap, which creates a cross classified random effect structure, that is, there is a group of cases that
share the realizations of $u_s$ and $w_s$. Assume that there are $K$ clusters that share $u_s$ and $R$ clusters that share $w_s$. To simplify the exposition, assume that in every cluster $k$, there are observations that belong to one, and only one, cluster $r$. That is, suppose cluster $k$ consists of 16 cases that share the same $u_s$, and that $R=4$, then there are some of these 16 observations that fall into cluster $r=1$, while other observations from the same cluster $k$ belong to cluster $r=2$, $r=3$, and $r=4$ that have the same realization of $w_s$. In other words, there are $K \times R$ clusters that share the same realizations of $u_s$ and $w_s$. Further, assume that each of these $K \times R$ clusters consists of $J$ observations.

Then the likelihood of an individual case becomes

$$L_{k,r,j} = \left( \Pr(y_{1,k,r,j}^* + u_{1,k} + w_{1,r} \geq 0, y_{2,k,r,j}^* + u_{2,k} + w_{2,r} \geq 0) \right)^{y_{1,k,r,j}^*,y_{2,k,r,j}^*} \times \left( \Pr(y_{2,k,r,j}^* + u_{1,k} + w_{1,r} < 0, y_{2,k,r,j}^* + u_{2,k} + w_{2,r} \geq 0) \right)^{0-y_{2,k,r,j}^*,y_{2,k,r,j}^*} \times \left( \Pr(y_{2,k,r,j}^* + u_{2,k} + w_{2,r} < 0) \right)^{0-y_{2,k,r,j}^*,y_{2,k,r,j}^*} = Q(u_{1,k}, w_{1,r}, u_{2,k}, w_{2,r})$$

The complete data likelihood is the product of individual likelihoods:

$$L = \prod_{k=1}^{K} \prod_{r=1}^{R} \prod_{j=1}^{J} L_{k,r,j} = \prod_{k=1}^{K} \prod_{r=1}^{R} Q(u_{1,k}, w_{1,r}, u_{2,k}, w_{2,r})$$

The expression above suffers from the presence of the unobserved random effects that need to be integrated out over the entire real line. Therefore,

$$L = \prod_{k=1}^{K} \prod_{r=1}^{R} \int \int \int Q(a,b,c,g) \phi(a) \phi(b) \phi(c) \phi(g) da \, db \, dc \, dg$$

Due to the independence between $u_s$ and $w_s$, the expression above could be rewritten as

$$L = \int \int \prod_{k=1}^{K} \left[ \int \int R(a,c,b,g | b,g) \phi(a) \phi(c) da \, dc \right] \phi(b) \phi(g) db \, dg$$
A two-dimensional integration is much easier to perform than a four-dimensional integration. The process of integration could be simulated by creating two simulation loops, internal and external. For each external iteration, there are M internal iterations. The external iteration draws values of $w_{s_e}$, and the internal iterations draw values of $u_{s_i}$.

This method offers a simulated likelihood. Taking a natural log of this likelihood allows regular maximum likelihood estimation. Alternatively, one may integrate out the random effects and estimate the statistical model by resorting to the Markov Chains Monte Carlo method.
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