

AN ANALYSIS OF ECONOMIC EFFICIENCY IN PREDICTING
LEGISLATIVE VOTING BEYOND A TRADITIONAL
LIBERAL-CONSERVATIVE SPECTRUM

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Benjamin Bryan Boozer, Jr.

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DISSERTATION ABSTRACT
AN ANALYSIS OF ECONOMIC EFFICIENCY IN PREDICTING
LEGISLATIVE VOTING BEYOND A TRADITIONAL
LIBERAL-CONSERVATIVE SPECTRUM

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Self-interest and ideology are important explanatory variables for human behavior and are the two primary determinants of legislative decision-making. Self-interest usually pertains to a maximization of financial resources and is closely related to the concept of rationality. Utility maximization is a component of self-interest and individuals cannot be expected to pursue public interests unless the individual's self-interest is met.

Ideology reflects deep beliefs about a person and how individual satisfaction derives from improving the lives of others or promoting ideological positions. Ideology is defined as an action oriented model of people and society. Political ideologies depict the preferred states of the world and are often illustrated through a liberal-conservative

spectrum. Liberal positions generally espouse more government intervention and equitable resource distribution. Conservative positions, on the other hand, are less likely to embrace the need for government policies and are more concerned about costs associated with such intervention.

Measuring legislative decision-making through a liberal-conservative spectrum includes characteristics of a legislator's behavior but does not include results of those actions. Through development of an economic efficiency index (E-score) that assigns numerical values to legislative voting, public benefits of a public policy decision are measured vis-à-vis public costs. Higher E-scores are consistent with legislative behavior promoting greater net public policy benefits, while lower E-scores are associated with relatively lower net public policy benefits.

The model utilizes two dependent variables: support for increasing the federal minimum wage (an economically inefficient policy) and support for medical malpractice reform (an economically efficient policy). Roll call votes of members of the U.S. House of Representatives and U.S. Senate are analyzed from the 99th through 108th Congresses. A multivariate analysis of the model finds that liberal-conservative ideology is a better predictor of legislative behavior than economic efficiency.

This study finds that the potential use of economic efficiency is numerous in public policy dialogue and analysis for supplementing liberal-conservative measures with objective criterion for understanding behavior. Application of an E-score transcends legislative voting at the federal level to include state and local government analysis of public policy solutions to private sector needs.

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CHAPTER ONE
AN ANALYSIS OF ECONOMIC EFFICIENCY IN PREDICTING
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INTRODUCTION

This dissertation tests whether a measure of economic efficiency known as the E-score is a better predictor of legislative voting than traditional explanatory variables such as ideology (liberal-conservative) and self-interest. This chapter introduces the problem of using measures of liberalism and conservatism in analyzing decision-making ideology and provides an overview of issues encountered in studying legislative voting. Based on this overview the research question is developed. The use of this research question portends the importance of economic efficiency as a variable in this study, and criteria for objective development of an E-score are listed. The theoretical focus of the study and research methodology employed in analyzing hypotheses in the model are introduced. The chapter concludes with an overview of chapters to follow.

Overview of Subject

Ideology and self-interest are well-established measures of individual decision-making. The variables reflect characteristics of the individual making the decision and not the consequences of such decisions. In legislative voting the consequences of

decisions are paramount to that decision serving the interests of the constituency that a legislator represents. Considering the political consequences of each decision is best illustrated through economic efficiency, a benefit-cost comparison of a legislator supporting legislation that expands social benefit. Economic efficiency is measured through an E-score. The extent that social benefit exceeds social cost considers the consequences of the legislator's voting action that affects his or her constituency.

Economic efficiency as the criterion for measuring social benefit-cost of legislative voting differs from administrative processes of efficiency pertaining to the method and means of decision making. Individuals are rational actors and each decision reflects such rationality. With consequences of socially beneficial decision making a focus of this study, how changes in government and the effect of political parties influence decision making are explored. This study considers ten Congresses (99th-108th) in order to evaluate a series of changes in leadership and majority – minority party relationships that influence the individual legislator as part of a larger institution.

Ideology and Self-interest

Ideology and self-interest are important explanatory variables for human behavior. Self-interest as a general explanation of human behavior has a long intellectual basis. In economics self-interest usually pertains to a maximization of financial resources and is closely related to the concept of rationality (Arrow, 1963; Buchanan & Tullock, 1962; and Downs, 1957). Buchanan (1972) argues that utility maximization is a component of self-interest. Individuals behave differently as part of group interaction (Olson, 1965; Truman, 1960), but cannot be expected to pursue public interests unless

the individual's self-interest is met (Ostrom, 1989). Direct and political action committee (PAC) contributions are two areas where donations to legislators depict the effect of self-interests on voting decisions.

Ideology, on the other hand, reflects deep-seated beliefs about a person. Kalt and Zupan (1984, p. 281) identify two components of ideology. First, the successful promotion of a deeply held belief may give one the satisfaction of improving the lives of others. Second, even if the pursuit of ideology has no effect on another person, satisfaction is possible from promoting these ideological positions. Grafton and Permaloff (2005b, p. 173) define ideology as an "action oriented model of people and society." They argue that political ideologies are "more or less consistent sets of normative statements as to the best or preferred states of the world...about how government can best serve their proponents' conceptions of the public interest" (p. 68) and identify pure ideology, if it actually exists, as "the manifestation of altruism in the public sector" (p. 69). These best or preferred states of the world often are depicted through a liberal-conservative spectrum.¹ Liberal positions generally espouse more government intervention and equitable distribution of resources. Conservative positions, on the other hand, are less likely to embrace the need for government policies and are more concerned about costs associated with such intervention (Ostrom & Ostrom, 1971). Policy decisions that are made along a liberal-conservative spectrum illustrate attributes of the legislator and how those individual preferences relate to public policy decisions.

¹ Liberal-conservative terminology represents numerous areas of ideological reasoning that extend beyond the discussion offered here. For a more complete discussion of this concept, refer to Van Dyke (1995).

To better understand political events, adding or substituting ideology and self-interest produces interesting results (Uslaner, 1999; Levitt, 1996, Nelson & Silberberg, 1987; and Kalt & Zupan, 1984). For Alesina and Rosenthal (1995) ideology is a means to self-interested ends. Ideology and self-interest are action oriented, but important differences are present. Self-interest is not concerned with interrelationships between individuals and society, but start and end with policy decisions that benefit or hurt the self-interested person or those that are close to that person (Downs, 1998, p. 19; Buchanan, 1972, p. 19).

In terms of ideology, individual behavior and political decisions are often studied along a liberal-conservative continuum. Voting by legislators in support of public policy positions is usually defined along this spectrum. Liberal-conservative ideological positions describe beliefs held by individuals who make legislative decisions. Those beliefs, however, better identify characteristics of a legislator and not the consequence or impact of the voting decision, a potential problem with liberal-conservative measures.

Americans for Democratic Action (ADA) is liberal interest group. American Conservative Union (ACU) is a conservative interest group. ADA and ACU each measure liberal-conservative effects through an index of roll call votes made by legislators in the House and Senate. Each score assigned to a legislator is between 0 and 100. For each index – ADA and ACU – higher scores represent higher degrees of political liberalism and political conservatism, respectively. Measuring the ideology of a legislator through ADA or ACU type scores of liberalism and conservatism identifies propensities of a legislator to support liberal or conservative policy positions, but does not consider policy effects through policy outcomes. A liberal-conservative spectrum

based on the use of interest group scores illustrates the extent to which a legislator embraces policy positions consistent with the interest group's ideological position. Such a liberal-conservative spectrum does not reflect the aggregate consequences of policy making, the expected result of a policy on social welfare. A consideration of the extent that a legislator espouses policy decisions that maximize social benefits is important in the policy formulation process.

Political Parties

Political parties also impact the behavior of legislators. The collective impact of party is tied to the level of party unity and the relationships between a legislator's decision-making and political positions of the political party to which the legislator belongs. Party unity is a reflection of how closely legislators espouse the political positions of the party. The two major political parties in American government are the Democratic Party and Republican Party. In terms of ideology, Democrats are generally more liberal and Republicans are more conservative. Government is unified if House, Senate, and Executive Branch are all controlled by the same political party; otherwise government is nonunified or divided. Unified government should not be confused with party unity, which describes relationships between legislators and their party organization within the legislative body. Differences exist in party influences in the House as opposed to the Senate, with most differences revolving around the institutional effects associated with each chamber.

For purposes of this dissertation, united or divided government is considered through the public policy effects of such relationships. Coleman (1999) argues that

unified government is more productive as evidenced by the passage of more significant public policies. Unified government offers more incentives to cooperate and is more responsive to the mood of the public (p. 821). To the extent that government is unified or divided might have an impact on legislative shirking by the legislator of those interests of his or her constituency and the self-interests of the legislator. Of particular interest to this study is whether changes in party control affect not only policy formulation but also economic efficiency as a variable that maximizes social benefits.

Mayhew (1991) argues that political parties in America are weak and their role is constant regardless of whether government is unified or divided. According to Burns, the structure of Senate rules that require a supermajority to stop filibusters or override vetoes makes party control of that institution especially dubious if party control is less than the proportions needed to direct legislation (as cited in Coleman, 1999, p. 824). Nevertheless, presidents oppose significant legislation more often and much more important legislation fails to pass under divided government as opposed to unified government (Edwards, Barrett, & Peake, 1997).

Individual Behavior and Political Party Influence

Snyder and Groseclose (2000, p. 193) find that political party affiliation is one of the best predictors of voting behavior across both House and Senate. They state: "Party influence (reward or punishment tied to a legislator's vote as a result of direct pressure applied by the political party) appears more frequently on certain type of procedural votes...than on amendments and final passage" (p. 194). Shepsle argues that self-interest benefits are afforded to legislators who vote with party to obtain coveted committee

assignments or endorse party leadership (as cited in Strattmann, 2000, p. 666). Rational individuals seek these assignments to support their self-interests.

Fiorina (2005, p. 171) explains that until the 1980s parties were motivated to win elections because of values attached to the job and tangible benefits of holding office. Party organizations that once were dominated through patronage are today increasingly identified with training and supporting strong candidates at the local levels. Much of the basis for the nationalization of local issues resulting from the 1994 congressional elections is based on the premise of associating a candidate with a party leader or party issue. Republicans assumed control of the House of Representatives for the first time since the 1950s and nationalized local issues by offering the voters a Contract with America that promised specific legislative proposals would be passed in the first 100 days of the new House. The rise of issue advocates parallels this trend. Coalitions of individuals form groups and espouse positions on issues across those groups and share particular interests. According to Fiorina (2005), “Incumbents today do not find it as easy to separate themselves from party leaders, party images, and party performance as did incumbents twenty years ago” (pp. 170-171). Party influence links individual behavior of a legislator with national issues that define party activity (Snyder & Groseclose, 2000).

Through the effects of party influences on the operation of Congress, efficiency is a function of a legislator to formulate public policy to address state or local concerns when the imagery of party positions and issues is tied to national party leaders. With party influence efficiency is defined through the organization of Congress and the collective responsibility of its members. Values associated with representativeness that

exemplified the legislative branch in the early 1970s were later displaced with arguments for efficiency and coherence to combat macroeconomic issues such as the energy crisis and inflation. Organizational reforms associated with Republican control of Congress in the 1990s mirror nationalization trends and increases in efficiency.

Lack of boundaries between Congress as an institution and an environment consisting of issue advocates and interest groups exacerbate collective responsibilities of congressional members (Fiorina, 2005, pp. 175-177). Members of Congress may be influenced more by induced preferences from forces in the environment than party effects within the institution (p. 174). According to Aldrich and Rohde, and Sinclair, the argument that political parties through institutional paths explain legislative decision-making appears to hold merit, nevertheless (as cited in Fiorina, 2005, pp. 172-173). Efficiency is a product of numerous constituencies within a legislative district building winning coalitions with the political party. The effect of party is a good measure of preferences. Partisan influences shape a legislator's decision making and bring efficiency into question.

Efficiency in Government

The concept of efficiency has a long lineage when applied to government activity. While this dissertation is concerned with public policy formulation maximizing net social benefits available to a constituency, considering other definitions is a necessary basis for this argument. Efficiency until the mid twentieth century focused almost exclusively on process and technique to find a one best way, but has evolved since that time to include rational, self-interests of individuals. According to Rainey and

Dimock, definitions of efficiency vary from lowest cost production and allocation to larger ideological roles of what can be accomplished through ideological positions of social initiatives and reforms (cited in White, 1999, p. 8). Ideological roles of efficiency are an illustration of the importance of values in decision-making. “Max Weber, Frederick Taylor, Henri Fayol, Frank Goodnow, and Woodrow Wilson are among those reinforcing the idea of efficiency as a central instrumental value for the public administrator” (White, 1999, p. 8).

Definitions of efficiency can be grouped into four categories. Each definition overlaps to some extent, but a theme appears to be that individual choices play an important role in the use of efficiency to explain a phenomenon. Ideologies and self-interests shape individual behavior, but efficiency can have a role in the process of not only the task but also the outcome. That is, efficiency represents more than a tool of administration and encompasses ideologies and values. Efficient policy outcomes that maximize social benefits are based on the values associated with this end. Definitions of efficiency are as follows.

1. Efficiency is an administrative tool within a bureaucratic structure concerned with best process or procedure
2. Efficiency is an ideology where values are not separate from process and motivation
3. Efficiency is a rational pursuit of goals by self-interested individuals to maximize marginal utility of the choices available to those individuals
4. Efficiency can be expressed as economic efficiency or a maximization of net social benefits from public policy formulation and implementation

Efficiency as an Administrative Tool

Efficiency in the early 20th century considered procedure and the best way of accomplishing a task. Taylor and Fayol define efficiency through general administrative techniques in the private sector that can be applied to government. To Taylor, efficiency is a method by which the duty of management structures a production process that maximizes interaction between worker and environment. Fayol argues that techniques to improve administration developed as a result of the control needed to produce efficient results (as cited Parsons, 1995, pp. 313-314). Taylor places the responsibility to devise an efficient work environment on the shoulders of management. He argues that misguided attempts by management to structure work environments force workers to “soldier” to produce an output of goods (Fry, 1989, p. 52). To soldier refers to the relationship between a worker and the arrangement of tasks necessary to perform a job. Management does not devise a best method of production and workers must perform their jobs without benefit of management direction. Taylor argues that management’s failure to design workplace performance is a primary cause of inefficiency. Organizations should emulate machines, where small tasks are structured and individuals are motivated (as cited in Parsons, 1995, p. 313). The manner by which workers perform jobs and incentives tied to wages to motivate workers are integral factors that define efficiency.

From the study of these relationships between worker and the production process, efficiency becomes a tool of administration. Management controls the production process to devise the best method that maximizes output. Mosher finds that this era embraced efficiency as a practical and intellectual concern guided by principles

(as cited in White, 1999, p. 10). Decisions are made without concern for organizational or individual values that shape behavior. Associations between workers and management follow strict adherence to procedure for doing a job with management setting the standards that workers follow.

Bureaucratic Efficiency

The organizational structure of a workplace is an important element in creating the controls necessary for managing workers and enhancing production. Bureaucratic organizations are a frequent unit of analysis to illustrate these effects. Bureaucracy is a hierarchical organizational structure governed by rules and well-defined relationships within the organization. “Weber defined bureaucracy as the most rational and efficient organization devised by man” (White, 1999, p. 9), where the virtues of efficiency exist within unity and conformity of the bureaucratic structure. As an administrative tool, bureaucratic efficiency considers maximization of effort in producing an output. Weber correlates the growth of an industrialized society with a search for more rational forms of organization within business, industry, and government (as cited in Parsons, 1995, p. 17). Control of individuals through authority is a primary component in Weber’s argument for a bureaucratic structure. As cited in Parsons (1995), Weber identifies the most rational form of bureaucracy as an “ideal-type” (p. 31) bureaucracy characterized by the “systematic and deliberate adjustment of economic means” (p. 24) through a price system. The primary effect of capitalism is its ability to disseminate the pursuit of rationality manifested in a bureaucracy. Laws associated with legal precedent and rules are pre-eminent in a capitalist society and provide a stable basis for decision-making

(Parsons, 1995, p. 272). The stability and reliability of a bureaucracy offer a foundation upon which rationality produces an efficient output.

Bureaucratic efficiency is a function of rules that govern behavior and controls placed on individuals within the bureaucratic structure. Precision and continuity of a bureaucracy correlate with market ethics, and the introduction of rationality is paramount to capitalism. Taylor argues that improvements in efficiency are actually a means to social reforms (Fry, 1989, pp. 47-48), evidenced by changes in the theoretical role of efficiency that paralleled social legislation in the 1930s (White, 1999, p. 9). One “must consider the extent to which a decision has been the outcome of rational processes” (Parsons, 1995, p. 273) to prevent bureaucracy from exceeding its functions. The virtues of a well-defined organizational structure producing efficiently emanate from a legal basis and rationality defines individual actions shaped by self-interests. “Bureaucracy is the means for achieving rationally ordered societal action” (Fry, 1989, p. 37), producing outcomes that are not happenstance but predictable and unambiguous.

Weber considers bureaucracy and capitalism to be mutually supportive social structures (as cited in Fry, 1989, p. 33). His point is that laws and controls are necessary components to structure relationships among individuals and create predictable market exchanges. Controlling the actions of others is difficult when rationality is introduced. An argument can be made that bureaucratic rules that characterize the modern state usurp individual freedoms rather than promote efficiency. Greater specialization of activities diminishes personal freedom and individual choice within organizations. An efficient organization offers the structure necessary to expedite decision-making and

control individuals from the top, but values and motivations that guide individual behavior are discounted.

The same rules that introduce impersonality into worker relationships form a barrier around effective communication within organizations. Robert Merton argues that a paradox exists between the impersonal rules of a bureaucratic organization and greater efficiency and rationality (as cited in Fry, 1989). Problems arise as reliability and conformity become exaggerated. Displacement of goals through adherence to formalized procedures shifts objectives to the process of conforming to rules rather than the outcome resulting from an application of the rules.

Efficiency as a Value

Economic despair associated with the Great Depression brought into question many of the principles that linked public policy making and economics to management techniques and individual ideology. How issues are addressed and if efficiency should be a standard that drives decision-making are brought into question. Strict definitions of efficiency as narrow processes associated with process gradually evolved to include broad associations of needs of an organization and individual. As cited in Parsons (1995, p. 314), Barnard finds that humans have a mix of emotions and differing roles and goals. Conflicts occur between individuals in an organization and the role of leadership is to promote cooperation between individuals. Managing conflict introduces the effect of values in shaping individual behavior and fostering human motivation.

An examination of the ideological role of efficiency came later in the twentieth century and became part of cost-benefit analyses at federal, state, and local levels of

government (White, 1999). Including an ideological component for efficiency is an argument that efficiency is a value and whether one espouses efficient processes indicates that an organizational environment is not value free. Efficiency as measured through policy costs and benefits should not be confused with the classical expression of one best way and technique. Rather, efficiency in terms of cost-benefit introduces an ideological correlation with efficiency to include maximization of pecuniary, aggregate benefits. Weimer and Vining (2005, p. 338) explain that monetization allows for analysis into common units of currency (dollars) for evaluation of public policy effects through positive or negative efficiency impacts. Efficiency is thus not merely an administrative process but also a component of expanding policy goals and setting policy objectives.

In government choosing policy positions based on measures of costs and benefits is an argument that a legislator's values guide the decision making process. Simon argues that ideology may be separated from efficiency through values to illustrate the impact. According to Simon, two kinds of science should be developed: "a practical science with the objective of developing more efficient administrative procedures, and a pure science, which is to examine the basic processes of human behavior as they relate to decision making" (as cited in Fry, 1989, p. 15). With values the emphasis on the organizational environment is gradually replaced by individual decisions (Fry, 1989, p. 184). Individual decisions consist of data input along decision premises that are pieces of a decision made at different points in time "and involve the process of alerting, exploring, and analyzing, which precede the act of choice" (p. 185).

Using a fact-value dichotomy Simon argues that values are an essential criterion in decision-making. Efficiency is represented by facts as a primary measurement tool; that is efficiency is presented as a linear process to produce the best output with the least effort. Values introduce qualitative, normative issues into management theory that was heretofore unscientific (White, 1999, p. 15). Values and ideologies strongly correlate. As individuals make decisions, each decision consists of numerous decision premises where values shape each decision and provide direction for the next decision. Efficiency is a process, while values are the basis for policy goals. Efficient decisions might produce results with the least effort expended, but “(v)alue premises are ethical statements about what should be done” (Fry, 1989, p. 186).

Self-Interest Contrasted to Equity

Contrasting self-interest and equity is important to make a point that efficiency and equity are both values, but with important differences (LeGrand, 1990). Efficiency as a process correlates with rationality (self-interest) in describing legislative decision-making. Equity is a policy objective often cited in the economics literature and in welfare economics in particular (Hammond, 1976; Boadway, 1976). Equity is typically described through fairness and justness, and exhibits many of the characteristics of democracy. As an equitable policy goal seeks to offer policy solutions with distributional aspects, the values of the legislator form a basis for how the legislator envisions the purpose of government and the role of lawmaking to achieve just ends. Contrasting policy decisions through efficient versus equitable objectives focuses on

differing outcomes. A rational legislator chooses policies based on calculating self-interests.

Rationality and the correlation of rationality to self-interest are factors in a legislators' support of policies. According to Dimock, an efficient vote in support of a policy must address the "relation between what is accomplished and what might be accomplished" (as cited in White, 1999, p. 8). Standards of efficiency often include speed, safest, least expensive and numerous others. Rainey finds that efficiency is a function of resources expended and the amount of work produced (as cited in White, 1999, p. 8) and contrasts with equity.

Policy decisions that are equitable describe a distribution of goods and services across a spectrum. Seidman makes a point that policy tradeoffs with equity exist in studies of efficiency (as cited in Scholz & Wood, 1999). Although not necessarily mutually exclusive, embracing either efficiency or equity as a policy objective produces differing policy outcomes. Values are a component of choosing either objective. Synergies between efficiency and equity are possible such that economic growth, for example, does not necessarily increase inequalities. "An improvement in efficiency can accompany more equal distributions of wealth, due to its felicitous effects on effort and educational investment choices" (Putterman, Roemer, & Silvestre, 1998, pp. 866-867). Mintzberg argues that efficiency is heavily dependent on the measurable aspects of benefit, cost, and process (as cited in White, 1999, p. 19). Equity is concerned with distributive effects of policies.

Rational Actor Model

Individuals are guided by self-interests. Rational decision-making is a product of individual self-interests. Formal structures provide rules necessary for execution of tasks in the workplace. Individual values are a component of interrelationships within organizations that are both formal and informal. Applying efficiency through individual self-interests considers how rules that guide tasks affect how one performs those tasks. Human behavior is a function of motivation and relationships between superiors and subordinates in organizations

While the ideological role of efficiency has become an impetus for benefit-cost analysis in government, the rational actor model offers clear justification for self-interest as a motive for behavior. The model is a synonym for public choice economics. Market economies are the logic behind public choice theory. According to public choice theory a rational individual pursues goals in the most efficient means possible. These goals are self-interests (Lindblom, 1959; Downs, 1957, pp. 3-4). Individuals are actors in society and have consistent preferences that guide behavior in the pursuit of self-interested goals. When an individual has a choice among alternatives, he or she will choose that alternative which yields the highest expected marginal utility; that is a rational person will make a conscious choice to choose a goal that maximizes the utility of choices that are available (Monroe, 1991).

The public choice school is concerned with “how could this self interest be constrained and directed to more efficient and effective choices in the interests of taxpayers rather than to ever-bigger budgets and more government” (Parsons, 1995, p. 313). Individual choices that maximize self-interests of the decision maker may not

maximize budgetary resources. Considerations of selfishness or selflessness (Arrow, 1963) are part of the answer but do not fully explain rationality. Downs argues that motivations of individual officials in a bureaucracy are diverse and produce a typology of bureaucrat (as cited in Parsons, 1995, p. 309). Downs labels individual officials across a life cycle spectrum from pure self-interest to a sense of public interest. Bureaus experience a similar life cycle of growth but maximize self-interest by growing bigger. The self-interests that motivate an official are a function of the role of the official in the organization. The official may be motivated by power, prestige and money or by a commitment to work performance and loyalty to the larger organization. Maximizing resources flowing to the bureaucracy and increasing the power of the bureaucrat to manage those resources illustrate motivating factors of those officials that are at a higher stage in the bureaucratic life cycle (as cited in Parson, 1995, pp. 309-310).

Simon, Thompson, and Smithburg argue that efficiency and rationality are synonymous (as cited in White, 1999, p. 9). Applying the effect of the relationship between an individual and society shows the influence of self-interests and ideology that motivate each individual. Fulfilling individual motives is a prerequisite to achieving organizational efficiency (p. 11). Simon states: “Although each individual seeks efficiency in terms of his or her values, those values should be the product of an organizational role, and, to the extent that the organization has been successful in establishing objectives, efficiency will be measured to the goals of the management group” (as cited in Fry, 1999, pp. 14-15). A management group is made up of individuals with self-interests who make decisions consistent with the values and interests of the organization.

Differences in motivations produce differences in the bureaucrat's commitment to personal and organizational goals and commitment to serving his or her role in a bureaucracy. Cooperative relationships between organizations and individuals are necessary to maintain equilibrium between the organization and the individual within the organization (White, 1999, p. 11). Barnard says a relationship can be informal or formal (as cited in Fry, 1989, pp. 161-164) or, as Follett argues, a "reciprocal relationship between the individual and society in which the individual both shapes society and is shaped by it" (p. 101). Conflict between individual self-interest and the organizational interests of the bureaucracy to grow bigger is a concern. Supervision of bureaucrats is necessary to control self-interests if larger public interests are threatened (Parsons, 1995, p. 310).

Public interests are those interests served by the bureau and may not be analogous to each bureaucrat's self-interest. Rationality within an organizational setting is one example of individual motivation and decision-making. Capture is said to occur when bureaucrats are supposed to be acting in the public's interest fail to comply and rather act in their own self-interest (Stigler, 1971). For the purposes of this dissertation self-interests that influence legislators provide insight into legislative decision-making.

Roll Call Voting

In the legislative arena roll call voting is an illustration of self-interests of a legislator. The self-interests of an individual are often expressed in economic terms as a derivation of choice. Rationality is a key component in analyzing roll call voting in Congress. Self-interest and rationality are tied to efficiency in explaining legislator

behavior when casting roll call votes. A roll call vote guarantees that every member's vote is recorded. According to Krehbeil, roll call voting provides a forum for considerations of why a legislator is in agreement or disagreement with policy proposals (as cited in Snyder & Groseclose, 2000, p. 193). To the extent that factors affect a legislator's behavior, efficiency of Congress is impacted.

A roll call vote represents a record of a legislator's behavior at any point in the legislative process. The importance of recording the vote is particularly significant when that vote is a record of that legislators' action on a particular policy proposal. Rational legislators are self-interested legislators. Support or lack of support for a public policy could impact reelection of the legislator, arguably the strongest self-interest indicator (Downs, 1957); congressional district or state self-interest and those of the legislator; and relationships between constituent characteristics and decision making by a legislator. A constituency has a specific set of concerns that a legislator must address as an agent of those constituents (Moe, 1984). Supporting public policies that increase a legislator's personal wealth is another factor that affects his or her behavior (Caro, 2002). From the self-interest perspective of rationality, support for policies that are in the public's interest are functions of the economic interests of a constituency and ideological predilections of a legislator (Kalt & Zupan, 1984, p. 280).

Economic Efficiency as Social Benefits Maximization

Economic efficiency as a maximization of net social benefits differs from efficiency as a process in reaching public policy objectives. While efficiency as a process considers rational self-interests, economic efficiency is a component of ideology

that addresses the aggregate effects of decision-making. In short, economic efficiency is maximization of aggregate social benefits of policy decisions to aggregate social costs. Efficiency as a motivator of self-interest is not concerned with the societal effect of policy making, but rather the steps in the process of policy making. This is an important distinction between an application of efficiency as self-interest and economic efficiency tied to maximization of social benefits.

Efficiency of self-interest focuses on individual human motivation as a component of a decision rather than outcome of a decision. Human motivation ties to self-interest efficiency and outcomes tie to efficiency as social benefits maximization. Waldo contends that efficient decision-making is a process that maximizes resources and “leads to a responsive and responsible government better able to serve the needs of the people” (as cited in White, 1999, p. 11). Waldo’s argument is that maximizing resources through emphasis on efficient techniques correlates with maximizing social benefits. Decisions are a function of the organizational environment and individual motives that guide decision-making.

White’s (1999, p. 18) argument that “public management is the study of how to manage government, whereas public policy focuses on why” further differentiates efficiency as a process governed by individual self-interests from economic efficiency that focuses on the how and why of public policy initiatives. Economic efficiency strives for definite policy outcomes or ends. According to Harmon and Mayer, efficiency in government decision processes is “relevant only when the ends of action (social benefit maximization, for example) are known in advance” (as cited in White, 1999, p. 22). Rational individuals make decisions by “judging how quickly and how cheaply a

particular end is achieved, but it cannot decide what the end should be” (White, 1999, p. 22). Maximization of net social benefits is a policy end that an economically efficient decision maker seeks.

Production Aspects of Economic Efficiency

Economic efficiency as a concept used in the economics literature appears to transcend traditionally accepted definitions of ideology and self-interest as utilized in the legislative voting literature, but it does not replace those factors as determinants of human behavior. Economic efficiency in the broader, social benefits context of its definition is best addressed through production and allocation. Kennedy (2005, p. 45) argues this point where “efficiency in production is a measure of the effectiveness of an input with respect to the production of some output.”

Considering the production process through a chain of events is necessary for illustration. Bennett² offers a model for program evaluation that considers events that occur (e.g. inputs, processes, outputs, outcomes) and evaluative procedures to analyze those events (as cited in Patton, 1997, pp. 233-236). Adapting Bennett’s model, Patton (1997, pp. 233-234) shows inputs as resources expended to start an initiative; activities processed with available inputs; outputs a decision or action realized from those activities; and outcomes a measurable result or consequence of the output. For purposes of this dissertation, the input under consideration is the information available to legislators to discuss a problem area that might require a public policy. Processing the input through political debate or discussion is a step needed to produce an output. The

² Refer to Bennett (1982, 1979).

roll call vote on this debate is the output, the decision or action taken. Outcomes are the consequences of the vote (Kau, Keenan, & Rubin, 1982). Depending on the policy area(s) chosen for analysis, an outcome could be a reduction in malpractice claims and awards or greater access to health care in America, for example.

In economic terms, the output produced from policy formulation is a function of the inputs or resources that go into developing that output. According to Browning and Zupan (2002, p. 166), a production function can be expressed mathematically as

$$Q = f(X, Y, Z)$$

Where,

Q is the output or policy decision that is made and combinations of X, Y, Z are factors of production or inputs that are employed through the political process to produce a public policy solution or vote.

According to Wildavsky, outcomes that produce favorable policy consequences in policy area(s) are the goal of outputs, with efficiency a means of arriving at a destination with the least possible effort (as cited in White, 1999, p. 15). While maximization of voting output from given inputs is possible with any given policy decision, an economically efficient output seeks to increase social benefits relative to social costs in the aggregate. Maximizing the use of resources and disseminating services to a constituency lessens narrow perspectives of benefit-cost measures (Maass, 1966, p. 209). Consideration of aggregate consequences allows one person to consume more without affecting that available for another to consume (Kennedy, 2005, p. 46). Simon “defines efficiency as the maximization of the ratio of net positive results

(positive minus negative results) to opportunity costs” (as cited in White, 1999, p. 14).

More efficient positions produce greater net positive results.

Efficiency and Public Policy Implications

Definitions of efficiency are varied and disparate. For purposes of this research, I consider traditional definitions of efficiency as a process where speed and quickness underlie the process to maximize what is accomplished from the effort put into an endeavor. Applied to public policy formulation, this traditional definition of efficiency considers the process of lawmaking through which legislators’ ideologies and self-interests correspond to those ideologies and self-interests of his or her constituency to achieve policy outcomes. Economic interests drive legislative voting behavior to maximize the probability of re-election (Downs, 1957) and can explain individual voting behavior (Silberman & Durden, 1976). Pool and Rosenthal (1997), on the other hand, embrace ideology as a determinant of voting behavior that is more important than constituent economic interests. The less divergent a legislator’s ideology and self-interest is from the ideology and self-interest of his or her constituency, the greater the efficiency of the relationship between the legislator acting as agent and the policy objectives of such constituency.

Explaining legislative behavior in efficient terms is not stating that efficiency is a means to an end but that representatives in government embrace efficiency through values. White (1999, p. 16) states: “Although efficiency itself is not a value, efficiency is only useful within a framework of consciously held values.” That Selznick finds efficiency paradigms overemphasizing a means of operation rather than a value-laden

end supports White's argument (as cited in White, 1999, pp. 16-17). Many of the basic principles of democracy are dependent upon moral behavior that does not quite fit with technical efficiency for the sake of efficiency (see Waldo, 1947, 1965, 1980). For a legislator, policy action incorporates values into the equation that drives support or rejection of policy initiatives. Achieving an efficient end for the sake of efficiency should not be a legislative goal. Costs associated with a legislative decision, both actual costs of implementing a policy and opportunity costs of utilizing resources elsewhere do not address policy goals and outcomes in the aggregate. Individual decisions (e.g., self-interest based rational decisions) might produce aggregate consequences that may or may not be favorable to others affected by the decision. A measure of economic efficiency captures these aggregate consequences as public policy decisions are made. A measure of economic efficiency seeks to identify policy that maximizes aggregate social benefits relative to aggregate social costs.

Economic efficiency should not be confused with procedural effects associated with technique. Procedural areas are characteristics of efficiency where process is important to produce the best outcome through the least effort. Economic efficiency encompasses an ideological component where values are not separate from efficiency as a technique but rather are an integral part. For policy making, economic efficiency is a product of the ideological element of individual behavior and decision-making, as a representative acts as an agent to a constituency, but the constituency is society, not the legislator's geographic constituency. The fact that an economically efficient policy expands economic output demonstrates that values are a part of the concept. Greater economic output is positively correlated with higher standards of living and thus greater

aggregate social benefits, but does not specifically address distribution of resources among constituents or representation in government, for example.

Support for policies that do not maintain or increase economic output might not be economically efficient. An economically efficient legislator supports higher economic output to maximize aggregate social welfare as opposed to situational aspects of support for individual public policies. Stigler (1971) argues that economic interests are a key component of why legislators sometimes adopt inefficient policies. The economic interests of a constituency must be considered with the self-interests of a legislator and the public interest attributes of policy decisions. Kennedy notes: “The expectation is that economic interests play a greater explanatory role as the injurious nature of a given policy is more obvious” (Kennedy, 2005, p. 32). Injurious policy is that policy which reduces economic efficiency and beneficial policy enhances welfare (p. 33). Maximization of social benefits might or might not be consistent with those economic interests of a constituency. While traditional definitions of efficiency consider resources and effort expended, the aggregate effects of economic efficiency consider those efforts through benefits as well as costs.

Economic Efficiency as a Research Area

Economic efficiency is an objective criterion, unlike a liberal-conservative spectrum of ideology that is more subjective (Kennedy, 2005, p. 65). Ideology and self-interest identify characteristics of a legislator (and possibly his or her constituency) but do not address the impact of a voting decision in the formulation of public policies in vote models. Introducing an economically efficient component to vote models alleviates

some of the concern with traditional measures of ideology such as Americans for Democratic Action (ADA) and American Conservative Union (ACU) scores.

Economic efficiency should not be considered as a replacement for ideology and self-interest within vote models. Rather, the question is: Does economic efficiency offer a preferable measure of behavior in some situations? Does the variable represent an area of commonality that crosses ideology?

Perhaps the greatest contribution a measure of economic efficiency might make to the literature on legislative voting is determining whether traditional measures of ideology such as the ADA or ACU scores are a proxy for economic efficiency. That is, is conservative-liberal ideology really masking elements of economic efficiency? Adding economic efficiency to liberal-conservative ideology allows for measurement of voting decisions that not only follow a traditional liberal-conservative spectrum, but also maximize aggregate benefits of the voting decision. The implication for policy making is extensive. Aggregation of decision-making is important to avoid unnecessary costs of policy development, but also considers social benefit of policy formulation. Not only does ideological positioning along a liberal-conservative spectrum offer insight into a legislator's inclination toward general policy positions, but it may also include the social welfare that such policies produce through economic efficiency.

Kennedy E-score Model

Kennedy (2005) measures the extent that legislators consider economic efficiency in policy decisions through the compilation of an economic efficiency score (E-score). E-score is a measurement of votes made by a legislator in Congress where it

is possible to identify and measure votes that consider economic efficiency. The analysis that Kennedy considers includes roll call votes in the House and Senate in the 106th and 107th Congresses. Through the generation of an E-score it is possible to identify those legislators that embrace economic efficiency. Analogous to ADA and ACU scores for measuring liberal-conservative ideology, E-scores measure economic efficiency. The model for computation of the E-score is:

$$\text{E-score} = \frac{\sum_{i=1}^N (P_i / N) \times 1$$

Where,

P_i = one if legislator voted in support of enhancing efficiency and zero otherwise

N = number of votes considered in the analysis of each legislator

As a method of measuring economic efficiency, E-score captures aggregate effects of voting behavior. This fact is an important distinction to separate the effect of economic efficiency as a policy objective from traditional measures of efficiency identified through individual self-interest. E-score ties more closely with ideology as the measure considers those policies where social welfare implications are at stake, a value that is reflective of policy goals. Efficiency as self-interest, conversely, is not a measure of aggregate social benefit of a policy. Rational actors pursue policies that produce the most benefit with the least effort, which reflect individual characteristics and efforts of the individual making the decision and not collective effect of that decision on social welfare.

Research Question

The major research question that this dissertation addresses is: In some instances does economic efficiency through an E-score function better than a traditional spectrum of liberal-conservative ideology in explaining the ideological position of a representative (House and / or Senate member), congressional activity, and public policy formulation? The analysis modifies and extends the existing Kennedy (2005) model beyond the two Congresses that he studied. The dissertation includes the 99th Congress through the 108th Congress, inclusive.

The discussion that follows outlines the components of economic efficiency to explain not only the concept, but also the criteria that must be applied to identify the votes necessary to develop an E-score for this dissertation.

Pareto Optimality

Public policy making that is economically efficient is consistent with Pareto improving positions. Weimer and Vining (2005, pp. 55-56) define Pareto optimality (see Figure 1.1) as a distribution of goods and/or services where it is not possible to make someone better off without making someone else worse off.³ A Kaldor-Hicks⁴ improvement is closely related to Pareto optimality. A Kaldor-Hicks improvement is indication of a policy that produces winners and losers and is consistent with Pareto principles as long as a net gain in welfare occurs. A net gain in welfare implies that

³ Named for Italian economist Vilfredo Pareto (1848-1923), the developer of criterion for such distributions.

⁴ Pareto improving positions are frequently referred to as Kaldor-Hicks improvements. This criterion is a description where Pareto optimality is not achieved, but potential Pareto improvements are possible.

those who benefit from such policies can potentially compensate those that do not to the extent that a Pareto improvement is possible (Kennedy, 2005, p. 53).

Economic efficiency is not a synonym for Pareto optimality, however. Public policy formulation that seeks to expand national output and thus increase the size of economic resources available to all may or may not produce a distribution that makes one individual better off without making someone else worse off. Higher output and standard of living in the aggregate is analogous to a distribution that yields higher social benefits as opposed to social costs. A socially responsible legislator that espouses economically efficient policy making seeks to avoid the costs associated with higher taxes and more regulation in an attempt to expand output and positive net benefit. Figure 1 illustrates production choices possible between two goods, Y and X, such that consumption within the given range is an efficient distribution.

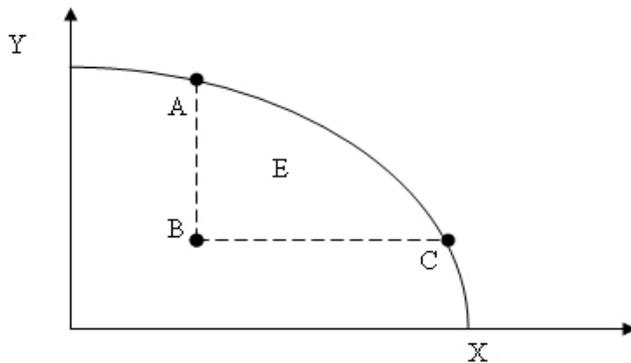


Figure 1.1: Production Possibilities Frontier, where movement from point B to point A or point C, or any combination of movements within the parameter labeled E, represent an increase in efficiency.

Criteria for Economically Efficient Public Policies

Public policies that are economically efficient must be considered within the aggregate effects of those policies. For a legislator to select policies that are economically efficient does not imply that his or her preference for equity, for example, is mutually exclusive with efficiency. For a legislator to support economically efficient policies in the aggregate, making benefit-cost comparisons is paramount to such decisions. How a legislator weighs the benefits and costs between individual issues is a first step in analyzing aggregate consequences.

The first step in developing criteria to identify economic efficiency is through an analysis of those policies that either enhance efficient policy output or are injurious to social welfare. An efficient policy output is a function of the social benefit produced by that policy. Policies that are injurious to social welfare produce higher social costs relative to the benefit achieved. By maximizing positive policy outputs and minimizing policies that produce higher social costs, maximization of net social benefit is possible. Legislators vote for policies that either increase efficiency or block proposals that reduce net welfare. Either scenario represents a potential Pareto improvement and allows for selection of votes where efficiency is clearly at stake (Kennedy, 2005, p. 56).

Stigler (1971) analyzes categories of policies that tend to signal efficiency reduction. Each category involves regulation in private markets or direct intervention where a market failure does not exist (Kennedy, 2005, p. 56). Four categories that Stigler (1971) and Kennedy (2005) analyze follow. Each represents a decision rule that will be followed and criterion for vote selection in this dissertation where a reduction in efficiency would result.

1. Excise or direct monetary subsidies lead to a misallocation of resources. Too many resources are allocated to the production of a good or service, where the marginal cost (MC) of the last unit produced exceeds the marginal benefit (MB) measured by what consumers would pay. As a subsidy increasingly allocates resources to a good or service, consumer surplus increases, but there is a net loss of efficiency from the allocation. Consumer surplus is difference in the price the consumer is willing to pay and the actual price the consumer will pay. Figure 1.2 illustrates deadweight loss represented by points XYZ, or loss in well being associated with an excise subsidy that lowers price but increases cost to government. Price supports to the farming industry are widely argued to be a method of increasing a farmer's income in lieu of few positive externalities associated with increased farm output (Acemoglu & Robinson, 2001).

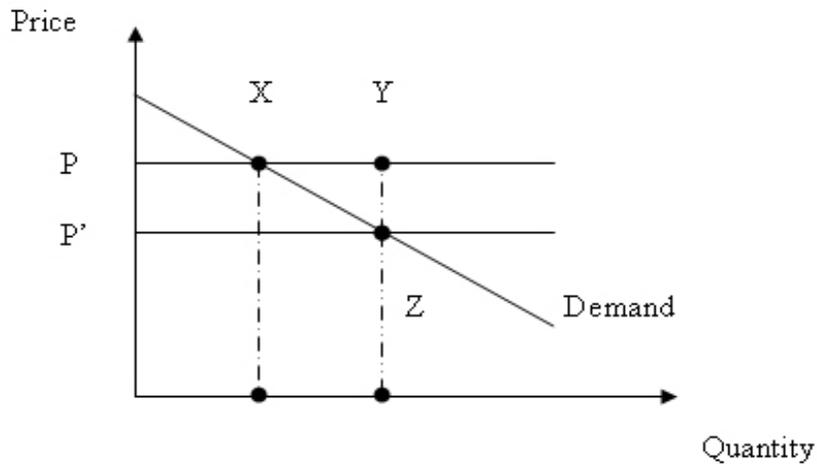


Figure 1.2 illustrates the effect of an excise subsidy on reducing price from P to P' , but in turn generating a deadweight loss, a loss in well-being as a result of the subsidy is represented by area XYZ (adapted in part from Browning & Zupan, 2002).

2. Limits to competition push price upward and reduce consumer surplus. When industries seek to limit the addition of new, rival firms, producer surplus to the protected firms increase but there is a net loss of efficiency. Producer surplus is the amount that a producer receives for a good or service that exceeds the price the producer would be willing to accept for that good or service. Examples of limits to competition that Stigler (1971) uses are Federal Deposit Insurance Corporation (FDIC) regulation, which reduces new entry of potential commercial banks into the banking industry, and the inverse relationship between increasing demands for hauling and the number of trucks that can enter the industry, as a result of limits to interstate motor carriers. Voting to regulate hospital payments or competition between providers of health care services is inefficient (Oliver, 1991). Kennedy (2005, p. 58) adds that import or production quotas, as well as protective tariffs all are means of reducing competition. Figure 1.3 depicts how limits on market competition (quotas and tariffs are two examples) affect economic efficiency by disturbing market equilibrium such that new equilibrium levels occur at a higher price level (P') and a lower quantity of output (Q'). Points ABC represent a net loss in efficiency.

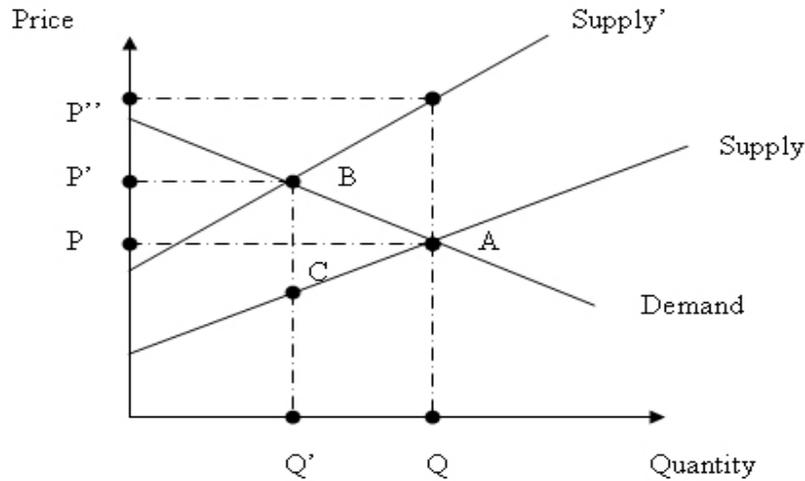


Figure 1.3: Barriers to entry of markets limit competition. With fewer firms in the market supply is reduced and market equilibrium occurs at a higher price and lower level of output. The producer surplus afforded to protected firms increases to price level P'' , but a net loss in efficiency is represented by area ABC (Kennedy, 2005, p. 58).

3. Policies that affect substitutes and complements are inefficient. Special interests demand policies that support products and services related to the industry of that special interest. Labor unions oppose technology that reduces the need for labor. Rail and air providers of goods support regulations on the trucking and hauling industry. Manufacturers of emission control and related devices support regulations on automobile manufacturers requiring such devices. Public transit subsidies are another example of this effect. Allocating resources to public transit has not countered the effects of increased automobile ownership and commuting time (Wachs, 1989). Each scenario is an example of public policies that affect consumption of goods that are substitutes or complements. Legislative support for policies that affect consumption of goods or services that are substitutes or complements is an inefficient act.

4. Wage and price controls are inefficient. Control over wage and price levels is best illustrated through a floor under which wage or price cannot fall or a ceiling that wage or price cannot exceed. Producers favor price floors to protect the price of their produce or services but a price ceiling on inputs that the producer must utilize in the production process. Kennedy (2005, p. 59) argues that price controls through price floors allow producers an opportunity to enjoy higher than market prices, but contribute to surpluses from items that are not sold. A price ceiling limits the extent that prices can increase and leads to shortages as consumers demand more product or service at prices that are less than market equilibrium. Deregulation of energy, financial services, and communication are examples of efficiency enhancing policies (Winston, 1993). Figure 1.4 illustrates the effect of wage and price controls that disturb market equilibrium through the effect of a price floor (PF) or price ceiling (PC). At price PF quantity demanded of Q'' exceeds supplied of Q' and shortages result. At a price of PC, quantity supplied of Q'' exceeds quantity demanded of Q' and an overabundance results. A price floor increases consumer surplus and a price ceiling increases producer surplus, but each scenario results in a net loss in efficiency, as the market is not able to clear. Policies that place controls on wages and prices are economically inefficient.

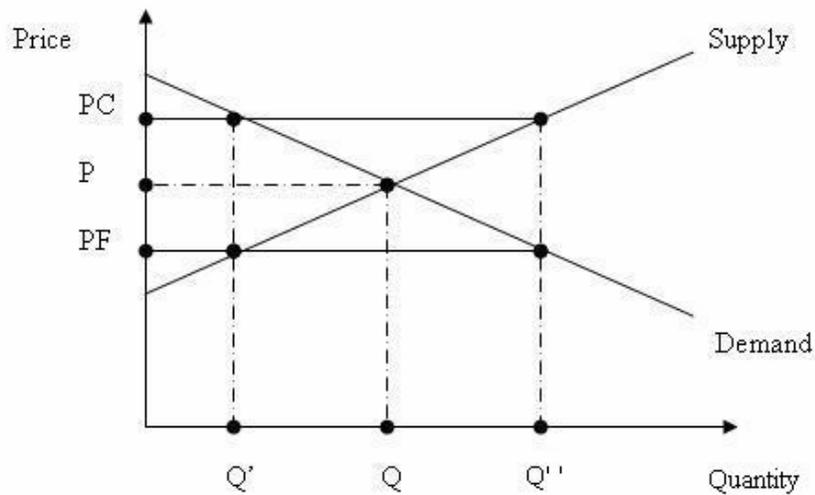


Figure 1.4: Wage and price controls create price ceilings (PC) and price floors (PF), where market prices are either above or below, respectively, market equilibrium, resulting in a net loss in efficiency clear (adapted in part from Browning & Zupan, 2002, p. 28).

Developing an E-score

Using the decision rules above, roll call votes within the House and Senate for all Congresses between the 99th and 108th Congress, inclusive, were examined. Only those votes where efficiency is clearly at stake were chosen, and how the legislator voted on each selected roll call vote was recorded. Scoring models were developed for each Congress, House and Senate, which measured the legislator's support for economic efficiency. For each Congress, House and Senate, legislation was chosen where efficiency was clearly at stake. That is, the legislation would potentially produce either positive or negative results through greater social benefits or higher social costs, respectively. From the total legislation analyzed the legislator's votes in the House and Senate for efficiency enhancing policies were tallied as a percent of the total votes in

each chamber analyzed. This process for developing the E-score was repeated for each Congress in the study.

Kennedy (2005) argues that votes on amendments offer the best opportunity for analytical precision. In contrast, bills “often include many provisions making definitive judgments with respect to their impact on efficiency problematic” (p. 60). Votes where efficiency is ambiguous are omitted; otherwise votes where the impact on efficiency is ambiguous, subjective consideration for the major intent is necessary if that vote is recorded within the E-score. A vote is ambiguous if determining the impact on efficiency is impossible or unlikely to clearly delineate between increases or reductions in efficiency.

Analyzing a voting decision is required to determine if the vote enhances efficiency. A vote in support of a policy that appears to reflect both efficient and inefficient positions must be considered by impact of the total effect of that position. Total effects of a voting decision are a consideration of the impact of a vote on not only the policy area of the vote, but also unintended consequences, such as higher internal costs or misallocation of resources in other policy areas. Votes that increase economic efficiency in one area but decrease it in another must be judged by the net effect of the vote. The net effect of a vote includes the sum of all positive effects (efficiency enhancing) and the sum of all negative effects (efficiency decreasing) of the voting decision to equal total effects. Votes that have multiple components must be judged by the total effect of the vote for a policy to the outcome of that vote on economic efficiency. Votes to address market failures are an example of an ambiguous policy. While policy solutions to correct an externality often appear to be inefficient, differences

in judgment are a problem as legislators make rough cost-benefit assessments of formulating a policy to correct the market failure, but introduce other costs or unintended consequences that diminish efficiency (Kennedy, 2005, p. 61).

E-scores are derived for each legislator using Kennedy's formula discussed earlier. The E-score is applied as an independent variable to measure whether it or ADA and ACU scores are better predictors of the vote in the policy areas identified. By employing E-scores, the study measures the explanatory power of economic efficiency vis-à-vis self-interest, party unity and other variables traditionally used with ideology to predict votes.

Recalculating Interest Group Ratings

Roll call votes that are tabulated for use in scoring models for legislative support of policy areas (dependent variable) are not included in roll call votes that are tabulated to devise interest group ratings (e.g. ADA, ACU) used for independent variables. The same holds true for E-Scores. Wattier and Tatalovich's (2005) model is utilized to address this issue. According to their model, for any interest group rating, votes tallied within such ratings that are also tallied within one or more of the policy areas are removed and the rating recalculated. For example, if 20 votes were considered to yield an ADA rating and one of those votes also represented a policy area such as medical malpractice used as a dependent variable, that vote would be removed from the ADA rating and the rating recalculated based on 19 votes rather than 20.

Standardizing interest group scores

An examination of votes involves a quantifiable and systematic means of data analysis. A problem with comparing votes over time is that each vote is time-bound (Shipan & Lowry, 2001, p. 247). For example, a vote for specific legislation in 1985 may not be readily compatible to a vote for a separate bill in 2004. Groseclose, Levitt, and Snyder (1999) also believe that raw scores are not comparable when considered outside of the immediate time period in which they are tabulated and need to be adjusted. They argue that parties have diverged, as evidenced by increasing polarization, and interest group scores are not accurate when considered over a period of time. Their analysis solution is similar to basing a price index on some arbitrary year (1985=100), but involves “shift” and “stretch” parameters that are utilized in adjusting the scores.

Poole and Rosenthal (2001) developed a technique for measuring legislative liberalism and conservatism through a process called DW Nominate. Their model adjusts the effect of time on scores through necessary weighting within each score. An improvement of the Poole and Rosenthal model over the Groseclose, Levitt, and Snyder model for adjusting interest group scores lies in the fact that the former continually adjusts the scores for liberalism and conservatism over time as additional votes are cast. Thus, the Poole and Rosenthal approach constantly changes the relative position of the legislator within each Congress vis-à-vis other legislators. Poole and Rosenthal’s approach for capturing the time aspects of liberalism and conservatism was employed in this study.

Other interest group ratings (e.g., ADA, ACU scores), E-scores and other time impacted variables are computed nominally as raw scores but standardized to make

comparable across the years of the study. To standardize these measures the value of each variable was computed for each legislator and the mean value for the House and Senate chambers in each year of the study. The computed values for each legislator are compared to mean values of that variable for each Congress. Analyzing values for each legislator to mean values for Congress offers a relative comparison of each legislator to respective scores for each chamber. Changes in the differences between the computed value for the legislator and mean value for Congress are indicative of changes in legislative behavior for that legislator across Congresses. Measuring differences between computed scores for each legislator and median scores for the chamber standardizes the analysis and alleviates issues associated with accepting nominal scores that can be impacted by time.

Sample

Units of analysis for this study are legislators in the U.S. House of Representatives and U.S. Senators. The sample includes all legislators of each house for the 99th – 108th Congress, inclusive. Legislative voting was analyzed for all roll call votes supporting or opposing the bills identified and included in each policy area. The votes that are gathered on the policy area are the dependent variable. Comparisons were made between those legislators voting on all legislation included in each policy area and those legislators of the overall Congress in analyzing the impact of economic efficiency.

Regression Model

The regression model for this dissertation employs the following methodologies: multiple regression analyses of the effect of various predictor (independent) variables on several dependent variables and time series analyses. Regression analysis measures the direct effect of each independent variable on the dependent variable. The association between two variables in a sample might or might not exist in the entire population. Measured by an F-test for the entire model and a t-test for each sample, tests of significance indicate how likely such association exists. Each variable in the model has a predicted association (+ or -) between independent and dependent, allowing use of a one-tailed test. Statistical significance was determined at the 0.05 level.

Multiple regression analysis tests for direct associations between variables. To test for indirect effects, several regressions were run between the variables in the model. Of particular interest is the relationship between E-score and other independent variables and the extent that E-scores appear to transcend liberal-conservative ideology.

Time series analysis assumes that successive values in the dataset represent consecutive measurements taken at equally spaced intervals of time. Interrupted time series considers whether an outside event affects successive observations. With political party control of Congress and White House changing on several occasions in the span of this study, interrupted time series analysis is utilized as a methodology. For example, could a change in political party control of the institution affect economically efficient voting behavior?

The regression model for this study includes the following:

1. **Dependent variable:** two distinct policy areas are studied – medical malpractice tort reform and federal minimum wage. For each policy area a regression equation was developed to measure the effect of independent variables on the dependent variable for that policy area. The dependent variable was developed from a scoring model of roll call votes of all final bills in that policy area within the 99th-108th Congresses, inclusive. Votes tabulated within the scoring model for the policy area are not the same data set of votes tallied as interest group ratings. The scoring model represents the percentage of roll call votes cast by that legislator in support of the policy. For example, if five roll call votes were cast for bills in the policy area and the legislator voted in support of four of the bills, the legislator's score would be 0.80. The legislator's score of support for the policy position will be coded as a value from 0 to 1, with higher values indicating greater support.
2. **Independent variables:** the model consists of three vectors representing ideology, self-interest, and legislator or legislator's chamber. Independent variables are sorted according to one of the respective vectors.

Independent variables in the ideology vector include measures of liberalism (ADA score), conservatism (ACU score), a time adjusted range of liberalism and conservatism (DW-NOMINATE), and economic efficiency (E-Scores). Measures of ideology are coded as an actual value that depicts each measure. The value for each measure is a number from 0-100 with 100 indicating total support and 0 indicating total opposition. Ideology variables are converted

to natural logarithms when non-converted data do not appear to follow a normal distribution.

Independent variables in the self-interest vector include contributions to legislators from interest groups with ties to the policy area of each dependent variable. For the medical malpractice policy area the self-interest variables are contributions from “Lawyers and Lobbyists” and “Health” related groups. Self-interest variables in the minimum wage policy area include contributions from “Business” and “Labor” groups. Contributions can be direct or through political action committees (PACs). Self-interest variables of contributions to legislators are coded as the actual dollar amount contributed and as a percentage contributed in the policy area to the total contributions received by the legislator. Self-interest variables are converted to natural logarithms when non-converted data do not appear to follow a normal distribution.

Independent variables in a vector for chamber environment include party unity and ideological divisions between legislative and executive branch. Party unity is a measure of how closely a legislator votes in accordance with his or her political party and is coded along a continuum from -100 to +100. Negative numbers arbitrarily represent Republicans and positive numbers Democrats. More extreme party unity values (scores closer to -100 or +100) indicate greater voting unity between the legislator and political party. The variable reflects to what extent Republican or Democratic legislators support the legislation in relation to party support.

Ideological divisions between the legislative and executive branch capture how party control of each institution affects legislative voting. This measure considers minority-majority party relationships that affect legislative and executive decision-making. The relative legislative-executive ideological position is compared to mean values for the institution he or she represents in exploring the effects of ideological divisions.

3. Control variables included in the model hold constant the potential effects of party control of government, geographical conditions, and state economic conditions. These variables do not causally impact the dependent variable, but rather are constant variables representing extraneous factors. Each variable is coded dichotomously (0 and 1). Control variables for party control of the institution (House or Senate) are compared to control of the legislator's party. If the party of the legislator is the same as the party that controls the institution, the variable will be assigned a 1; if the party of the legislator is not the same as the party that controls the institution the variable is assigned a 0. Independent legislators are assigned a value according to the party with which the legislator caucuses. Whether the chamber and the presidency are in the hands of the same party and whether the House and Senate are of the same party or not represent two other variables for examination. Geographical effects of North, East, South, and West are controlled by assigning a 1 to the legislators who represent a state or region in one of the four categories and 0 otherwise. For example, a legislator from Alabama is assigned a 1 for South and 0 for East, North, and West. Measurements of per capita income or percent minority (African American and

Hispanic as separate variables) control for economic conditions. Federal spending going to a state and the ratio of federal spending to tax revenue generated by the state are proxies for state economic conditions. The specific policy area used for the dependent variable (malpractice reform or minimum wage) also requires control variables representing conditions in the legislator's state or district that might impact her/his roll call vote. For example, in the case of malpractice reform, whether a legislator's state is in a malpractice crisis or not can be used to test for constituency self-interest impact on the legislator's vote. The same holds for state minimum wage policies that equal or exceed the federal minimum wage for that policy area.

The proposed multivariate regression equation used for each policy area in the model is shown as follows:

$$VOTE_{it} = a_0 + b_1 ECONOMIC\ EFFICIENCY + b_2 IDEOLOGY_i + b_3 SELF\ INTEREST_i + b_4 CHAMBERENVIRONMENT_i$$

Where, $VOTE_{it}$ is the dependent variable representing a scoring model of final, roll call votes by a legislator on a policy position; a_0 is a constant term; and $b_1 \dots b_6$ denote the regression coefficients of the independent variables.

Each vector in the model is as follows: $f(x,y,z)$; where vector x depicts ideology, vector y self-interest, and vector z party unity. For each policy area (medical malpractice and minimum wage) hypotheses are developed, with the predicted direction of the regression coefficient indicated, and analyzed through multivariate regression.

Interrupted time series design is utilized to study the impact of a change in political party control of both institutions (House and Senate) in 1994 and political party control of the Senate in 1986. In anticipation of changes in the relationships between independent variables and dependent variable(s) as a function of political party control of the respective institution, an interrupted time series design allows for measurement of these effects. With interrupted time series, it is possible to measure the impact of changes in political party control of the institution on the support for public policies analyzed in the policy area(s). The model also allows for separate analysis of each independent variable. Kellough (1990) offers a methodology that will be employed in this analysis.

Limitations of interrupted time series in this analysis are that roll call votes on policy areas are not necessarily linear from year to year. That is, policy area legislation that is analyzed as the dependent variable is from a spectrum of years, where legislation is considered multiple times in some Congresses and rarely or none in other Congresses of the study. While selecting legislation for analysis before and after the base year of the interrupted time series analysis (e.g., 1994 or 1986) would be ideal, making such selection may not be possible; thus the ability of the design to measure changes in the effect of political party control of houses of Congress would be reduced. Cluster analysis will be employed in analyzing available roll call votes before and after base years and adjusting which base years will be included in the model.

Data Sources

Sources of data for dependent and independent variables are listed as follows.

For the dependent variable(s), the source for the roll call votes that comprise the scoring model is Congressional Quarterly Congress Collection (<http://www.cq.com>). American Conservative Union (ACU) ratings are available at (<http://www.acuratings.org/>). Economic efficiency (E-Score) ratings are developed from the E-Score formula above and included in the analysis. Americans for Democratic Action (ADA) ratings are available from <http://www.adaction.org/votingrecords.htm>. Contributions made to legislators directly or via PACs are available for all Congresses in the study from Federal Elections Commission (<http://www.fec.gov/finance/disclosure/ftpdet.shtml>), Center for Responsive Politics (<http://www.opensecrets.org/politicians/index.asp>) for the 102nd – 108th Congress, and Political Money Line from Congressional Quarterly at http://www.tray.com/cgi-win/x_pac_init.exe?DoFn= for the 99th – 101st Congress. Measures of party unity are available from Congressional Quarterly Congress Collection (<http://www.cq.com>). Macroeconomic variables including trends in federal spending across states are available from the Northeast Midwest Institute (<http://www.nemw.org/>) and Tax Foundation (<http://www.taxfoundation.org/>).

Contribution of the Study

Considerable research has been conducted on ideology and rational self-interest to explain human behavior (see Downs, 1957; Arrow, 1963; Kalt & Zupan, 1994). Previous research focuses to a large extent on liberal-conservative issues to explain ideology and the rational actor model to explain individual self-interest. While both

areas of research offer insight into individual behavior and consequently legislative decision-making, analyzing the impact of public policies as social benefit maximization shifts the focus of the research from individual characteristics of decision-makers to policy outcomes.

Kennedy's (2005) research offers an introduction to economic efficiency as a research topic in studying the 106th and 107th Congresses. Kennedy's research provides a general basis for defining economically efficient policies through development of an E-score, but is limited in explaining to what extent economic efficiency relates to or transcends ideology and self-interest in the policy process.

A contribution of this dissertation is the extension of the E-score model beyond the 106th and 107th Congresses to encompass a period of 20 years. By analyzing the 99th through 108th Congresses, inclusive, the model takes into consideration issues concerning party control and the effect of divided government both within Congress and between the legislative and executive branch during the years of the study. The effect of political party control over the institution in question and economic efficiency associated with the voting of legislators raises important questions concerning liberal-conservative ideology and economic efficiency as a predictors of individual behavior.

Introducing an economic efficiency variable separates the effect of the legislator's vote to enhance aggregate social benefits or diminish welfare from party influence and ideology associated with a liberal-conservative scale. Explaining congressional activity and policy formulation through an E-score might be preferable to other measures of ideology or self-interest.

Divided government has been argued as the root of inefficiency within our democracy (Thurber, 1991). Balancing power among separate institutions (Fisher, 1998) is a hallmark of the American political system. Institutions of government fulfill formal and informal roles and have responsibilities to constituents. Considering institutional differences between the House and Senate and applying economic efficiency as a variable that explains individual behavior, vote decisions at different levels of government are explained in part through national or regional responsibilities of each legislator (Stein, 1990).

Frymer (1994) argues that divided government is a product of balancing of power and is not a major factor in legislative indecisions. Ideological consistency across districts produces unified representation even if party control between the legislative and executive branches is divided. Traditional measures of liberal-conservative ideology should offer an explanation for behavior, but they do not address aggregate net social benefits of a policy. The role of economic efficiency under unified and divided government is an argument for inclusion of an E-score to explain voting behavior that considers the impact of the public policy decision in the district in a comparison to liberal-conservative similarities across executive and legislative branches of government.

Outline of the Dissertation

There are five chapters in this dissertation. Chapter One has provided a general overview of the dissertation.

Chapter Two provides a literature review of the major literatures covered. These include literatures on American legislative voting, Congress as an institution, rational actor theory, development of the role of ideology and self-interest impacting legislative behavior, and economic efficiency. The literature review offers a body of knowledge on which hypothesis development is based and findings measured through regression coefficients.

Chapter Three develops the research hypotheses and methodologies and describes the sample. While Chapter Two describes relationships between various variables that have been studied, those relationships do not include the properties to determine if such relationships exist with the variables in this model. Thus, properties are operationalized in order to measure those variables. This chapter includes discussion of data collection, E-score development, coding of the variables, and types of analysis conducted (regression and interrupted time series analysis).

Chapter Four includes presentation of the results of the analysis through textual and tabular methods. This presentation includes both multiple regression analysis results and interrupted time series results.

Chapter Five offers overall conclusions and implications. Of particular importance is to what extent economic efficiency predicts human behavior and what that portends for public policy development and formulation.

References are placed after Chapter Five along with Appendices of the data searches and data calculations used in developing the major measures employed in this study.

CHAPTER TWO

LITERATURE REVIEW

This chapter examines the major literatures on American legislative voting by considering Congress as an institution and the impact of a multitude of variables that drive decision-making and shape the legislative process. For purposes of this study legislative voting is limited to roll call voting in an attempt to analyze voting decisions by individual members as opposed to the chamber collectively.

A variety of variables have been used to explain roll call voting. Some researchers focus on the self-interests of the individual legislator. These include financing of congressional campaigns and interest group lobbying. Other researchers focus on the constituency and emphasize the relationship between the legislator and the individuals within the district that he or she represents. Ideology is a common value that defines these relationships. Examples include degrees of liberalism or conservatism and represent longer term forces that affect a group over time. Still others examine variables related to the institution and its internal and external environment. External factors in part relate to changes in the constituencies. Examples include alignment of a constituency with a political philosophy and the role of government to formulate suitable public policy solutions. Political parties are an important link between legislator and constituent. Internal factors look at changes in the institution itself. Examples include organization of Congress by committee structure and rules, changes in leadership and

message over time, and institutionalization of the body, especially the House of Representatives.

Ignored in these studies is economic efficiency, the element that is the focus of this dissertation. Relationships between legislator and constituency and between internal and external environments describe the factors that influence the lawmaking process, but they do not address the aggregate, benefit-cost consequences of policymaking. A focus on economic efficiency quantifies the impact of public policies in maximizing and expanding social welfare. The institutions of Congress change over time and linkages between those institutions and constituents, legislators, interest groups, and political parties affect the legislative decision process. This literature review examines economic efficiency in roll call analysis exploring to what extent a legislator's affinity for economic efficiency is a function of changes between these linkages. It also presents economic efficiency as an alternative variable for predicting legislative voting in addition to accepted definitions of ideology and self-interest.

Economic Efficiency

Economic efficiency is maximization of net social benefits resulting from public policy decisions. Through the use of an index, Kennedy (2005, p. 2) finds that studying economic efficiency is important in examining why legislators support the economic interests of a constituency as opposed to public interests of a greater society. In short, Kennedy seeks to identify why legislators support policies that reduce efficiency. He references Stigler's (1971) contention that constituency economic interests explain political behavior, but also finds that the act of voting is ideologically driven.

Kennedy's (2005, pp. 12-13) research does not explicitly explain weaknesses in existing vote models, but in referencing Bender and Lott¹, it questions ADA scores in explaining no more than the ideological position of a legislator, not why he or she might shirk or vote contrary to a constituent's economic interests. Using Pareto optimality and Kaldor-Hicks improvements as a basis, support for policies that are in the public interest is logical. Voting to expand the welfare of a public policy and increase utility to more individuals suggests that a legislator's ideology offers stronger support for his or her actions than constituency concerns alone.

Aggregation of Preferences

The principle behind an economically efficient policy rests on the premise of maximization of total policy benefits to total policy costs. As an extension of ideology, representatives seek policies that maximize net benefits. Referring to Figure 2.1, legislators seek to formulate policies at point Q^* , the maximum point between total benefits and total costs. As Q_x increases increasing opportunity costs push up costs in relation to benefit and produce an upward sloping TC curve. Diminishing marginal utility from each additional increase in quantity consumed produces a downward sloping TB curve, as each successive quantity produces fewer and fewer units of satisfaction (Kennedy, 2005, pp. 48-49). A legislator voting in support of economically efficient positions considers the aggregate implications of total benefit and total cost policy comparisons.

¹ See B. Bender and J. R. Lott (1996), Legislator voting and shirking: A critical review of the literature. *Public Choice*, 87:1-2, 67-100. Their research found that a variable, such as ADA, used to capture a legislator's ideology does not explain legislative voting, but rather confuses the economic interests of a legislator's constituency.

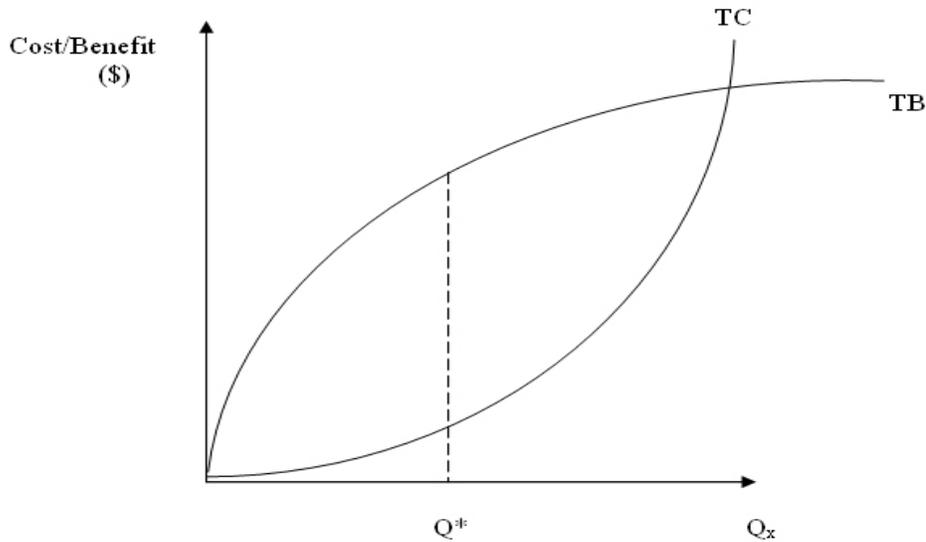


Figure 2.1: Net benefit maximization. Point Q^* illustrates a maximization of total benefit (TB) over total cost (TC). Points to the left or right of Q^* are associated with relatively lower total benefits or relatively higher total costs, respectively. Net benefits are maximized at Q^* .

The intent of Kennedy's study was to derive a voting index that measures the strength of a legislator's preference for economic efficiency based on total benefits and total costs of a policy. The extent that legislators forsake public interests and embrace economic interests of a constituency is a function of variables such as party affiliation, constituency demographics, and ideological characteristics of the legislator. Kennedy argues that economic theory must be combined with non-economic variables to better understand individual behavior and policy selection.

Building an efficiency index requires inclusion of factors that impact behavior. Etzioni's (1990) argument that individuals and society represent a collective effect driving individual decisions is important to note. Macroeconomic policies combined with structured policies that consider shifts in values or preferences over time are part of the paradigm.

How changes in behavior or changes within the institutional structure of government or industry affect the use of public policies and the aggregate consequences of developing and implementing such policies on social benefits to a constituency raises an important argument that Kennedy does not fully address. That is, to what extent do changes in the internal and external environment shape decision-making such that economic efficiency is enhanced or reduced?

Ideological Basis of Economic Efficiency

An appropriate starting point for considering this question is the degree that economic efficiency emanates from policy preferences of a legislator and the constituency he or she represents. Legislators and constituents each possess interests that drive behavior. Tullock (1983) finds that a prevailing function of modern government is redistribution, which is a transfer laced with benefits and costs (pp. 1-3). If a legislator adheres to personal ideology and votes accordingly, the extent to which such a vote is contrary to constituents' interests represents shirking.

Kennedy (2005) finds that shirking manifests as ideologically based, where legislators vote against the economic interests of their constituents due to ideological considerations by consuming personal ideology at the expense of those constituents (p. 14). When legislators support policies that are not in the economic interests of a constituency, there is a risk of alienating a constituency and losing re-election to office. Supporting a pork project is an example of legislators embracing narrow economic interests at the expense of the overall constituency he or she represents (Hird, 1991).

Drawing a distinction between a legislator's support for constituency economic interests and public interests, the point in time of a legislator's political career affects voting decisions. Lott posits that it is "a legislator's ideology that tends to keep him or her from engaging in opportunistic behavior [shirking] when he or she is no longer competing for re-election" (as cited in Kennedy, 2005, p. 17). Thus, it is expected that legislators who are in their last term and no longer facing re-election have lower opportunity costs (Kalt & Zupan, 1984, p. 283) and will vote to a greater extent on their personal ideology once the threat of defeat, a cost of consuming ideology, is removed (Rothenberg & Sanders, 2000b).

Supporting an expansion of Kennedy's model for increasing the number of years analyzed, Stratmann's (2000) research concurs that voting decisions change systematically over the course of a legislative career with party line voting inversely related to congressional seniority and changes in voting behavior in accordance with preference of the median voter in the district. To the extent that a legislator supports economically efficient policy positions the apparent effect of self-interest, as the elected official continues to be reelected, represents a decision-making struggle between policies that consider net benefits and legislative independence.

Public Interests

Public interests justify Kennedy's analysis of economic efficiency, but they also open important dialogue for the role of government in providing a better society in which to live, loosely defined around democratic objectives and majority rule (Kernell & Jacobson, 2006, p. 506). Solely applying the principles of efficiency to achieving public

policies that enhance public interest is problematic, as market models fail to address other values (Bozeman, 2002). Vogel (1980) states: “Public interest activism is based on the mistrust of both business and government” (p. 609) and is consistent with unorganized interests having access to privileges and prerogatives as organized interests have in shaping regulatory interaction between business and government. Political forces are strong and shape legislative behavior as rational individuals seek maximization of their private interests at the expense of public interests (Tullock, Seldon, & Brady, 2002, p. 16).

But in a context of economic efficiency, Stigler defines public interests as promoting policies that enhance efficiency or opposing policies that diminish efficiency, where public policy regulations are often promoted as the cost of pursuing noble, national goals (as cited in Kennedy, 2005, p. 27). This definition introduces values of the legislator for pursuing this end as the relative impact of a decision, such as intended or unintended consequences associated with higher regulations, for example, translates into changes in social benefits (Putterman, Roemer, & Silvestre, 1998).

Struggles between public interests and private interests of rational individuals are of concern to this analysis in that forces within the environment that impact decision-making must be considered in analyzing policy consequences. Redistribution of goods and services is a commonly accepted practice in serving the public interest and expanding social welfare. The impact of policies that distribute goods to areas in need may or may not produce the most economically efficient outcome and could reduce social welfare from such actions. Thus, redistribution seeking to expand social welfare must be based on economically efficient considerations.

Redistribution

Distribution of goods and services is an important consideration for studying the best arrangement for serving the needs of the public. Kalt and Zupan (1984) argue: “Since every economic policy decision produces transfers of wealth, it is always possible to infallibly relate political outcomes to distributional impacts” (p. 280). With Tullock (1983, p. 1) finding that redistribution is arguably the most important function of modern government, policies that serve the public’s interest are a solid basis for redistribution of goods from one group or category to another. Appleby, Flathman, and Goodin each find that a distinguishing factor of government in contrast to private organizations is that the former should strive to serve the public’s interest through the policies that it formulates (as cited in Bozeman, 2002, p. 147), although the latter introduces self-interests that affect each decision premise in making such policy decisions.

Individuals support income distribution as a minimal level of helping the poor on moral grounds, but the bulk of transfer payments goes to the politically influential and organized (Tullock, 1983, p. 5) and affects the efforts of private interests (i.e., interests groups, organized coalitions, etc.) on the political process. That the primary motives behind income transfer are greed, desire to help others, and to a lesser extent, envy, the moral responsibility of protecting human dignity and providing a level of subsistence to members of American society (Bozeman, 2002, p. 154; Weimer & Vining, 2005, pp. 143-144) is a foundation for building an argument that ideological components of a decision compete against individual self-interests that motivate individuals.

Social welfare implications

The social welfare implication of economic efficiency is a solid endorsement for analyzing economic efficiency as a component of ideology. With social welfare dependent upon economically efficient policy-making, promotion of greater social welfare and individual freedom through the use of public policies follows a utilitarian argument that seeks the greatest happiness for the greatest number of individuals. The rights of individuals and distributional aspects of policy-making are illustrations of ideology that favors equity or redistribution as opposed to efficiency (Kalt & Zupan, 1984, p. 281). The premise of the theory is that good decisions lead to good consequences as a method of quantifying human welfare (Parsons, 1995, pp. 45-46; Weimer & Vining, 2002, pp. 384-385).

Quantification of changes in social welfare through social surpluses of net benefit over net cost is necessary for measurement (Weimer & Vining, 2002, pp. 138-139) and supports an economic efficiency index as a tool for analysis. Rational decision makers maximize utility by surveying opportunities and costs and taking action to achieve the greatest gain within those constraints (Jones, 2001, p. 26). To determine if a policy initiative is desirable one may compare utility before or after the change or lump sum redistribution from beneficiaries of the change to the losers as a Kaldor-Hicks improvement (Coate, 2000, p. 437). A policy change to achieve distributional outcomes is efficient if no alternative policy change exists that is better for all, but may not produce social welfare without enhancing societal well being (Coate, 2000, pp. 439-440).

Improving Kennedy Economic Efficiency Model

Kennedy's research² correctly analyzes policies that measure national benefits and national costs in deriving an economic efficiency index. Separating economic efficiency from other measures of ideology (e.g., ADA and ACU scores) is an effective method for measuring not only legislative decisions, but also how those decisions reflect stewardship of resources entrusted in the hands of a legislator by a constituency.

A major weakness with the Kennedy model is not that it is intuitively flawed, but rather inadequately addresses myriad forces that push and pull political decisions that are constantly in flux over a period of time. Examples are population demographics and migratory trends, lobbying and campaign contributions, and political party engagement and party message, to name a few.

Expanding Kennedy's analysis from two congresses to ten, with the 1994 election producing changes in party control, is an important component for this argument. Even though ideology, as a predictor of behavior, is less likely to change in the short term, a longer term analysis introduces links to political parties and the institutional impact of changes in political power bases in Washington, DC. This dissertation considers if internal and external changes affect economically efficient decision-making or if economic efficiency as a variable is merely a component of ideology and is less affected by the aforementioned forces.

² Refer to <http://www.lerner.udel.edu/econ-e/> for further information about this model.

Self-interest and Ideology

Self-interest and ideology (non self-interests) are included in this study as independent variables in a model testing the effect of each as predictors of legislative voting vis-à-vis an E-score. To the extent that an efficiency index or E-score predicts voting behavior, including self-interest and ideology is a necessary means of analyzing and comparing.

Self-interest and ideology explain most individual behavior (Buchanan, 1972, p. 19; Downs, 1998, p. 19, Alesina & Rosenthal, 1995), but for the purposes of this dissertation, concepts of self-interest and ideology are used in explaining political behavior. Their importance in this analysis reflects the labeling of a legislator's motivation and political behavior around these general principles, although the measures do not embrace the consequences of political decisions and, alone, are insufficient in justifying policy action. As a component of ideology, analyzing economically efficient policy positions requires careful consideration of self-interest and ideology in explaining human decision-making.

Legislative decisions are best illustrated through voting decisions. How a legislator considers and defines a potential problem is a function of the ideology that shapes his or her interpretation of the problem.³ The extent to which an issue is actually a problem requiring a public policy solution is a product of the legislator's ideology and also self-interests that result from supporting or opposing public policy formulation.

³ Refer to Parsons (1995, pp. 77-78) for a discussion of problem recognition and problem definition in stages of a policy life cycle.

Self-interest and ideology affect public policy inputs, outputs, and outcomes by shaping all areas of individual decision-making that in turn influence voting decisions.

Many authors have studied voting behavior through myriad self-interested and ideological interactions (e.g., Schneider, 1979; Kalt & Zupan, 1984; Nelson & Silberberg, 1987; McArthur & Marks, 1988; Koford, 1989; Richardson & Munger, 1990; Segal, Cameron & Cover, 1992; Levitt, 1996; Uslaner, 1999). The struggle between self-interest and ideology is as obvious as it is complex. Representatives are elected to serve the interests of their constituents but must anticipate and balance those beliefs with their own self-interest and self-preservation. In part, decisions made by each representative are shaped by his or her responsibility to the people of each district (Kalt & Zupan, 1984). How the legislator envisions the role of government to address public concerns is a function of not only feedback from the ones that he or she represents, but also the ideological tendencies to view the world according to a set of beliefs. Considering self-interest theory and the impact of ideology on behavior, it is possible to learn more about the characteristics of each legislator before addressing consequences of behavior.

Self-Interest Theory

Self-interest is a primary explanation for individual behavior and is a common area in understanding political events, such as public policy formulation. Self-interest theory rests on the premise that a decision that a person makes is a result of a benefit to that person. In political science, self-interest is the application of rational choice to the political process, with decisions made in support or opposition to public policies (Arrow,

1963; Almond, 1991). For a legislator the choice will maximize his or her personal resources or the resources flowing to the district served by increasing probability of re-election (see Downs, 1957). In economics resource maximization is a basis for self-interested behavior, as pecuniary aspects of making a decision play a role in choices selected by the individual. Each decision presents benefits and costs to the decision-maker that are part of the decision process.

Considered very broadly self-interest could encompass any activity and explain all behavior. Such definition of self-interest is circular, however; it fails to consider important points of behavior to distinguish between selfish or selfless behavior, or self-interest and ideology (Mansbridge, 1990, pp. 254-263). As an example of this flaw, Buchanan (1972) discusses self-interest in terms of utility maximization, where individuals assign a value to goods (pp. 16-20). His research does not establish the time period in which these goods can be consumed or enjoyed, nor indicate to what extent consumption of such goods will affect that person's financial profile. Utility that one receives from financial considerations is easily understood; utility generated from non-tangible activities, such as satisfaction from charitable endeavors (Sen, 1990), does not offer a clear distinction between selfish and selfless behavior.

Arguing that self-interest can be based on utility and also non-tangible behavior is problematic at best. Christian virtues of faith and love applied to helping one's fellow man, for example, do not equate with furthering one's financial position (Buchanan & Tullock, 1962; Sen, 1990, p. 29). Distinguishing between ideologies of community service and charitable works from longer term financial benefits that an individual may receive is very difficult. Downs' (1957, p. 297) contention that rational citizens attempt

to maximize utility income emphasizes this distinction. Monetary considerations appear to be a central component when differentiating self-interested from non self-interested behavior.

Voting decisions made by constituents or legislators are often compared to non self-interested behavior for illustration. According to Stigler (1971) and Downs (1957, pp. 6-7) nonmaterial aspects of well being, such as spiritual commitment and moral righteousness, social status and adjustment, self esteem, and other ethical beliefs are non self-interested behavior. Choices made by individuals involving these issues do not expand their personal resources or increase their political acumen.

Self-interest and ideology appear to have overlapping boundaries that make an accurate definition of self-interest confusing. Sears and Funk (1990) offer a definition of self-interest that makes this distinction and is especially important when measuring variables that affect economic efficiency over time, a key component of this study. Their research considers public opinion but applies equally as well to an understanding of the legislative process. They find that self-interest includes shorter-term forces impacting an issue and is often an immediate reflection of individual choice benefiting the material well being of an individual or his or her family (p. 148).

Using Sears and Funk's definition of self-interest alleviates many of the problematic issues associated with self-interest as all encompassing behavior. To the extent that a force affects an individual immediately or over a longer period of time is an important basis for considering if that force influences the self-interests or non self-interests of that individual's political decisions. Narrowing the definition to include only the material well being of a person or immediate family, which appeals to pecuniary

considerations, is necessary for avoiding the pitfalls faced by Buchanan and Sen in their considerations of self-interest through utility maximization and sympathy, respectively.

Ideology and Behavior

Ideology is an action-oriented model of people and society (Friedrich, 1965; Grafton & Permaloff, 2005b, p. 173) and offers a solid basis for most legislative decisions. It is important for this study as a tool in explaining the step between individual behavior and consequences of political decisions. An action-oriented model contains directions for resolving political and economic issues, where ideology offers a prescription for solving these issues within a society (Minar, 1961; Drucker, 1974; Reichley, 1981; Van Dyke, 1995). Apter's (1964) argument that considers a more honorable and dignified social conduct that results from an application of general ideas in specific situations is consistent with this prescription (pp. 16-17). By analyzing and selecting public policies to solve political, economic, and even social issues, the effect of ideology on congressional voting behavior makes explicit a moral basis for action.

Ideology is often used in achieving self-interested goals and is the primary means of explaining non self-interested behavior in executive and legislative policy formulation. Non self-interest is synonymous with a standard liberal-conservative spectrum of ideology. In applying these prescriptions to a relationship between constituents and legislators, LaPalombara (1966) cites the historical aspects of ideology developed by L. H. Garstin⁴ by chronologically linking sets of values of mankind to

⁴ See L. H. Garstin (1954). *Each age is a dream: A study in ideologies*. New York: Toronto Ryerson Press.

actions of individuals or government that maintain an existing state of affairs or hasten development for future prescriptions for mankind (p. 7).

Garstin's analysis suggests that ideology must be considered in relative terms, where sets of values that identify a group are not necessarily static but shift over longer periods of time and with institutional changes in government and the economy (Hoover, 2003, pp. 259-260). For the parameters of this dissertation, shifts in values are important in explaining if economically efficient decision-making, when it exists, is supported universally by a legislator or is rather a function of the larger political, social, and economic environment. Borrowing from Groseclose, Levitt and Synder (1999) and Poole and Rosenthal (2001), shifts are controlled in an attempt to standardize measurement.

Accepting Sears and Funk's definition of self-interest, a definition of non self-interested behavior or ideology also includes the time period of the forces acting on an issue and the person or group affected by such forces. Longer-term forces, interests that impact the well being of a group rather than an individual, and nonmaterial components of well-being represent ideologies and offer a clear distinction to self-interested behavior (Stigler, 1971; Quirk, 1990; Downs, 1957, pp. 6-7).

Mullins (1972) equates these distinctions with boundaries between ideology and cultural phenomena and finds that ideology molds cognitive ideals among members of groups and enables those members to appraise their political condition and its prospects for the future, facilitating the mobilization of energy and resources for common political undertakings. The significance of ideology in mobilization is not that it 'causes one to do' but that it 'gives one cause for doing' (p. 509). Ideology thus represents the basis for

mobilization of actions around common political problems by grouping thoughts and ideals of those sharing a common ideology to reach similar outcomes.

Political ideologies allow one to understand reality or generalizations through simplifications that reduce excess information to a manageable size (Stokey & Zeckhauser, 1978, pp. 7-8). Sharing characteristics with fields of science, an analogy to engineering and other scientific disciplines holds merit. The political arena contains an abundance of information flowing through several channels involving constituents, elected officials, and media that require structure before processing.

The basis of science is deductive logic, with general principles explaining specific phenomena. Political ideologies involve similar logic, where principles of political thought shape the context in which social, economic, and political matters are considered, requiring political ideologies to structure and simplify those principles into a manageable, recognizable form. Without such structure legislators are not afforded generalizations on which to formulate policies and decision-making is at best problematic.

In contrast to Stokey and Zechkauser, LaPalombara (1966) concludes that ideology may not be dogmatic or utopian and is not compatible with science, suggesting that political ideologies contain the necessary ingredients for simplifications of realities within a model but are less concrete and are subject to change over time. The research does not dispute that like science ideologies simplify reality, making considerations for complex, specific events or forces possible from general principles. Rather the historical basis associated with ideologies and potentially numerous outputs possible from myriad political forces, generate outcomes less predictable than scientific fields.

To the extent that ideologies shift over time and can be analyzed on the basis of scientific principles, including ideology along with self-interest in this study is a necessary prerequisite for studying economic efficiency. Legislators make decisions with political and economic consequences and such decisions are a product of many factors in the environment, but if economic efficiency truly transcends a liberal-conservative spectrum of ideology, deeply held values not only reflect characteristics of a legislator but also the macroeconomic consequences of his or her voting record. While liberal-conservative ideology is a basis for most of the thought processes that define policy direction for most voting decisions, economic consequences may be what ultimately guide legislative voting, and those economic consequences should be reflected through economic efficiency.

Public Choice Theory

Including in this study a discussion of public choice theory and the rational behavior of political actors provides a logical basis for political decision-making. The economic principles surrounding such decisions are an illustration of self-interests that affect legislators. To the extent that legislators are rational and their self-interests affect policy decisions, predicting economically efficient outputs must consider not just efficiency as an extension of ideology, but also the rational principles behind each decision. Of critical interest for this analysis is the extent to which legislators follow their self-interests rather than supporting the public interests of a constituency.

Public Choice and Economics

The public choice or rational actor approach applies economic and political theory to decision making by considering aggregate effects of self-interest on individual behavior. Tullock (2002) defines public choice as a scientific analysis of government behavior and, in particular, the behavior of individuals with respect to government (p. 3).

A voter in a voting booth is analogous to a customer in a supermarket making decisions rationally. The unit of analysis for the approach is the individual, and the approach is based heavily on how self-interests motivate individual actions (Barry & Hardin, 1982, pp. 19-20). An economic market and a political arena are devices in which individuals further their self-interests by entering into exchange relationships that are of direct benefit to other individuals on the other side of the transaction. Market exchanges consist of goods and services, while political exchanges involve inputs to secure a common output (Buchanan & Tullock, 1962, p. 19).

In explaining policy formulation based on the same assumptions used in explaining the behavior of a firm, Parsons (1995, p. 307) finds that parties make excessive promises to win votes. In democratic societies parties are analogous to profit-seeking entrepreneurs. Just as entrepreneurs produce goods and services and engage in market exchange, parties play a role in policy formulation to produce the most votes to serve private ends (Downs, 1957, p. 295).

Rational Decision-Making

Maximization of individual self-interests explains rational behavior (Klosko, Muller, & Opp, 1987) and is easily illustrated through trade offs in individual utility and

how choices involve opportunity costs that must be considered over time. Rational decision makers face a utility function that relates decision alternatives that are available with benefits of choosing one alternative over another. Calculating costs in terms of forgone opportunities allows one to consider future and present benefits of a decision in accordance with his or her preferences. Each decision is made along indifference curves that constrain individual choice in accordance with his or her preferences (Downs, 1957, pp. 4-6; Jones, 2001, pp. 35-37).

For this study, the premise behind economic efficiency as a maximizer of total benefits is rooted in individual rationality. With individual self-interest and ideology influencing the decision process, how one considers the utility of each decision in accordance with his or her preferences affects support for public policies. The logic of economics offers an illustration of the competition between forces that affect each decision (Parsons, 1995, pp. 307-308). That is, legislators are driven by their self-interests while attempting to serve the public's interests. This presents an opportunity for manipulation of those self-interests (e.g., through campaign contributions) to alter policy outputs. To paraphrase Barnard, the extent that a legislator subjectively evaluates each inducement produces a decision only to the point where the marginal benefits equal or exceed the marginal costs of supporting such decision (as cited in Fry, 1989, p. 8).

Capture Theory

In politics capture occurs when bureaucrats act according to self-interests instead of in the public's interest in the framing and passing of legislation. This idea has been extended to legislative voting behavior. The premise behind capture is constituents'

ideological interests and self-interests should influence federal spending (Stigler, 1971; Atlas, Gilligan, Henderson, & Zupan, 1995). Kalt and Zupan (1984) pose the issue as competition between a legislator's ideology and local economic interests.

Peltzman's (1985) view is contrary, as he finds the relationship between legislator ideology and local economic interests to be interrelated. Legislators who engage in ideological voting are shirking their responsibilities to constituents. Intensity and impact of ideological position to other variables such as career advancement, party loyalty, and quest for reelection to name a few, are important factors in the legislative process (Jackson & Kingdon, 1992), findings consistent with constituent and party dimensions that explain congressional voting behavior (Koford, 1989).

The legislator's interest and the constituents' interest are also a function of whether the elected official is leaving office or continues to serve his or her constituents. Legislators often change their voting decisions when exiting political office, especially if the legislator is an ideological centrist as opposed to liberal-conservative extremes, finding "sufficient evidence to suggest that members do, indeed, pay attention to what their constituencies want when they are subject to reelection but give less attention to such desires when they are not" (Rothenberg & Sanders, 2000a, p. 322). Electoral ties appear to be particularly important when considering departing House members relative to those members who were reelected. By leaving office elected officials are less influenced by constituency concerns. Re-elected incumbents weigh district preferences more heavily than members leaving office (Rothenberg & Sanders, 2000b). Controlling for this aspect of a legislator's membership to Congress is necessary in analyzing these effects.

Collective Action

This section identifies the collective aspects of decision-making and external and internal costs associated with the number of individuals making a decision. An example includes an optimal level of individuals necessary to minimize expected costs of making the decision. The costs of making a policy decision are important to this research because they add another dimension to policy-making that transcends an individual legislator making an isolated decision. How the collective aspects of voting behavior affect support for economically efficient public policies suggests that rational individuals are expected to maximize self-interests before maximizing the group's interests.

Decision Science

Characteristics of legislators are described on a liberal-conservative basis denoting that person's ideological predilections. Public policies are debated and formulated around a multitude of complex dimensions. Dividing the stages of the policy process into debate space, decision space, and outcome space, the decision space collapses a multifaceted debate space into a single dimension in which legislators cast their votes, but branches again into many dimensions as policy outcomes affect various groups, individuals, and institutions (Jones, 2001, pp. 155-156). Although legislators are individuals and therefore bounded by limited knowledge with which to understand complex associations of variables, the consequence of policy decisions illustrates strengths and weaknesses in the agenda process.

Consistent with Rogers and Dearing's contention that agenda setting includes media, public, and policy components that are interactive (as cited in Parsons, 1995, p. 114), arguing that lawmaking reflects relative degrees of liberalism or conservatism separates the ideological extremes with very little overlap (Jones, 2001, p. 154). With party unity scores increasing (Leyden & Borrelli, 1990, p. 343) and ideological polarization widening (Collie, 2000, pp. 219-227), a liberal-conservative spectrum appears to lack the necessary cognitive tools to analyze a plethora of multidimensional variables as part of policy debate and outcomes.

External and Decision-Making Costs

Multiple decision dimensions are consistent with Simon's underlying decision premises "and involve the processes of alerting, exploring, and analyzing, which precede the act of choice" (as cited in Fry, 1989, p. 185). Costs are a component of the options that a legislator must consider in making choices. Two types of costs are external costs and decision-making costs.

External costs are those costs that an individual bears when a decision deviates from his or her preferences. These costs are highest when any one person can take action for a group collectively. Greater participation in decision-making reduces external costs as the decision will be closer to any individual's preferences. Decision-making costs are opportunity costs of expending resources on a decision that could have been applied elsewhere (Ostrom, 1989, pp. 58-59).

To minimize costs rational legislators seek the decision point where each cost intersects. The political process with greater involvement in decision-making reduces

external costs as the decision is a product of greater numbers of individuals and will be less likely to deviate from preferences. The smaller the size of the group, the greater is the paradox between large and small groups, as increased voluntary action exists for common purposes of the individuals in the group (Olson, 1965, pp. 2-3). When the number of individuals making a decision increases collectively, the expected cost decreases to a point. But unanimity raises decision-making costs as resources are expended in reaching a decision that could have been utilized elsewhere (Buchanan & Tullock, 1962, p. 89; Stigler, 1975, pp. 123-126; Ostrom, 1989, pp. 59-60).

Interest Group Theory

Interest groups are important to this study through the effect of their activity on legislative voting. Specifically, lobbying and contributions to campaigns influence self-interests of legislators and impact policy decisions. The message from an interest group is a unified voice that shapes how a legislator considers an issue or problem and is a factor in how a problem is defined. In this dissertation, campaign and lobbying dollars flowing to legislators are measured as independent variables influencing voting decisions.

Parsons (1995, p. 30) defines interest groups as pressure or lobby groups, which seek to influence policy by monitoring existing policy and developing alternative ideas and proposals or shared attitudes (Truman, 1960, p. 33). The effect of these groups on shaping policy can be immense as such groups wield influence through the giving of campaign contributions and distribution of specialist information (Austen-Smith, 1993, p. 799).

Interest group theory reflects the self-interests of interest groups in decision-making processes and should be considered along with public choice theory because self-interest is the sole motivator of behavior in each theory. The outcomes produced by the interest group are of benefit to others, but only those participating in the group's activities face the cost associated with those benefits. The larger the group the greater is the ratio of privately borne costs to privately accrued returns of individual action. Smaller groups provide greater net benefits to individuals and are more likely to persist over time (Schuessler, 2000, pp. 33-34). Although individuals are the unit of analysis for public choice theory and groups are the unit of analysis when considering interest groups (Truman, 1960, p. 502), Bentley⁵ finds that within an analysis each term, group or individual, may be used interchangeably without significantly affecting the results (Buchanan & Tullock, 1962, p. 9).

Interest groups are dynamic and are not effective without varying with business cycles and issue areas in an attempt to generate political outcomes (McFarland, 1991). Using economic theory in arguing a positive relationship with group activity and modernization, the higher the complexity and differentiation of society over time, the greater will be the proliferation of interest groups. With the ebb and flow of business cycles groups that seek the status quo benefit from political and economic stability, while groups seeking reform will challenge those groups. But after a few years unchecked groups will fail to maintain values responsible for stability, leading to greater political participation by reformers. As the cycle continues, the reform group loses interest in a few years and the cycle repeats.

⁵ See A. Bentley (1935). *The process of government*. Bloomington, IN: The Principia Press.

Campaign Finance

Campaign financing is a source of capital provided to candidates for office to develop a message and communicate with voters. It is an independent variable affecting voting behavior. The cost of congressional campaigns is escalating as the role and scope of the federal government is increasing (see Reichley, 1992, p. 5). In an age of electronic media necessitating the use of specialized campaign strategies and expert consultants, campaign financing occupies a critical if not controversial component of the political process (Kernell & Jacobson, 2006, pp. 443-444).

Hamilton (2004) states: “Many Americans feel that it is money, not ideas and not principles, that reigns supreme in our political system” (p. 115). With all monies spent on congressional elections coming from private sources, a primary concern is evident: privately financed elections create an incentive for elected officials to serve as agents of their contributors rather than of their constituents, with the pursuit of money subverting the purpose of a campaign (Kernell & Jacobson, 2006, p. 444).

Democracy demands political equality of one person, one vote (*Baker v. Carr* 1962; *Reynolds v. Sims* 1964; *Wesberry v. Sanders* 1964), but an unequal distribution of contributions to political candidates threatens democratic principles. Ansolabehere and Snyder (2000) state: “One of the most striking features of congressional elections is the advantage that the typical incumbent enjoys in financing campaigns” (p. 65). Campaign financing increases the political pull of organized interests at the expense of the constituents’ interests by purchasing influence, raising issues with legislative accountability.

Lobbying

Self-interested decisions are the basis for lobbying efforts by interest groups to influence behavior. In the present study, lobbying dollars are an independent variable affecting legislative voting. Hojnacki and Kimball (1998) surmise that organized interests shape the policy decision agenda through careful considerations of which groups or individuals they will target in the legislative process. Lobbying can be friendly to reinforce existing policy preferences, confrontational if political enemies are deciding the fate of a policy issue, or some combination (Kollman, 1997).

Lobbying across multiple, institutional venues is common with much variation between lobbying organizations and venues, where expectations of opposition from other interests are a major factor in lobbying decisions within any given venue (Holyoke, 2003). In political institutions, Democratic candidates who receive relatively greater assistance in developing campaign messages vote in higher numbers along party lines (Cantor & Herrnson, 1997).

Interrelationships exist among committees, government agencies, and issue networks (Cater, 1964; Hall & Evans, 1990; Heinz, Laumann, Salisbury, & Nelson, 1990). For congressional committees, Hojnacki and Kimball (1998) add that organized interests seek an expansion of their coalitions, affecting the content and fate of bills that are referred to committees. Their research considers three perspectives in terms of units of analysis to integrate their findings: individuals, groups, and the context of the issue. Individuals are sometimes targeted through characteristics of the legislator, policy preferences, or legislative position in Congress, while groups that provide financial or

other resources to influencing government policy offer another model of interest group behavior.

Lobbying efforts at the very least increase discourse and expand discussion surrounding an issue. Smith conceives that the amount of time Congress deliberates on an issue correlates with the success that lobbyists experience in influencing congressional decisions and Bacheller concludes the public's perception of an issue and the level of controversy of the issue affect lobbying strategies (as cited in Hojnacki and Kimball, 1998, p. 776).

The relative importance of an issue is part of problem definition but also a product of recognizing a problem. Lobbying initiatives play a role in prompting attention to an issue (Parsons, 1995, p. 127). The extent of controversy surrounding an issue is an incentive for lobbying groups to push the issue toward a policy agenda and minimize conflict.

Roll Call Voting

A roll call vote in Congress specifically identifies the position of the legislator casting the vote in contrast to a voice vote where legislative votes remain anonymous. The roll call votes usually studied are votes on the House and Senate floor because all members may participate in these votes. Interest groups track these votes in order to determine whether their campaign contributions and other support for a legislator have returned benefits in the form of policy decisions (votes) supporting their positions. Some interest groups track a variety of these votes and combine them into indexes that measure overall levels of support received from each member. Knowing whether the

legislator supports or opposes a public policy as opposed to a tally for the entire body is paramount for this study in measuring voting behavior and understanding the legislator's regard for economically efficient outcomes. In this section an examination of roll call voting reveals the dimensions of ideology that are part of each decision premise and compares to legislative self-interests in developing economically efficient voting outputs.

Explanation of Behavior

Roll call voting provides a permanent record of a legislator's support or opposition to a public policy, but it does not explain why the elected individual took such action. Strategies for casting roll call votes include a combination of factors between self-interests and ideology and congressional members and their constituency. With legislators seeking reelection to public office (Downs, 1957) or logrolling (Buchanan & Tullock, 1962, p. 132) to trade votes to gain political advantage, inducements shape behavior. Barnard finds that utilities attached to inducements and contributions explain much political behavior (as cited in Fry, 1989, p. 196).

Simon's argument is that these decisions are shaped by information available to the legislator and constrained by bounded rationality that constricts his or her limited cognitive capacity (as cited in Fry, 1989, p. 192). Jones (2001, p. 26) does not dispute human limitations, but rather justifies that mankind is goal oriented and is not always successful in adjusting to a changing world and satisfices with acceptable rather than optimal alternatives (Simon, 1996, p. 30). The effects are most pronounced when voting decisions involve multiple consequences or congressional bills are assembled to include

several unrelated items involving different dimensions and levels of support (Jones, 2001, p. 43).

Clausen and Van Horn find that shifting of policy domains under new or different rubrics or vectors that demand attention illustrates the power of roll call voting on changing behaviors. Changing policy domains shifts legislative support through new clusters of issues (as cited in Shaffer, 1989, p. 36).

Flanigan and Zingale follow that a correlation exists between shifts along the liberal-conservative ideological spectrum and changing perceptions of the ideological distance between the voters and institutions of government (as cited in Grafton & Permaloff, 2005b, p. 174). Adding to this argument, Clausen finds that constituents strongly impact a congressional members' position in civil liberties and foreign affairs but not in domestic areas of social welfare policy and agricultural support, although Peltzman and Kalt and Zupan dispute whether the members' ideology is a significant cause of variation in roll call behavior (as cited in Vandoren, 1990, pp. 311-312). Evidence exists that House members with more moderate ideological positions are more likely to be reelected (Erikson & Wright, 2005, pp. 95-97).

Of the myriad forces impacting legislative behavior, Bullock and Brady (1983) acknowledge that party has the largest direct effect, but constituency characteristics have an even a larger effect than party when measured both directly and indirectly in the Senate. Senatorial voting responds to effects of party, as senators move toward the ideological center a few years before the end of their six-year election cycle. Moderation of ideological positioning characterizes members in the House and Senate preceding an election, but more heterogeneous constituencies and a longer term of office magnify

changes in behavior in the Senate relative to shorter terms of office in a more homogenous House (Erikson & Wright, 2005, pp. 100-101).

Roll Call Votes and Measures of Ideology

Ideology is often measured along a liberal-conservative spectrum by considering roll call votes that legislators cast in the House and Senate. Most votes that comprise the measure are compiled by interest groups in an attempt to identify how closely legislators vote in support of legislation consistent with the ideological profile of that group. The exercise presumably allows one to determine the extent to which a representative or senator is conservative, liberal, pro-family, pro-business, etc. and says something about the behavior of the legislator (Shaffer, 1989). In addition to E-score, Kennedy (2005) identifies at least 11 models that represent ideology (p. 66) and Shaffer (1989) finds as many as 15 groups providing ratings for members of Congress, with most measures assembled through roll call voting records.

A consensus exists that ADA and ACU roll call votes offer a distinctive measure of a legislator's ideological location along a liberal-conservative spectrum (Burden, Caldeira, & Groseclose, 2000; Erickson, 1990; Shaffer, 1989; Schwab, 1988). Researchers find that a single liberal-conservative dimension explains as much as 80 percent of voting decisions (Schneider, 1979; Poole, 1981, 1988; Poole & Rosenthal, 1985; Poole & Daniels, 1985), leaving fully 20 percent not explained within a single dimension. E-scores utilize roll call votes but introduce another dimension to voting models by extending traditional liberal-conservative spectrums to incorporate net social benefits. A vote in support or opposition to legislation is a pragmatic measure of the

legislator's ideology, but also presents problems in using voting indexes to understand voting behavior (McRae, 1954). Flower (1982) contends that group emphasis tends to weigh interest group measures toward a few indices and might present a misleading polarized view of the legislator's ideology. Anderson follows that no external checks are in place to protect the validity of the measure from a researcher's judgment as warranted, especially if a standard liberal-conservative spectrum oversimplifies dimensions of ideology that Matthews and Stimson reveal exist over several dimensions of conflict (as cited in Shaffer, 1989, pp. 34-36). Policy domains, namely international involvement, civil liberties, government management, social welfare, and agricultural assistance, are examples of multiple dimensions of ideology (Clausen & Cheney, 1970). Shaffer (1989) states:

If congressional ideology is indeed multidimensional, then a single index would be a highly inappropriate measure to employ in legislative research. This might be especially true for a rating like the ADA's, which incorporates a wide range of both domestic and foreign policy roll-call votes. (p. 36)

While these concerns are warranted, the fact that roll call analysis appears to depict dimensions of ideology and shifts over time in ideological positioning suggests that voting decisions may change as a result, with the impact on economic efficiency of foremost concern. These shifts in ideology may reflect a changing policy agenda as larger social, political, and economic changes occur. Simple indices of liberal-conservative divisions are inadequate over time when significant transformations occur (Deckard & Stanley, 1974; Bethell, 1979; Shaffer, 1989). Identifying shifts in ideology correlates with shifts in policy domains that Clausen and Cheney (1970) identify. Issues

may change as political situations change with the end of the Cold War and beginning of an age of terrorism, or the meaning of liberal and conservative may be altered due to changes in interpretation manifested through the rating agency (e.g., ADA or ACU).

Perspective to Self-Interests

Legislators rationally make policy decisions according to their self-interests. Roll call votes are important in that voting decisions are made available to constituents, contributors, and other congressional members of the same or opposing political party. Maximizing self-interests is the hallmark of rationality and legislators will carefully cast votes or abstain from voting in a manner consistent with Bachrach and Baratz's non-decisions (as cited in Parsons, 1995, pp. 135-136). Associating or disassociating with the label of a political party reminds voters of the legislator's ideological position vis-à-vis the party to which he or she belongs (Snyder & Groseclose, 2000; Bullock & Brady, 1983).

Considering the extent that constituents' preferences (Fiorina, 1974, p.30) influence a congressional members' policy position, McRae and Clausen's research reaffirms the importance of dimensions in congressional decision-making in which alignments can vary from policy area to policy area (as cite in Poole, 1988, pp. 119-120). This is not inconsistent with a belief system that Converse (1964) defines as "a configuration of ideas and attitudes in which elements are bound together by some form of constraint or functional interdependence" (p. 207), allowing the legislator to encompass a wider range of information than he or she would find possible without an organization of ideas (p. 214).

Policy Implications

Numerous public policy implications arise from a single liberal-conservative dimension or multiple dimensions of individual behavior. Wilcox and Clausen (1991) cite research (see MacRae, 1970; Clausen, 1973; Sinclair, 1977) where “members of Congress distinguish among a variety of substantive dimensions in reaching voting decisions” (p. 393). Vandoren (1990) argues that considering policy dimensions alone is not adequate and in order to fully understand congressional behavior requires a pooling of data through time series analysis. This contention not only offers support for an E-score in capturing a multidimensional policy decision, but also attributes its virtues through a time series perspective.

A cause for concern with using roll call floor votes in a study of public policies surrounds the importance of committee votes. Roll-call votes occur only if policy proposals receive committee approval or extraordinary measures (e.g., use of discharge petitions or action by the leadership) are taken to bring legislation to the floor. Legislation may languish on the calendar or an inadequate number of members assemble for a roll call. Hence the effects of factors estimated from roll-call data are actually conditional on the occurrence of committee approval and member support for a roll-call vote (Vandoren, 1990, p. 332). Ignoring committee votes fails to consider aggregate congressional decision-making if time series analysis is not employed for roll-call votes. Determining why a legislator voted in support or opposition to a policy must consider the effect of constituency influence, political party, self-interest, and ideology.

The policy implication is that roll call voting analysis too often considers only a small dimension of behavior unless pooled over a period of time, supporting an

argument of this dissertation that forces affecting political behavior are shifting and must be considered not as static entries, but rather over time in predicting how closely a legislator espouses economically efficient policy making.

American Legislature

In this section a discussion of factors internal and external to the American legislative system are considered because of their impacts on policy making. The external forces such as elections impact internal operations (e.g., chamber control by party, nature of the leadership, and policy agendas) in ways that influence individual legislators and their decision-making.

Federal System

The U.S. Constitution establishes the basic framework for dividing governmental responsibilities among levels of government (Hamilton, 2004, p. 12), where independent interaction across the levels includes the same people and territory and is a necessary ingredient for mutual influence (Kernell & Jacobson, 2006, p. 81). The federal system is one national level of government and 50 state levels that cede powers to local units in a “blend of elected and appointed officials from all levels of government sharing policy and program duties” (Hamilton, 2004, pp. 11-12). This view is consistent with shared federalism, where levels of government cooperate in jointly providing services that its citizenry expect than neatly divided spheres of sovereignty discussed by Madison in Federalist Paper 45 (Kernell & Jacobson, 2006, pp. 82-83). Modern policy decisions involve complex associations that require involvement of the federal government in

policy areas once served exclusively by state or local concerns, a scenario that perpetuates an increasingly active role of the federal government.

In agreement Neustadt recognizes that a growing government becomes increasingly complex, with sharing of power proliferating in an attempt to serve the needs of its citizens (as cited in Cater, 1964, p. 11). Sharing powers does not usurp the constitutionally mandated function of an institution, but rather facilitates institutional effectiveness in carrying out those roles identified by the framers by diminishing the risk of concentrated power in the hands of any one person or small group. As an institution Congress represents both the states (Senate) and districts within the states (House). The states control the election process for the legislature and through the Electoral College, for the president as well. Legislators act as agents to the needs of a constituency, but also serve as a statesmen linking local issues with state or regional concerns and managers of political resources and opportunities necessary for cooperation between political institutions within their respective districts (Frantzich, 1979).

Democracy

Ideals that a society desires correlate with the practices of political representation. Cohen states: “Democracy is that system of community government in which, by and large, the members of a community participate or may participate, directly or indirectly, in the making of political decisions which affect them all” (as cited in deLeon, 1995, p. 889). Haynie (2005) adds that legitimacy and trust in the political system by the citizenry are necessary to ensure that political institutions meet democratic ideals. “In the United States, legislatures, more than any other political institution,

embody these important principles of democracy” (p. 406). To the extent that democratic values produce public policies that do not infringe upon individual liberties an important link exists between democracy and the policy sciences.

The policy sciences and democracy

Democratic ideals are the foundation on which policy decisions are made. Policy decisions represent a science that defines political decision-making between an elected official and the constituency he represents. Lasswell⁶ clarifies the science of policy making by recognizing how the policy process can expand basic democratic values through the methods and results of an investigation of policy and the findings from a study of political problems (as cited in Parsons, 1995, pp. 18-19). Improving the knowledge of decision makers in the policy process and expanding the contextual framework for policy discussion is consistent with democratic principles and illustrates the importance of considering the individual (whether a constituent or a legislator) and the role of that person in affecting policy decisions. Initiating a problem-oriented focus to synthesize disparate ideas is an important step in eventually realizing an expansion of human dignity.

Institutions of Government

Institutions are organizations that exist in providing stability through developed procedures and rules. Parsons (1995) finds that “institutions do not exist in isolation

⁶ See H. D. Lasswell (1948). *The analysis of political behavior: An empirical approach*. London: Kegan Paul; H. D. Lasswell (1951). The policy orientation. In D. Lerner and H. D. Lasswell (Eds.), *The Policy Sciences: Recent developments in scope and method*. Stanford, CA: Stanford University Press; H.D. Laswell (1970). The emerging conception of the policy sciences. *Policy Sciences*, 1, 3-14.

from the wider relationship of state to society” (p. 334). Political institutions standardize relationships between decision-makers and constituents; Congress has formal powers and shared responsibilities between Congress and the executive branch impact legislative decision-making. For this research the House of Representatives and Senate are each distinguished as separate institutions to emphasize probable public policy impact of differences between those two chambers of Congress. The effect of political divisions between each chamber and the executive branch will also be considered.

Competitive Market Analogy

Organizations combine self-interests of individual members and the common interests of the group that it represents. In a perfectly competitive market firms have a common interest in higher prices for the industry’s product. A firm cannot expect a higher price for itself unless all firms in the industry receive the higher price. Firms in a competitive market, however, produce where marginal cost equals marginal revenue (Browning & Zupan, 2002, pp. 229-230) and if the market is not in equilibrium with price exceeding marginal revenue or price, an incentive exists for firms to produce more (Stigler, 1965, pp. 9-11). But as output increases price falls; the self or individual interests of the firms supersede the common interests of the industry.

Borrowing from an analogy to a competitive market, institutions of government serve individual interests before common interests of the state. Patriotism in an age of nationalism is a collective force that pulls together common interests within a nation. But a state cannot serve those interests without compulsory taxation of its citizens to provide services and resources. Taxes, however, provide fundamental services available

to everyone. These common benefits are often called public goods as the benefit is not excludable and no rival firm provides the same or similar service (Stigler, 1975, p. 107; Weimer & Veining, 2005, p. 72). It is in the common interest of the state for everyone to benefit from additional services, but not in the individual interest of those burdened with higher taxes (Stigler, 1965, pp. 13-15).

Congressional Institutional Distinctions

Institutional distinctions between the House of Representatives and Senate affect the legislative process from input and processing of resources to policy outcomes. Differences in the formal structure shape the informal roles of legislators, a concern in this study. Changes in these institutional relationships over time are a function to a large extent of factors within the external environment surrounding political parties. Examples include increasing ideological divisions between parties and party unity within each party. Shifts in party alignment are another example; each will be discussed later under lawmaking and are examined in this study as independent variables producing changes in behavior.

Checks and Balances

Burden and Kimball (2002) argue that the structural differences associated with a constitutional separation of power provide an inherent tendency for citizens to split votes among political parties (p. 17). The American system of government makes possible for checks and balances within the system to apply to not only interaction among institutions of government and its leadership, but also citizen choices deciding who occupies legislative or executive roles. Literature points to gerrymandering, campaign

financing advantages and media access for incumbents, and constituency service in explaining Republican dominance of the presidency and Democratic dominance of Congress during most of the period after World War II (Menefee-Libey, 1991, pp. 519-520; Burden & Kimball, 2002, p. 18).

Petrocik finds that issue ownership is a premise behind the reputation that each party attains from prior consideration of campaign issues, while Jacobson posits that voters gravitate toward the political party that offers greater relative strength and expertise in a specific issue area (as cited in Burden & Kimball, 2002, p. 20). Republican strengths are expected in economics and foreign policy and Democrats usually excel with social issues, such as education, welfare, and environment. Issue ownership and institutional matching of political party are examples of short-term forces that vary from one campaign to the next (Flanigan & Zingale, 2002, p. 60).

House of Representatives

The House of Representatives is of a larger size, hierarchical, with a locally based, homogenous constituency. The decision making process of the House of Representatives is more formal and rigid and the institution receives relatively less media coverage than the Senate. Members of the House are elected every two years and are “closely connected to the needs, desires, and wishes of the American people and...the voice of public opinion” (Hamilton, 2004, p. 66), by serving a smaller geographical area than senators and working closely with local officials in the district in fulfilling casework requests (Hamilton, 2004, p. 67). Members of Congress are

concerned with maintaining their elected position, as Downs (1957) theorized, and will comply to these requests if possible.

Contract with America

In the 1994 mid term election the Republican Party was successful in uniting members of the House of Representatives around a “Contract with America” by nationalizing local issues (Brady, Domofrio, & Fiorina, 2000, p. 130). While House elections gradually became more nationalized and less local in focus beginning in the 1970s, 1994 represents the major change point (p. 148).

The election produced the first Republican majority in the House of Representatives since the 1950s. Democratic representatives were portrayed as irresponsible for allowing government to grow “too big, too expensive, and too inept” (Kernell & Jacobson, 2006, p. 219). Hamilton (2004) states: “Public approval of how Congress is handling its job has typically been low in recent decades, usually hovering around a 40 percent approval rating – sometimes going higher, sometimes falling below 30 percent” (p. 75). Hibbing and Tiritilli (2000, p. 114) use National Election Studies data to find that disapproval of Congress spiked from 1988 to 1994, to over 70 percent, reaching a level of disapproval comparable to distrust in government in the mid 1970s. They identify “the public’s willingness to attribute responsibility for the problems of Congress to the majority party (Democrats) and, then, to vote on the basis of that attribution” (p. 115) as evidence that congressional approval linked to majority party identification is relevant to vote choice.

National legislation is not always consistent with local norms and ideologies. House members are tugged by the legislative requirements of their position and their responsibilities as a representative of the needs of a constituency more so than senators. Fenno's observation that many individuals regard congressional institutions as broken and lacking effectiveness paradoxically finds those same individuals tending to favorably embrace their own legislators (as cited in Hibbing & Tiritilli, 2000, p. 110). That the 1994 election produced changes in local races to equal dissatisfaction with the institution as a whole is evidence of nationalization of local issues, with success of Republicans in presidential races and continuing political strength of the South an impetus (Fiorina, 2005, pp. 163-165). Public disapproval of Congress was not extremely elevated in 1994, unlike the disapproval associated with the Democratic Party in Congress.

Under the leadership of Speaker of the House Newt Gingrich the newly elected Republican majority convinced voters to hold them responsible within the first 100 days of the session for the provisions of the contract that promised to change the way that government operates, shrink the size government, and reduce taxes to fight collective irresponsibility of members of the House (Riley, 1995, p. 704; Dodd & Oppenheimer, 2005b, 26; Kernell & Jacobson, 2006, p. 219). Budget struggles were the focus of Gingrich's efforts to gain political dominance. He rallied party leadership support of most bills to ensure cooperation from standing committees as a united push from Republicans in the House for a united legislative agenda ensued (Dodd & Oppenheimer, 2005b, pp. 26-28).

Compromise is a big part of making a decision that fits with a representatives' ideology, serves the needs of a constituency, and facilitate the goals of a free society (Hamilton, 2004, p. 87). The Contract with America brought to the fore weaknesses in a candidate-centered electoral process that fails to consider narrow issues or aggregate consequences of policy making. The 1994 election identified the problems of a legislator being individually responsive to a constituency base and neglecting collective responsibility to produce positive aggregate consequences, such as revenue or spending measures (Kernell & Jacobson, 2006, pp. 218-220). This suggests that maximization of aggregate social benefits was a concern of voters in denouncing a Democratic Party that was depicted as a poor manager of financial resources.

Senate

The U.S. Senate, in comparison, is a smaller body with more prestige, serving a larger, more heterogeneous constituency. Institutional differences exist not only within the structure of the House or Senate as provided through the Constitution, but also from the organization of the chamber as a result of political party effects from the leadership of each chamber. Rules and procedures are largely a function of a political party platform (Kernell & Jacobson, 2006, pp. 228-237).

The Contract with America shines a light on many of the institutional differences between the House of Representatives and Senate. By thriving on conservative activism and confrontational political behavior, House members are often at odds with the institutional deliberativeness of wary budget management that characterizes the Senate (Riley 1995, p. 704). One of the reasons for these differences involves the greater scope

of the Senate chamber that restrains senators and especially their leadership as party teams, both in the focus of that chamber toward issues facing the entire state as opposed to a particular district and the need to selectively manage problems across a more heterogeneous constituency (Sinclair, 2005, p. 18). Demands placed on a senator reach into foreign affairs and transcend issues directly pertaining to a local or state constituency (Preston, 1969, p. 51). That the Contract applied to the House and its leadership but was merely a glancing blow in the Senate lends evidence to greater institutional effects as opposed to party effects and argues that party control of an institution does not necessarily permeate other institutions in government (Riley, 1995, p. 704). Generating a similar groundswell of support through party effects for legislative agendas is next to impossible in a Senate chamber with staggered terms of office that dilute any immediate effects to organize a party around an issue (p. 705).

Sharing of Power with Executive Branch

Congress has formal power granted by the Constitution to make laws, but its power also extends into executive matters through the creation of a collection of agencies and bureaus known as bureaucracy. These associations shape values and preferences of legislators and constituents alike and legislative voting is affected by the partisan policies made by agencies.

The Constitution gives presidents modest legislative powers but provides a veto as a tool to block or react to congressional proposals (Kernell & Jacobson, 2006, p. 272). It is through the veto pen or the threat of a veto that the executive branch often exercises legislative discretion and impacts the legislative process. Presidents also participate in

the legislative process by initiating legislation and submitting mandated budget proposal and working with their party's legislative leadership for enactment of these policies.

Much legislative activity is oriented toward supporting or opposing presidential initiatives passed on political party or ideological considerations. Relationships between executive and legislative roles are increasingly important due to the growth and complexity of the federal government (Kernell & Jacobson, 2006, pp. 309-312).

Lawmaking

This section introduces and assimilates changes in the formal rules structures and committees of Congress with the proliferation of unorthodox lawmaking resulting from such changes. Constituency concerns are increasingly a factor in formulating a legislative agenda. Media and other forms of communicating between legislator and constituent redefine principle-agent relationships and are a source of political instability and shifting as policy imagery and issue attention changes. An expansion in the role of the presidency and polarization in government characterize ongoing changes in government at the federal level. How these changes affect voting behavior, to the extent that economic efficiency is impacted, is relevant to this analysis.

Agent to Constituents

Polsby (1968, p. 165) states: "A United States Congressman has two principle functions: to make laws and to keep laws from being made." Members of Congress are agents to their constituents and cast votes according to constituency needs, but also in accordance with ideology and self-interest of the legislator. Legislation rarely includes an isolated issue that is considered only once with little or no debate or opportunity to

vote on amendments in addition to final passage. A legislator may vote based on opinions and advice of constituents or on how a constituency might perceive an issue if they were to carefully analyze a problem and make informed decisions. Legislators are often unaware of the preferences of a constituency without direct feedback and attempt to balance the desires of a constituency with their self-interest to maintain office. To balance these effects the legislator might straddle issues and vote for killer amendments or strategically cast a vote on final passage when the fate of a bill has been decided, for example (Kernell & Jacobson, 2006, p. 250).

Rules and Committees

The structure of Congress is designed to enable majorities to make laws and opponents of a bill the opportunity to delay or kill legislation. For this study the partisan influences from House leadership correlate with control of the institution, as evidenced by Republican control after the 1994 election. Whether party control affects only the leadership or also policies that are in the public's interest is of concern.

After a bill is introduced it is assigned a number and referred to a committee (Kernell & Jacobson, 2006, p. 245). Although the most common result is for a bill to die in committee, Sinclair (2000, p. 227) states: "Congress has long done its serious substantive work on legislation in committees," a trend that has accelerated since reforms in the 1970s (Hall & Evans, 1990) and is an example of institutional changes that might impact behavior. If a committee decides to proceed with further action, the bill is referred to an appropriate subcommittee for hearings with various groups in attendance testifying about the issue at stake. If a subcommittee decides to act on a bill,

it edits the bill line by line and reports to the full committee, which accepts, rejects, or amends a bill.

In the House rules or resolutions frequently specify the procedure for limiting debate of legislation through the House Rules Committee (Kernell & Jacobson, 2006, pp. 246-247). Restrictive or closed rules keep unwanted amendments off the agenda and became a tool of partisan leaders in the House in the 1980s and 1990s to limit minority party debate (Schickler & Pearson, 2005, p. 210). Since a majority vote is necessary on the floor to adopt a rule, the effect is for the House to constrain itself. Debate of a bill is divided equally between proponents and opponents of the legislation, who attempt to make a case that the policy serve the public interest. House leaders induce members through control of agenda by framing issues around party principles (Kernell & Jacobson, 2006, p. 251).

The Senate has no equivalent of the House Rules Committee, but arranges orderly consideration of debate, allowable legislation, and procedures through unanimous consent agreements. Without such agreements, individuals can filibuster by making endless speeches and blocking action on a bill. Cooperation among senators is necessary to practice mutual constraint and bipartisan cooperation (Kernell & Jacobson, 2006, p. 248). Floor action is more important in the Senate than the House, as Senate leaders, committees, or subcommittees wield relatively less influence in the Senate chamber. Growth in subcommittees has reduced the influence of seniority rule (Preston, 1969, p. 123).

Unorthodox Lawmaking

Lawmaking does not always follow a linear path from introduction of a bill, to debate, and eventual signature. Sinclair (2000) explains that increases in workloads and strategic behavior of individuals within the political environment are determinants of procedure, especially in the House. Bills are often considered by multiple committees or bypass committees altogether and call for the measure to be brought to the floor. Increases in multiple referral of legislation mirrors attempts to reform committee jurisdiction and increase broad participation in the legislative process. Party leaders initiate compromises and play a proactive role in negotiations. House reforms in the 1970s shifted the distribution of influence from committees to subcommittees, with more emphasis on party leadership (Sinclair, 2000, p. 84), heightening struggles between party and legislative voting behavior.

Decentralized power in the Senate shifted to greater individualism after the 1950s, when activism in the number and size of groups expanded. Senators are hesitant to curtail enormous opportunities for influence. Legislating in the Senate is more problematic as internal reforms fail to provide the tools for negotiations and debate necessary for bringing together disparate individuals or groups to compromise on the issues considered, leading to extended debate and mounting gridlock (Sinclair, 2000, p. 235).

Constituency Preferences: The Role of Media

Most constituents know very little about the specifics of an issue on which a member of Congress will vote and for those constituents that do express an interest in

the political process, their opinions vary widely (Kernell & Jacobson, 2006, p. 251). Perceptions are a major determinant of how one interprets an issue and play a role in problem definition. Policy issues are usually complex and, as Simon argues, require structuring through government to contribute to problem definition (as cited in Parsons, 1995, p. 89). Turner and Schneier find that if a legislator votes consistently against his or her party, district pressure from a constituency is a behavioral cue that may be in part responsible for such division of party loyalty (as cited in Fiorina, 1974, p. 3).

Media shapes how a constituency considers an event by defining the event as a problem and magnifying the issue to stir response (Parson, 1995, pp. 106-107). Baumgartner and Jones recognize the activities of media as a major source of instability that affects the imagery associated with an issue and shifts attention to an issue, to different aspects of the same issue, or lurches to another issue. As attention shifts within a constituency and within institutions, decisions are reinforced within the institution and policies formulated as a function of those decisions (as cited in Parsons, 1995, pp. 204-206).

Regional Congressional Patterns since World War Two

A significant shift in the balance of congressional power from Congress to the presidency has characterized the latter half of the 20th century (Cooper, 2005, p. 363). The Great Depression was a turning point in the relationship between the executive and legislative branches of government. The New Deal created a strong central state, “tying individual sectors of the private economy to government regulatory policy and subsidization” (Benzel, 1984, p. 152). A strong committee system was a major force in

both houses of Congress, but leadership was relatively weak, allowing rifts between northern and southern Democrats to exacerbate (Cooper, 2005, p. 381).

The role of the president increasingly expanded in the mid twentieth century, as congressional party leaders faced with divided parties and limited organizational power relied on the president to set policy goals and guide policy direction (Kernell & Jacobson, 2006, pp. 276-277). Party voting continued to decline as the southern Democratic-Republican coalition continued, weakening majority leadership in the 1950s and 1960s.

In the 1970s party politics strengthened and increasing ideological divisions widened between liberal Democrats and conservative Republicans. Congressional parties framed policies in relation to the position of the president, as migrations to southern states solidified Republican strength in those states with an ideological chasm more polarized and party unity votes more consistent (Cooper, 2005, p. 383).

Since the late 1980s, party unity, partisanship, message driven politics, and polarization define the features of Congress. Higher levels of party voting and Democratic leadership power in the late 1980s and early 1990s transitioned to a Republican House in 1995. The role of seniority became less important as strong leadership directed party message and committee outcomes, resulting in partisan conflicts that punished minority Democrats for opposing Republican policy initiatives. Narrow majority margins reinforce the role of strong leadership (Cooper, 2005, p. 384).

Although very individualistic, partisan hostility is also a characteristic of a contemporary Senate. Actions on the floor of the Senate frequently supersede committee

action, as party leaders attempt to balance gaining public favor with bipartisan support (Kernell & Jacobson, 2006, p. 230; Cooper, 2005, pp. 384-385).

Institutionalization

Institutionalization is a process of evolutionary changes in an organization that are necessary for that organization to survive and fulfill its mission. This study considers institutionalization in Congress in an attempt to measure how changes in the institution affect voting behavior of its members. Correlating with divided or unified control of government to be discussed later, institutionalization addresses internal processes that affect individual decision-making. To the extent that congressional institutions change internally, how these changes affect policy formulation is important to this analysis.

As an organization institutionalizes it not only survives but also persists over time by becoming more durable. Polsby (1968, p. 145) finds that an institutionalized organization selectively recruits members from within, increases in complexity with internal functions defined and a division of labor specified, and is governed by universal rules and precedents.

The significance of institutionalization involves goal displacement of how changes in external processes correlate with external demands facing an organization. Behavior changes as inputs into an organization are processed to produce outputs. As an organization becomes more institutionalized changes in the internal environment of an organization affects this process and in turn influences how decision makers analyze organizational goals. The goals of the organization might shift as the process to reach those goals shifts and affect outcomes (Canon, 1989, p. 415).

While an institutionalized organization is durable and provides a defined structure, in a study of politics institutionalization represents specialization in government in order to protect freedom and democracy. An institutionalized political organization is stronger and more capable of protecting constituency groups and containing political opposition (Polsby, 1968, p. 144). Individual freedoms in a society require structure to legitimize political institutions that represent large and diverse constituencies.

Institutionalization of Congress

Institutionalization of Congress is best explained through increasing population densities of a society requiring a greater division of labor that varies in direct ratio. Durkheim finds that this phenomenon is evident as agencies of the federal government institutionalize in response to a larger role of the federal government to the national economy (as cited in Polsby, 1968, p. 164). Greater development of society necessitates an integrated, more developed government to provide services to its constituents. Hall supports a macro interpretation of formal rules and procedures that define political institutions and economic consequences of policy-making, in supporting constraints on decision-making provided by divisions of labor (as cited in Parsons, 1995, pp. 333-336).

As a legislative body, members of Congress individually perform many roles as lawmakers. Policies that are formulated and outcomes of policies that are implemented are functions of the institutional structure of the legislature. Polsby (1968) considers lack of turnover in the House (p. 146) and increases in years in office before a member becomes Speaker of the House (p. 148) as indications of increasing institutionalization.

Several distinctions exist between institutionalization in the House and Senate affecting how members perform their roles and the political party to which the member belongs. Canon (1989) finds that the Senate is affected to a larger extent than the House by which party controls the presidency and leadership in the Senate is less durable over time as a result (p. 418). Deering finds that Senate leadership is more personal as opposed to institutional as committee structures are not well defined and potentially change greatly as leadership changes (as cited in Canon, 1989, p. 419), with Democratic leadership more stable and structured than Republican leadership (p. 424).

As Congress becomes more institutionalized, a decentralization of power is a call for specialists with extensive knowledge within identified areas of government, as opposed to generalists with few specialized skills (Polsby, 1968; Canon, 1989). A narrower, more specific focus of a specialist increases the relative and absolute power of the legislator within the House or Senate chamber and attracts legislators to the political process. Incentives that attract specialists are a clue that ideologies and self-interests that motivate lawmakers will differ depending on levels of expertise of the legislator.

With greater specialization it is possible to argue that more specialized roles are less likely to be economically efficient as legislators pursue narrow political agendas. A good example of the virtues of institutionalization in Congress is illustrated through the relationship of the institution to the constituency it serves. The House and Senate each are more inclusive of constituents and service oriented to serving their needs. This may indicate that a greater emphasis on social benefits of policies is increasingly important.

The Logic of Political Parties

A political party is a coalition of individuals seeking to control the mechanics of government through the political process. This section introduces the logic behind political parties that is developed fully in the next section. With parties playing an integral role in structuring ideological positions and defining a political response to an issue, the message transmitted through such a party vehicle has important consequences to interactions in the political arena. Organizing around party principles gives a unified voice to issue events and creates a benchmark for decision-making, especially along party lines where Republican and Democrat extremes are defined along ideological boundaries.

Political Parties Defined

Jones (2001, p. 152) explains that party discipline is the most important factor in accounting for floor votes, although it is not absolute. Political parties are not specifically identified in the Constitution but translate public preferences into public policies by coordinating group activities (Kernell & Jacobson, 2006, p. 646). Edmund Burke finds that a political party is a group of individuals that unite based on individual principles to jointly promote a national interest (as cited in Kernell & Jacobson, 2006, p. 463). For Downs a definition of political party introduces aspirations for public office. Downs (1957) defines political parties as “a team of men seeking to control the governing apparatus by gaining office in a duly constituted election” (p. 25). Schattschneider considers links between political parties and democracies and finds that modern democracy is unthinkable without parties to recruit and train leaders, foster

political involvement and action, and collectively organize citizens and leaders in coalitions to hold elected agents accountable to the needs of their constituency (as cited in Reichley, 1992, p. 3; Kernell & Jacobson, 2006, p. 462). In sum, political parties play an important role in bringing together groups of individuals by structuring support for political initiatives.

According to Reichley (1992, p. 414), parties are important to democracy by maintaining a productive balance between accountability and effective government. Parties give ordinary citizens a voice in government and provide a political base for elected officials. Parties offer a means of organizing dissent against incumbent administration policies and are natural guardians of civil liberties protecting rights of free expression. Parties increase honesty in the political process by exposing corruption and deception by its opposition. By encouraging voter registration, participation, and recruitment, parties strengthen the democratic process.

The Republican and Democratic parties influence congressional voting by measurable ideological differences (Sinclair, 1977; Reichley, 1992, pp. 353-354; Knuckey, 2005). Congressional party leaders also follow Downsian definitions of self-interest to gain election of party faithful to Congress or the presidency by maintaining leadership roles and pushing party platforms. As national organizations, the Republican and Democratic parties play integral roles in shaping voter demands and policy agendas (Parsons, 1995, pp. 220-222).

Political Party Development in America

Political party development parallels many of the ongoing social and economic changes in America and is a foundation under issue coalitions that grow from ideological divisions. These divisions are important to this study as the effects of party are measured through unity as an independent variable. Liberal-conservative ideology and its relationship to economically efficient policy positions is firmly rooted in political party development. Separating supporters of these coalitions into major camps is consistent with democratic principles giving a voice to those that might not otherwise be heard and defining the expectations of the role of government. To the extent that economic efficiency transcends ideology, *ceteris paribus*, party unity among legislators is an illustration of increasing support for the party's ideology relative to the legislator's ideology or self-interest.

Through shared power among separate institutions, Fisher (1998, pp. 4-6) argues that politics is a venue for competition among economic and social interests, where representation at the state and federal levels of government and within executive and legislative branches of government is sufficient to balance these interests and make organized parties unnecessary (Reichley, 1992, pp. 28-29). Parties are an extension of these competitive forces and are not mutually exclusive from shared powers at any level of government.

The framers of the U. S. Constitution may not have intended for political parties to be rooted in the American political landscape, but the alliances and coalitions necessary for sharing power among institutions of government naturally spawned party organizations. Political parties begin appearing when opposing visions of the nation's

future required a solid core of support to attract the majority support required to pass legislation (Kernell & Jacobson, 2006, p. 464). To control policy, legislative leaders find forming alliances around supporters reduces transaction costs of devising a winning coalition of supporters. Participants have to agree to cooperate on an action, either out of shared interests and values or self-interests that serve their purposes. From organized competition for votes comes the need for sustained political efforts to hold the coalitions together around issues that the group supports in congressional elections. Adopting a party label offers an informative means of distinguishing candidates and platforms by associating groups with the political position of the party organization (pp. 465-466).

Party Camps

While most modern democracies have more than two parties, in America national leaders gradually divided into two major camps during the first few Congresses, a pattern that has continued (Kernell & Jacobson, 2006, p. 467). The camps pitted the political philosophies of Alexander Hamilton and Thomas Jefferson against each other. Each espoused political ideas that formed a basis for liberal-conservative ideologies that gradually evolved into a two-party system.

Alexander Hamilton argued for a strong national government supporting commerce and manufacturing industries in the long-term interests of the nation and pursued ambitious policy efforts as Washington's treasury secretary in forming a national bank and fostering the economic interests of the affluent (Reichley, 1992, pp. 38-39). His proposals found allies in supporters of Constitutional ratification with a

penchant for strong national government. This group was known as the Federalists (Kernell & Jacobson, 2006, p. 471).

Thomas Jefferson and James Madison represented unified opposition to Hamilton. The issue that concerned Jefferson and Madison was not the viability of the national government or the economic interests of the country, but rather social equality that recognizes the rights of individuals in pursuing their interests (Reichley, 1992, p. 66). Members of this party were called the Antifederalists, which were also known as the Democratic-Republicans, a precursor to the contemporary Democratic Party, the oldest political party in the world (Kernell & Jacobson, 2006, p. 471).

These major camps separated into traditions defined as republican and liberal, with Republican traditions representing conservative alliances. Each camp is committed to constitutional protection of individual liberties and representative government, but differs on the priorities they assign to public order, economic growth, and social and economic equality (Reichley, 1992, pp. 4-5).

Grafton and Permaloff (2005a) cite a model by Janda, Berry, and Goldman to argue this point. According to the model, conservatives rank social and economic order as most important, followed by freedom, and equality; liberals reverse the ranking and favor equality, freedom, and social and economic order, respectively. This model gives credence to Federalist economic positions that seek order and Democratic-Republican desire for equality. By applying the principles of this model to political party development, one can trace the origins of modern two-party ideological distinctions to its roots.

Liberal-Conservative Traditions

For this study it is important to note the close association between party and ideology. From the two ideological traditions the following major political parties formed in American national politics: the conservative or republican tradition to the Federalists, National Republicans, Whigs, and modern Republicans; and the liberal tradition to the Antifederalists, Democratic-Republicans, and modern Democrats (Reichley, 1992, p. 6). Both liberals and conservatives accept the responsibility of government to promote the general welfare of its citizens, but they recognize differing paths to reach that objective. Reichley (1992) states:

The liberal tradition particularly in the twentieth century has tended to identify such promotion with direct government intervention and support, while the republican (conservative) tradition has emphasized government's role in securing economic and social conditions favorable to individual, family, and community achievement. (p. 5)

Conservative positions are not anathema to curing economic malaise or addressing social problems but generally prefer market forces or incentives for private sector involvement to address a problem as opposed to an expanded state for such purposes. Stigler (1965) believes "that abuses of private power will usually be checked, and incitements to efficiency and progress usually provided, by forces of competition" (p. 53).

Coalitions among political parties are important to this study as values and ideals of the party organization pull legislative behavior toward party principles. Political parties are not dichotomous, ideological systems that do not change over time. Rather

the liberal-conservative basis that roots the infancy of party government in America derives characteristics from an era's social, economic, and technology foundation, and the goals and leadership of political players that unite institutional incentives and responses to problems (Kernell & Jacobson, 2006, p. 471). That is, party coalitions consist of those groups with similar political ideas and values, but each public policy debated and formulated is a function of the distinctive set of values of that era. Platforms adopted by political parties change over time as values and institutions also change.

Party Unity

In the context of roll call voting analysis party unity represents how closely a legislator votes with his or her political party. Why legislators support party positions is an important area of study to explain the legislative process. Voting blocks within Congress are increasing as measured by party unity scores,⁷ enhancing the influence of national parties in the congressional arena. That the effect of party is enduring in American politics is well documented (Reichley, 1992; Leyden & Borrelli, 1990; Cantor & Herrnson, 1997; Snyder & Groseclose, 2000). Two trends that appear to correlate with increasing party unity are the role of majority or minority status within Congress and cohesiveness within that political party and campaign finance activity on influencing party line votes.

In analyzing the House of Representatives from 1901-1956, Sinclair (1977) considers party unity or cohesion to study the influence of presidential popular vote, size of House majority, divided control between the House and presidency, and change in

⁷ Refer to *Congressional Quarterly Congress Collection* (<http://www.cq.com>) for party unity scores calculated by year.

party control of the House. Sinclair's research found that the influence of party is greater than whether the party is in the majority or minority status. Democrats are more unified within their party the greater the Democratic presidential popular vote and the shorter the time the Democratic majority has been in power. Republican cohesiveness is highest when pressures to deviate away from the party's conservative base are least.

Party unity also has a self-interested component as well, as noted by Leyden and Borrelli (1990) in analyzing linkages between contributions to political parties and party unity. Their research documents how monetary assistance to parties competes with contributions to PACS, with campaign finance laws placing ceilings on contributions to parties.

Political Party Control: Divided or Unified Government

Divided or unified government refers to control of the legislative and executive branches of government by the same or different political parties. The impact of political party control on the legislative process is an important component to this study. Liberal-conservative ideology is rooted within each party, but can also be measured within each legislator. Divided or unified control of government represents a struggle between party ideology and the propensity for a legislator to espouse economically efficient public policies. Changes in control of government offer an opportunity to analyze the role of economic efficiency as a predictor of legislative behavior.

Government is unified if House, Senate, and Executive Branch are all controlled by the same political party; otherwise government is nonunified or divided. Congress is not considered as one body but as two separate institutions of House and Senate.

Menefee-Libey (1991) defines divided government as “partisan conflict between the executive and legislative branches” (p. 643) or when the president’s party does not control the legislative branch. To say that the American system of government provides a structural basis that acts as a check to balance the effect of any institution or group is correct, but does not explain why citizens choose divided government or whether divided government produces more desirable outcomes. To the extent that political party control of Congress affects economically efficient policy making is of particular interest.

It is important to reiterate distinctions between party unity and political party control of government. Party unity is a measure of how closely a legislator’s voting record reflects the political positions of his or her party. Political party control of government refers to control of the institution of government (House, Senate, or Executive Branch) through majority party or minority party status. Two primary areas of discussion surrounding divided political party control are divided government as a natural extension of constitutionally separating powers and policy balancing effects.

Party Balancing

With political control a concern in explaining economically efficient voting, why control changes and how those changes affect legislative voting are important in considering efficient outcomes. Comparisons of voter ideology reveal preferences for unified or divided government.

Carsey and Layman (2004) find that party control of government is one of the defining features of contemporary American politics. By examining citizen preferences for unified or divided government, their research supports party balancing as an

explanation for divided government. Party balancing is to select legislators from the opposite political party to balance political control of government across legislative and executive institutions. Citizens have an opportunity to select the agents to represent their interests and create unified or divided party control. An abundance of party balancing literature (e.g., Alesina & Rosenthal, 1989, 1995; Fiorina, 1994, 1996; Ingberman & Villani, 1993; Lacy & Niou, 1998; Lacy & Paolino, 1998; Mebane, 2000; Scheve & Tomz, 1999; Tarrance & DeVries, 1998; Smith, Brown, Bruce, & Overby, 1999) suggests that dividing support for candidates across both political parties is a purposeful vote to balance political party control and achieve moderate public policies (Burden & Kimball, 2002, p. 24).

Policy balancing theory rests on the assumption that voters prefer a combination of party control of the presidency and Congress that produces outcomes in a liberal-conservative spectrum most closely resembling the voters' ideological spectrum. It is interesting that party polarization in the 1890s unified government, but in the late 1990s divided government (Smith & Gamm, 2005, p. 195). Voters must base this choice on what they believe is the ideological distance between each party and the ideological distance between the voter's ideology and the ideology of either political party (Carsey & Layman, 2004, pp. 541-542).

The theory considers those voters with extreme ideological views and moderate ideological views and holds that voters with extreme ideological views prefer Congress and the president to be of the same party, but those voters who are ideological moderates prefer split government. Those voters with extreme views favor the same party controlling Congress and the presidency in order to produce policies consistent

with their extreme ideology, while moderate voters seek compromise, producing relatively moderate policy outcomes, for “it is easier for voters to cross party lines when they do not have to travel far along the ideological spectrum” (Burden & Kimball, 2002, p. 26).

An important issue when considering party balancing literature involves the extent that voters consider the two parties as polarized. If the voters do not perceive a discernable difference between each party’s ideology, voters might use other criteria, such as government efficiency or accountability, when deciding how to vote (Carsey & Layman, 2004, p. 542).

Conditional Party Government Model

Heightened party conflict beginning in the 1970s and 1980s is an indication of a resurgent party system (Coleman, 1997; Hager & Talbert, 2000). Increasing party unity scores indicate that legislators are voting along party lines, but do not explain the rise and fall of party influence over time or the homogeneity or heterogeneity of a legislator’s preferences. Rohde argues that for a political issue “the influence of party would be felt when the preferences of members – either their personal preferences or those induced by their constituents’ desires – divide along party lines and when preferences within the majority are homogenous” (as cited in Moscardelli, Haspel, & Wike, 1998, p. 693). Legislators are willing to cede power to the legislative party when each shares homogenous party preferences, but to a much smaller extent when those preferences are dissimilar or heterogeneous.

The conditional party government model argues that parties matter under certain conditions and that an internally unified majority party has much discretion in changing rules over time to tighten agenda control (Schickler, 2000, p. 270; Aldrich & Rohde, 2005, pp. 265-266). The model defines the degree of authority delegated to and exercised by congressional party leaders as conditioned by the extent that this ideological consensus exists among legislators (Kernell & Jacobson, 2006, p. 230). Aldrich and Rohde label a conditional party government through the cohesiveness and polarization that majority party members provide their leaders to pursue median positions on legislation (as cited in Dodd & Oppenheimer, 2005b, pp. 47-48). According to Cox and McCubbins, the relative homogeneity of party members is positively correlated with greater automatic support of policy decisions made by party leaders, where parties are in a sense a “legislative cartel” that derives its power by forming rules that govern legislative decision-making (as cited in Hager & Talbert, 2000, p. 78). To the extent that ideology and self-interests tie to reelection and lead to greater leadership control, the model is consistent with increasing institutionalization within Congress, especially the House.

Why political parties declined in the early twentieth century, but recently experienced resurgence is a function of the majority party’s ability to shape legislative institutions by enacting rules changes that strengthen its agenda. Schickler (2000, p. 270) notes that changes in rules and thus agenda control occur over time, as shifts in the ideological balance of power on the floor have a greater effect than internal characteristics of the majority party. Owing to the conditional aspect of control, Fiorina finds that the ebb and flow of party influences on legislative preferences in

congressional politics is a basis for the conditional party government model that explains leadership control at any point in time (as cited in Moscardelli, Haspel, & Wike, 1998, p. 692).

Leadership control is a function of changes in the legislative environment and between constituents and their legislators. Increases in party polarization in the 1980s and 1990s offer clues to the conditional aspects of the model after long periods where parties were less important to legislative strategies (Schickler, 2000, 269; Roberts & Smith, 2003). That the model reflects changes in legislative interrelationships over time justifies its inclusion in this research in arguing that the Kennedy E-score is relatively static and based on a criterion – efficiency – that is an integral part of the market models supported by liberals and conservatives, Democrats and Republicans.

Conditional Governance and Legislative Preferences

In the 1970s the resurgence of the role of parties in the political process mirrored not only institutionalization in Congress, but also introduced changes in the electoral functions of the legislator relative to his or her constituency. Partisan ties within the electorate weakened but parties still offered a brand name by which to distinguish legislators (Hager & Talbert, 2000, p. 77). Jacobson and Mayhew find that brand name is expensive to maintain and only one factor in the reelection of a legislator, with members voting their own or constituents' preferences (as cited in Hager & Talbert, 2000, p. 77).

The strength of party leadership supports the party brand as a collective good, although each legislator has the incentive to free ride by voting his or her preferences.

Sharing collective interests leads to sharing of collective behavior and that behavior is often exhibited through party leadership (Forgette & Sala, 1999, p. 483). Centralized leadership finds the party leader of the majority party controlling the agenda and influencing legislative voting. Decentralized leadership places power disproportionately in the hands of committees, but power in Congress shifts along a centralized-decentralized continuum in the House and often in the hands of the full chamber in the Senate (Smith & Gamm, 2005, p. 182). Polarizing electoral coalitions are a key element in shaping policy preferences as power shifts along the continuum (Roberts & Smith, 2003, p. 306).

Leadership and Policy Outcomes

Individual members of Congress have preferences for policies in accordance with their ideology and self-interests. To the extent that changes in collective behavior produce legislative decisions that are inconsistent with economically efficient outcomes, the effect of such collective behavior is important to this study. Cooper and Brady (1981) find that the degree of polarization in the electorate determines the strength of polarization in the congressional parties. Leadership style and individual legislative characteristics are also important to their model in contrast to conditional party government that asserts that strong party leadership makes a difference. When party strength is substantial, power is concentrated and leaders are goal oriented, but when party strength is low, power is dispersed and leaders are oriented to building relationships. (p. 424)

For example, in comparison to the relatively high internal conflict of Democratic majorities in the 1950s and 1960s, the House after 1994 was polarized and under the control of a unified Republican party membership willing to cede power to a strong leadership. This enabled the Republicans to slow appropriation increases in the late 1990s and enact tax cuts during the George W. Bush presidency. With conditional government theory producing individual-level behavioral expectations, Moscardelli, Haspel, and Wike (1998) find that a legislator is sensitive to his or her ideological distance to the left or right of party leadership in supporting such policies. Extending E-scores to the time period covered in this research may help us to better capture some of the effects at work during this period.

Party members have the incentive to vote their constituents' wishes for reelection purposes, but they struggle with the public's perception of the party in addition to the legislator's ideological position in relation to the party's (Hager & Talbert, 2000, p. 76). More centralized leadership after the 1994 congressional election allowed party leaders an opportunity to promote and pass a national agenda as part of the Contract with America. To the extent that legislators disagree with the party agenda and find themselves ideologically incompatible with party positions, those legislators probably support the policy preferences of their constituents. Moscardelli, Haspel, and Wike's (1998, p. 699) findings illustrate that only those members who share a close ideology with their leaders are willing to support the party's agenda for the sake of party building, suggesting the role of self-interest (reelection) and ideology occupy important roles in the legislator's decision agenda. That change in leadership and the extent of leadership

control are considered in this analysis, how legislators vote before and after the changes resulting from the 1994 is important to this study.

Political Party Alignment

A political party alignment is a partisan coalition that identifies with a political party and is loyal to its principles (Flanigan & Zingale, 2002, pp. 57-63). Alignment impacts this study through voter identification with a political party as a long-term force in political campaigns. To the extent that constituents identify with party, liberal-conservative ideology of the legislator and the self-interests for holding office offer an immediate comparison to policy decisions made by each legislator.

The primary focus of realignment literature is directed toward partisan identification of voters. Campbell⁸ identifies party identification as a long term, stable force that influences the electorate and issues in the campaign are short-term forces (as cited in Abramowitz & Saunders, 1998, p. 634). V. O. Key makes clear that changes or cleavages in constituency bases of voting behavior among groups finds some segments moving toward one of the two political parties and others moving away or maintaining a previous pattern of support for that party (as cited in Lawrence & Fleisher, 1987, pp. 80-81). By altering the constituency bases of congressional parties, the impact of partisan realignments affects the composition of government, such as seats held by each party in Congress, and policy formulation resulting from partisan influences (Waterman, 1990), which affects institutional roles of government and policy outputs (Schatteschneider, 1960, pp. 78-96) in building congressional majorities (Brady, 1978, p. 80).

⁸ See Campbell, Converse, Miller, & Stokes (1960) for a complete discussion of long term and short term forces.

According to Burnham, significant public policy transformations are consistent with realigning elections arising from emergent issues that are policy driven, leading to changes in policy outputs to alleviate tensions in the electorate (as cited in Brady, 1978, p. 79). Policy discussion often centers on how the new legislators in the majority party set the political agenda. If alignment is a constituent act, then newly elected legislators will push policy changes to alleviate tensions within the electorate (Champagne, 1983), a phenomenon consistent with Fiorina's finding that changes in congressmen are the only reliable manner to achieve public policy change in Congress (as cited in Champagne, 1983, pp. 246-247).

The 1990s: A Decade of Realignment?

The alignment of the Democratic Party around New Deal principles produced a major electoral advantage for that party for nearly 50 years after the Great Depression (Abramowitz & Saunders, 1998, p. 635; Flanigan & Zingale, 2002, p. 68). This alignment of political forces is consistent with Berkowitz and McQuaid's (1978) contention that an expansion of social welfare in the U.S. until the 1960s is behind the larger role for the federal government today.

Strong Republican efforts in the presidential campaigns beginning in the late 1960s and intensifying in the 1980s were harbingers for an electoral shift that eventually consumed Congress. These electoral shifts represented dealignment that would eventually be followed by realignment. The 1964 presidential election was a turning point for a conservative shift to the Republican Party, where the ideological differences between each party gradually widened (Flanigan & Zingale, 2002, pp. 72-73; Kernell &

Jacobson, 2006, p. 496). Abramowitz and Saunders (1998) explain that the continuing electoral shift is evidence of realignment. Increasing Republican gains in the South and a gradual increase in the proportion of the electorate identifying with the Republican Party vis-à-vis the Democratic Party have solidified an intergenerational pull (p. 638).

Conversely, Flanigan and Zingale (2002) recognize the growth of independent voters who pledge no allegiance to political parties as part of a continuing shift that characterizes the electorate today (p. 69), with neither party successfully luring independent voters nor managing to control all branches of government in the 1980s or 1990s for a significant period of time (Abramowitz & Saunders, 1998). Flanigan and Zingale (2002) identify this period as a continuation of dealignment (p. 73), where voters are most susceptible to short term forces such as personal appeal of a candidate or local issues (p. 65).

Summary

The focus of this dissertation is whether a measure of economic efficiency through an E-score is a better predictor of legislative behavior than traditional measures of ideology and self-interest. Considering evidence analyzed from a review of the literature, it is possible to identify variables that are relevant to this study.

It appears that in measuring voting behavior, the dependent variable should reflect an economic factor where benefit and cost can be identified and measured. For example, Tolluck identifies redistribution of resources as a prevailing function of modern government. Serving the public's interest introduces welfare implications to policy decisions that market models address, but are inadequate without considering

resources that maximize net social benefits. Another example is Clausen's findings of constituency influence on a legislator in social areas, but not concerning social welfare distribution or agricultural support, as evidence of economic measures when analyzing public interests.

The review of existing research also identifies several variables important to this study as independent variables producing changes in voting behavior. A liberal-conservative spectrum functions well in explaining characteristics of a legislator or voter, but not in predicting consequences of a legislator's voting decisions. Developing an efficiency index based on the Kennedy model is consistent with Pareto and Kaldor-Hicks principles for maximizing public policy resources. Controlling for the effects of institutionalization and party control (unified or divided) of government is important to this study in measuring how changes in the institution of Congress changes behavior. Extending the Kennedy model is an answer to limitations in Kennedy's research that failed to include these institutional or chamber effects.

Existing research shows that over time there has been increasing party unity within Congress, ideological differences increasing between the political parties with fewer moderates elected, a greater level of party leadership control over both institutions but the House in particular, and other changes. How these changes affect legislative voting will expand the Kennedy study as will including consideration of length of service and the year of a senator's term when a vote is cast. Changes in the institution itself as power shifts to the presidency and executive-legislative relationships grow in importance invite inclusion of independent variables that produce changes in behavior.

Examples include ideological and/or party divisions measured between the executive and legislative branches.

Constituency alignment with political parties and polarization within the electorate are examples of partisan influences on changing the composition of government. Party alignment is an example of constituents pushing policy development. The effect of the Contract with America in nationalizing local issues raises questions concerning not only party unity around a party platform, but also alignment within the constituency in supporting those legislators. The effect of each interaction is important in analyzing changes in voting behavior and its effects on economic efficiency.

The next chapter outlines the methodology used to accomplish the research.

CHAPTER THREE

CONCEPTUAL DESIGN AND RESEARCH METHODOLOGY

The conceptual design that guides this study is presented in this chapter. The research question that this dissertation seeks to answer is: Does economic efficiency through an E-score function better than a traditional spectrum of liberal-conservative ideology in explaining the ideological position of a representative (House and / or Senate member), congressional activity, and public policy formulation? To answer this question the study centers on the following three areas: 1) ideology and self-interest as measures of behavior, 2) economic efficiency as a macroeconomic goal of policy makers that transcends traditionally accepted measures of liberal-conservative ideology, and 3) extending the e-score to additional time periods to capture the effect of changes (institutional and political party alignment and control) on legislative voting.

This chapter begins by developing an argument that identifies positions taken on medical malpractice reforms and increasing the federal minimum wage as two public policy areas where an examination of economic efficiency is possible. Each policy area is considered separately as a dependent variable. Then, independent and control variables are analyzed within vectors that group such variables around related issues. An overview of each vector is presented, along with a discussion of the relationship between the variables within each vector and in relationships between the vectors. The three vectors are ideology, self-interest, and chamber environment.

Independent variables in the ideology vector include measures of liberalism (ADA score), conservatism (ACU score), a spectrum of weighted liberalism and conservatism across time (DW-NOMINATE), and economic efficiency (E-scores). Independent variables in the self-interest vector include direct or PAC contributions to legislators from interest groups with ties to the policy area of the dependent variable. The independent variables in the chamber environment vector include party unity, a measure of how closely a legislator votes in accordance with majority of the members of his or her political party, and various party control patterns of the House, Senate and presidency.

Control variables are included in the analysis as constants that do not causally influence the dependent variable. These control variables are party control of the institution (House or Senate) compared to the legislator's party, geographical region of the legislator's constituency (Northeast, Midwest, South, and West), and measures of economic conditions in each state and nationally. For specific policy areas identified by each dependent variable one or more control variables represent conditions in the legislator's state or district that might impact her/his roll call vote. For example, in the case of medical malpractice reform, whether a legislator's state is in a malpractice crisis or not is used to test for constituency self-interest impact on the legislator's vote.

This chapter also includes discussion of data collection, units of analysis, expanded E-score development, coding of the variables, and types of analysis conducted (regression and interrupted time series analysis). Finally, the chapter concludes with hypothesis development.

Dependent Variables

Medical malpractice tort reform and minimum wage issues are two policy areas analyzed as separate dependent variables within the model tested. Medical malpractice reforms are considered to be economically efficient public policies and increases in minimum wages are considered to be economically inefficient.

Medical Malpractice

Tort law provides a mechanism to compensate the injured party in medical malpractice issues for the harm inflicted upon them by the tortfeasor (Rubin, 1995, p. 4). In health care this means that patients wrongfully harmed due to malpractice of a physician or other medical professional should be compensated for the losses associated with that injury (Stailey, 2004, p. 198). A second primary function of tort law is to modify the behavior of the transgressor. The idea is that tort law encourages people to act in a responsible manner (Krauss, 2003, p. 357). In the area of medical malpractice, tort law probably helps deter malpractice (Rubin, 1995; Stailey, 2004, p. 198). Tort law should, at least theoretically, balance these two competing interests (Boozer, Westley, & Landry, working paper under review).

In economically efficient terms, an argument is made that tort law is wrecking the American economy, where tort liability is a tax on everyone (Krauss & Levy, 2004, p. 2). In 2003 per capita costs of the tort system are as much as \$809 per person, which is “the equivalent of a 5 percent tax of wages” (p. 12). The tort system is estimated to be nearly 2.25 percent of the United States’ gross domestic product (p. 2) and represents a drain on society.

Defining high medical malpractice insurance premiums and the current state of tort law as a crisis is a matter of interpretation. There are two schools of thought. Proponents of reform, the normativists, argue that tort reform is necessary to achieve greater efficiency, while positivists view tort law as already largely efficient (Note, 1996, p. 1765). Normativists suggest that medical care costs are high due in large part to excessive tort judgments and that medical malpractice reform will lower tort judgments and consequently the cost of medical care via lower malpractice insurance costs. The logic behind this argument is that high tort judgments lead to a greater number of malpractice suits and increased rates for malpractice insurance. The result is economically inefficient outcomes, such as the misallocation of resources, increased awards to rent-seeking behavior, and higher medical costs to reflect the price premium paid for malpractice insurance due to excessive tort judgments. The positivist view opposes tort reform arguing that evidence shows that most tort judgments are modest and over time the magnitude and incidence of large judgments have not varied greatly (Note, 1996, p. 1773).

The perceived inefficiency from large tort judgments, the medical malpractice crisis, may be the result of the underwriting cycle. During times of high returns and general economic growth, premiums are lower and insurers over-extend, but as financial conditions worsen the returns diminish and premiums increase (Stailey, 2004, p. 195). Both interpretations, however, explain a misallocation of resources resulting from the malpractice crisis, suggesting an economically inefficient use of resources and a state in which Pareto improvement exists. Decreases in net benefits to society associated with tort law represent economic inefficiency. Legislation to reform tort laws and lessen the

drain on society through medical malpractices is economically efficient (Boozer, Westley, & Landry, working paper under review).

Minimum Wage

The Fair Labor Standards Act ¹of 1938 established, among other public policies, minimum wage standards. A consensus exists that the goal of the legislation was to target poverty. Ellwood finds that the Act targeted raising wage levels to a minimum threshold, while Johnson and Browning conclude that redistribution of income to low-income households was the intent (as cited in Sobel, 1999, p. 763). Manipulation of wage rates upsets labor markets and reduces economic efficiency as employers struggle with higher labor costs. National standards replaced regional standards with legislators from lower wage states, primarily in the South, more likely opposing the measure than legislators from relatively more affluent geographical areas. However, when controlling for agricultural and demographic factors, southern legislators were no more likely to oppose the law than legislators representing other areas (Seltzer, 1995)

That increasing wage inequalities in the 1980s were accompanied by a stagnant federal minimum wage (\$3.35 per hour from 1981 to 1989) has increasingly illuminated the political aspect of this issue (Lee, 1999). As a redistributive tool, increases in minimum wage have managed to prop up wages for unskilled and lower income workers, as competitive labor markets tend to push downward wage levels for those workers. Freeman (1996) concedes that manipulating wage levels in an attempt to target specific demographics is challenging. Especially important is the effect that artificially

¹ Refer to sections 201-219 of title 29, United States Code.

setting a wage rate has on the ability for labor markets to clear, thus affecting efficiency (p. 648).

Legislation to increase the minimum wage that employers must pay workers is an economically inefficient act for two reasons. One, consistent with Stigler (1971), a minimum wage represents a wage floor that disturbs labor market equilibrium. More workers are willing to work than employers are willing to pay at that wage. Secondly, with increases in labor costs borne by employers some decrease in employment results as employers attempt to lessen the labor burden of paying a higher wage. This scenario is depicted graphically in Figure 3.1. An increase in minimum wage from \$4.25 to \$5.15 per hour, for illustration, pushes up the supply of labor from a labor market in equilibrium (L_E) to L_S at the higher wage rate. Employers demand less labor at the higher mandated wage and the demand for labor falls from L_E to L_D .

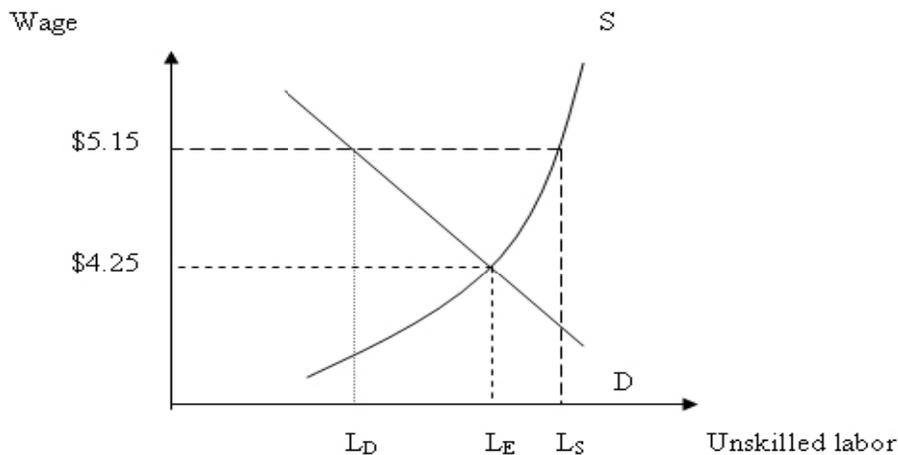


Figure 3.1 Minimum wage and labor analysis depicting labor market disequilibrium as a result of a minimum wage increase (adopted in part from Browning and Zupan, 2002, p. 492).

Sobel (1999, p. 783) argues that long run and short run forces act differently on labor demand in finding that the elasticity of demand, the steepness of the labor curve associated with the extent that a change in wage laws produce changes in the level of employment, is relatively more inelastic in the short run and more elastic in the long run. The more inelastic the demand curve the steeper the curve, and increases in minimum wage will less adversely affect the level of employment. That is, in the short run employers immediately absorb increases in labor costs in an attempt to prevent disruption of business activities, but in the long run employees are laid off, given reduced hours, or reassigned as the employer struggles with a higher labor cost burden.

Overall, the effect of increases in minimum wage is mixed, but reductions in economic efficiency are clear. Gramlich and Kelly contend that a relatively weak correlation exists between low wages and low-income households, suggesting that targeting improvements in household earnings by redistributing earnings does not hold (as cited in Brown, Gilroy, & Kohen, 1982, p. 524). Tullock (1983, pp. 6-8) offers that redistributions involve attempting to identify individuals who are efficient utility generators from those that are not. Creating wage floors does not ensure that lower income workers will efficiently utilize marginal revenue (i.e., increases in income from increases in a minimum wage) to a greater extent than any other worker. Labor unions frequently demand increases throughout the wage structure, since the structure is misaligned due to a new, higher wage floor. With increases in household earnings often masking the political pressures behind calls for minimum wage increases, an

economically efficient labor market is not impeded by constraints that prevent market forces from setting wage rates.

Scoring Model for Dependent Variables

In measuring each dependent variable a scoring model is developed for a series of roll call votes during the time period of this study. The units of analysis are the legislators who voted on each bill representing the dependent variables in the House of Representatives and Senate respectively. To isolate the effects of changes in behavior over time on economic efficiency, only those legislators serving in the 99th – 108th Congress, inclusive, are part of this model.

The model indicates support for economic efficiency enhancing positions. Therefore, each legislative vote included in the analysis is coded 1 if the vote represents economic efficiency and 0 if it does not. The votes within a policy area are totaled and divided by the total number of possible votes within that area. The resulting scores represent the percentage of economically efficient votes cast by the legislator.

Tables found in *Appendices A, B and C* list each of the votes included in the measurement of the dependent variables, medical malpractice reform and increasing the federal minimum wage, and E-score, respectively. The tables give the date of the vote, the house voting, bill number, short title, a synopsis of the legislation, the total vote and vote by party, and indication of support or opposition as an economically efficient or inefficient position. Medical malpractice reform votes that seek to reduce liability or extend protection from lawsuits are economically efficient; otherwise the vote is

inefficient. Minimum wage issue votes supporting an increase in minimum wage are economically inefficient; votes opposing an increase are economically efficient.

Borrowing from Kennedy's (2005, p. 60) model for deriving an E-score, the criterion for vote selection of the legislation representing the dependent variables include only legislation that is unambiguous relative to the intent of the roll call vote. For example, the final vote on legislation that contains multiple components in addition to each policy area is not included because a vote in support or opposition to the bill may not reflect support or opposition to specific components in the legislation. The criteria consider not only the title of the legislation, but also the intent of legislation. Some congressional action (e.g., invoking cloture in the Senate) requires investigation of the legislation and the debate that precedes such action. Understanding the intent of the legislation is crucial to deciding if a vote in support of the policy position is economically efficient or inefficient. The major sources for this information are the *Washington Post* (<http://projects.washingtonpost.com/congress/>) and the *Congressional Quarterly Weekly Report* (<http://public.cq.com/>).

The roll call votes for medical malpractice and minimum wage legislation were identified from the *Washington Post* (<http://projects.washingtonpost.com/congress/>) and Congressional Quarterly Congress Collection (<http://www.cq.com>) with the latter the data source for the votes. This process identified four House votes and four Senate votes related to medical malpractice and five House votes and four Senate votes related to the minimum wage.

Vectors of Analysis

Independent variables in the model are categorized according to vectors as a method of grouping those variables. The vectors include ideology, self-interest, and chamber environment. Control variables are utilized to hold constant extraneous effects that might affect the relationship between the independent variables and each dependent variable.

Campbell, Converse, Miller, and Stokes argue for using frames of reference for processing information, while Hagner and Pierce find that belief systems are structured around behavioral and attitudinal consequences (as cited in Jacoby, 1986, p. 424). Jacoby finds that a liberal-conservative continuum represents levels of cognitive conceptualization that grouping affords to such research (p. 431). Especially in considering variables depicting self-interest and ideology, analyzing each variable within vectors should enhance the model.

The following discussion lists the independent variables within each vector, the potential impact of each variable in relation to the research questions, and data collection procedures and coding of each.

Self-Interest

Variables representing legislator self-interest are direct contributions to legislators or PAC contributions from interest groups with a connection to the each policy area. Organized interests shape the policy agenda by targeting individuals or groups in the legislative process (Hojnacki & Kimball, 1998). To the extent that higher political contributions produce greater support for the policy area in question, self-

interest is a factor in legislative decision-making. Separate measures of self-interest are evaluated for each dependent variable policy area.

For the medical malpractice policy area measures of self-interest are medical and law or law related contributions to legislators. These are labeled as the separate variables “Health” and “Lawyer.” Values of each variable are coded as the actual dollar amount of the contribution received, averaged over the two year period of each Congress. For the minimum wage policy area, contributions from “Business” groups and “Labor” groups are measured as independent variables representing legislator self-interest. In both policy areas, medical malpractice and minimum wage for Congresses 102 through 108, PAC and individual contributions are summed for each of the four categories (Business, Labor, Health, and Lawyer). Total receipts are the sum of all PAC and individual contributions received by each legislator for each Congress. Each of the four categories of this study is analyzed in Congresses 102 through 108 as a percentage of those total receipts representing contributions to the legislator. Data for contributions to legislators in the 102nd through 108th Congress were accessed from the Center for Responsive Politics (CRP) at <http://www.opensecrets.org/politicians/index.asp>.

Data for the 99th through 101st Congress were not available in the above format. To standardize measures of self interest for these three Congresses, the largest PACs were identified in each of the four categories (Business, Labor, Health, and Lawyer) and contributions from each of those PACs to each legislator were tallied by Congress. Each PAC is identified within one of the four categories (Business, Labor, Health, and Lawyer) considered for the 102nd through 108th Congresses and coded as the actual dollar amount received by the legislator from that PAC. Total receipts represent the total

of only those PAC contributions from the four categories in the analysis (Business, Labor, Health, and Law). Contributions from each PAC to legislators were tallied as a percent of the sum of contributions from all four PACs. Only those PACs analyzed were tallied in determining total receipts. The four PACs considered were National Association of Realtors (Business), National Education Association (Labor), American Medical Association (Health), and Association of Trial Lawyers (Lawyer). Of the four PACs only National Education Association is not the largest in its category. Teamsters Union is the largest labor PAC, but is not organized as a single entity (Makinson, 1990, pp.20-21). The source for political contributions for the 99th through 101st Congresses was Political Money Line from Congressional Quarterly at http://www.tray.com/cgi-win/x_pac_init.exe?DoFn=.

Ideology

Measures of ideology indicate another component of individual behavior is included. Three measures of legislator ideology are utilized. ADA and ACU scores measure liberalism and conservatism, respectively, while E-scores measure economic efficiency. DW-NOMINATE scores indicate relative liberal-conservative positions over time. Each measure of ideology is an independent variable in the model. ADA and ACU raw scores are available for each year and are tallied and averaged across each Congress. ADA ratings are available from <http://www.adaction.org/votingrecords.htm> and ACU scores are available at <http://www.acuratings.org/>. DW-NOMINATE scores are measured by Congress and are available from <http://voteview.com/dwnomin.htm>.

Values for each variable – ADA, ACU, and E-score – are considered as an average over the two years of each Congress along a continuum from 0 to 100. Higher ACU and ADA scores represent greater conservatism and greater liberalism, respectively, while higher E-scores indicate greater legislative economic efficiency. E-score ratings are developed from the E-score formula discussed earlier. Potential problems with using nominal data are addressed and adjustments are made in an attempt to reduce the time sensitivity of the measures. DW-NOMINATE scores alleviate time sensitivity by weighting relative measures of liberalism and conservatism over time and adjusting each score across dimensions by including all votes cast by the legislator. As additional Congresses are added to the dataset expanding the voting history analyzed for each legislator, the DW-NOMINATE model more closely approximates the legislator’s relative liberal-conservative position across each Congress.

E-scores also measure ideology but capture a different dimension than liberalism and conservatism. That ideology is not a single dimension along a spectrum, but rather multidimensional is important to this analysis (see Jones, 2001, pp. 155-156; Collie, 2000, pp. 219-227; Shaffer, 1989; Deckard & Stanley, 1974; Bethel, 1979).

E-score ratings were developed for each Congress (99th – 108th) in the study based on the E-score formula:

$$\text{E-score} = \sum_{i=1}^N (P_i / N) \times 100$$

Where,

P_i = one if legislator voted in support of enhancing efficiency and zero otherwise

N = number of votes considered in the analysis of each legislator

Recalculating interest group ratings

Roll call votes that are tabulated for use in scoring models for legislative support of medical malpractice and minimum wage policy areas (dependent variables) cannot be included in roll call votes that are tabulated to devise interest group ratings (e.g., ADA, ACU) used for independent variables. The same holds true for E-scores. Wattier and Tatalovich's (2005) model is utilized to address this issue. For any ADA, ACU, or E-score measure where votes for medical malpractice or minimum wage are included in that measure, those votes are removed and the measure recalculated. For example, when the dependent variable in the model is medical malpractice if 20 votes are considered to yield an ACU rating and one or more votes related to medical malpractice is included, each vote on medical malpractice will be removed from the ACU rating and the rating recalculated based on a new denominator of 20 votes minus the number of medical malpractice votes removed.

The effect of time on interest group scores

Raw scores for ADA, ACU, and E-score also are impacted by time. ADA, ACU, and E-scores are computed nominally as raw scores for the year in which the score is calculated. Research has shown that if one compares the median values of interest group scores (e.g., ADA or ACU) for each Congress increased polarization by party is evident (Shipan & Lowry, 2001; Ingberman & Villani, 1993). Adjusting interest group scores produces a comparable index for analyzing trends in data analysis. Two models are available for this index. Groseclose, Snyder, and Levitt (1999) employ the use of shift and stretch parameters to analyze directions of change for each score over time. Their

study compared median values for Congress with nominal values for each legislator. Their modified model made possible comparisons across Congresses, where scores for legislators are compared to median scores for the chamber. The current study makes a similar comparison.

Poole and Rosenthal (1997) utilized a spatial model of congressional roll call voting called DW-NOMINATE for adjusting a liberal-conservative spectrum of ideology. The current study uses the DW-NOMINATE model as one measure of adjusting liberal-conservative ideology, but also employed a comparison of median values in analyzing nominal ADA, ACU, and E-scores. DW-NOMINATE (dynamic, weighted, nominal three-step estimation) scores place House and Senate members within coordinates in a plane. The coordinate for each legislator is two-dimensional and dynamic and is allowed to move as a linear function of time with each Congress. A legislator's coordinate is constant within a Congress but varies linearly between Congresses. The error term for DW-NOMINATE coordinates is normally distributed and the coordinates within each dimension are weighted in estimating coordinates for each legislator. The weighted parameter makes the calculation of distance between coordinates possible. Coordinates in one Congress are directly compatible with coordinates in another Congress, but cannot be compared across chambers of government.

The two dimensions of the model have traditionally accounted for 85 to 90 percent of all roll call voting decisions. The first dimension captures divisions between the two major parties and the second dimension identifies regional distinctions within each major party (McCarty, Poole, & Rosenthal, 1997, p. 5; Pool & Rosenthal, 2001).

After 1975 the second dimension does little to explain voting (Poole & Rosenthal, 1997, pp. 6-8). A continuing trend since the 1970s has been for fewer and fewer roll call divisions between each party internally. The average ideological distance between members of the two parties is increasing with each party becoming increasingly homogenous (McCarty, Pool, & Rosenthal, 1997, p. 14).

The format for using the DW-NOMINATE model is available at <http://voteview.com/dwnomin.htm>. Coordinates of each dimension are estimated along with error terms for each dimension. Legislator estimates for voting dimensions for members of the House of Representatives for all Congresses are available at ftp://pooleandrosenthal.com/junkord/HL01109A21_PRES.DAT and for senators for all Congresses at <ftp://pooleandrosenthal.com/junkord/SL01109B21.dat>.

Chamber Environment

Party unity is a measure of the chamber environment within which the legislator serves. Congressional Quarterly (CQ) defines party unity through roll call votes in which a majority of a party votes on one side of an issue and a majority of the other party votes on the other side. Data available through Congressional Quarterly (<http://www.cq.com>) and Voteview (<http://voteview.com/default.htm>) show a percentage representing the number of times members vote with a majority of their party. To reduce the effect of absences the percentages are normalized and calculated as follows: $\text{party unity} = \text{unity} / (\text{unity} + \text{opposition})$. CQ and Voteview party unity scores fall on a continuum from 0 to 100. Voteview data are used in this study with Republican scores recorded as negative

numbers and Democratic scores as positive numbers resulting in a continuum from -100 to +100.

Party unity values are increasingly becoming more extreme (scores closer to – 100 or +100), which indicates greater voting unity between the legislator and political party and reflects the extent of support of the legislation from a Republican or Democratic legislator in relation to party support. Increasing party unity values in Congress represent less legislative divergence with party platforms and fewer independent decisions made by legislators. The conditional party governance model discussed in Chapter Two suggests that increased party unity scores in part reflect self-interest motivations of legislators, especially reelection.

The length of time a legislator has served in Congress affects legislative voting, with more variable behavior exhibited earlier in a legislator's career (Strattman, 2000, p. 665). Junior legislators are more likely to vote with their party than senior members. Legislators who are initially elected to the House or Senate and are subsequently elected to the other chamber exhibit little systematic change in voting behavior after moving to the other chamber (Grofman, Griffin, & Berry, 1995). For purposes of tenure in Congress the year that a legislator is first elected to either the House or Senate is counted as the beginning of his or her term in office. Time served in Congress affects voting behavior of representatives and senators, but for senators how close each is to the end of his or her term in office is an additional determinant of legislative voting (Tuckel, 1983, Strattman, 2000, p. 675). Data pertaining to legislative tenure are available from Congressional Quarterly (<http://www.cq.com>) and the Center for Responsive Politics (CRP) at <http://www.opensecrets.org/politicians/index.asp>.

Ideological divisions between the legislator's party and the party of the executive branch produce changes in legislative voting (Kernell & Jacobson (2006). Such ideological divisions are exacerbated in considering minority-majority party relationships within Congress (Schickler, 2000; Fleisher & Bond, 1996). Data available from Voteview (<http://voteview.com/default.htm>) measure liberal-conservative divisions between the legislative and executive branches. Differences in median party scores within Congress (House and Senate) and executive or presidential scores are gathered in measuring ideological divisions between each branch of government.

Control Variables

Unlike independent variables, control variables are not intended to produce changes in the dependent variable, but are rather constant variables representing extraneous factors. With changes in legislative behavior over time an important component to this investigation of economic efficiency, the effect of increasing party unity is but one factor that must be considered within the chamber environment. One way to measure the impact of this variable over time is by controlling for the effects of institutionalization and party control of government (unified or divided). Dichotomous relationships are presented between Republican and Democratic parties for each control variable measured. When the legislator is an Independent, he or she sits with the caucus of one of the parties. Independent legislators are placed with the appropriate caucus as identified by Congressional Quarterly Congress Collection (<http://www.cq.com>). Table 3.1 summarizes the control variables used to examine the relationships between legislators, political party and institutions.

Table 3.1 Control variables for party control of government

Variable	Coding of variables	
Legislator	Republican = 1	Democrat = 0
Legislator's party	Legislator's party and party in control of institution are the same = 1	Legislator's party and party in control of institution differ = 0
House	Republican majority = 1	Democratic majority = 0
Senate	Republican majority = 1	Democratic majority = 0
Congress	Both House and Senate have Republican majority = 1	Both House and Senate have Democratic majority = 0
Congress split	House and Senate controlled by different parties = 1	House and Senate controlled by same party = 0
President	Republican = 1	Democratic = 0
Congress and president	Both houses of Congress and president are Republican = 1	Both houses Congress and president Democrats = 0
House and president split	House and president controlled by different parties = 1	House and president controlled by same party = 0
Senate and president split	Senate and president controlled by different parties = 1	Senate and president controlled by same party = 0
Congress and president split	Both houses of Congress controlled by different party than president = 1	Congress and president of same party = 0

Another way to capture chamber environment is by controlling for regional differences and geographical effects. The United States Census Bureau establishes boundaries along four distinct regions² – West, Midwest, South, and Northeast.

Differences exist in ideology and attitudes across regions. Knuckey (2005, pp. 43-45) finds that an ideological realignment in the South is a product of partisan changes

² The United States Census Bureau (http://factfinder.census.gov/servlet/ReferenceMapFramesetServlet?_bm=y&-rm_config=b=85|l=en|t=420|zf=0.0|ms=ref_legal_05pep|dw=1.9557697048764706E7|dh=1.4455689123E7|dt=gov.census.aff.domain.map.LSRMapExtent|if=gif|cx=-1159354.4733499996|cy=7122022.5|zl=10|pz=10|bo=1623:1629:1573:1574:1615:1587:1633|bl=1624:1630:1571:1572:1616:1588:1634|ft=1583:1625:1635:1601:1611:1631:1595|fl=1626:1636:1602:1612:1632:1596:1584|g=01000US&-redoLog=false&-_lang=en) defines each region as follows: Northeast -- NY, PA, NJ, CT, RI, MA, VT, NH, ME; South -- AL, MS, GA, FL, KY, LA, TX, AR, OK, TN, SC, NC, VA, WV, MD, DE; Midwest -- OH, IN, MI, IL, MO, KS, NE, IA, ND, SD, MN, WI; and West -- AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY.

among white conservatives and increasing strength of the Republican Party in that region. Republican ascendancy in the South, a region that was once solidly Democratic, and shifts by the national Democratic Party to an increasingly liberal ideology indicate partisan swings are occurring across regions. According to Flanigan and Zingale (2002) regional distinction is also apparent by differences in attitudes for the role of government in domestic issues, such as health care (pp. 124-125), and changes in partisanship (pp. 69-73) as shifts in the New Deal alignment occurred in the 1970s. Those attitudes, consisting at a primary level of the extent that fiscal policies are necessary, illustrate not only an ideological basis for the size of government, but an economic basis as well (Jones, 1990).

Considering each of the two dependent variables, whether a medical malpractice crisis exists in the state of the legislator, as identified by the American Medical Association³ (AMA), or if that state has a minimum wage law higher than the federal minimum could impact a legislator's behavior.⁴ Control variables for geographical conditions and the coding for each variable are summarized in Table 3.2.

³ The AMA (<http://www.ama-assn.org/ama/noindex/category/11871.html>) identifies the following states as in a medical malpractice crisis: WA, OR, NV, WY, MO, IL, FL, TN, KY, OH, NY, PA, NJ, MA, RI, CT, NC

⁴ The United States Department of Labor (<http://www.dol.gov/esa/minwage/america.htm>) identifies the following states as having minimum wage laws exceeding the federal minimum wage: WA, OR, CA, NV, AZ, MO, AR, FL, PA, NJ, NY, VT, MA, MT, CO, MN, WI, MI, IL, OH, WV, NC, MD, DE, RI, ME, AK, HI.

Table 3.2 Control variables for geographical conditions

Variable	Coding of variables	
Region Represented		
Northeast effect	Northeast = 1	Not Northeast = 0
South effect	South = 1	Not South = 0
Midwest effect	Midwest = 1	Not Midwest = 0
West effect	West = 1	Not West = 0
Medical malpractice crisis (Used with malpractice dependent variable)	State in medical malpractice crisis = 1	State is not in crisis = 0
Minimum wage (Used with minimum wage dependent variable)	State has a minimum wage exceeding the federal rate = 1	If state does not have minimum wage law or has a law below the federal rate = 0

Measures of state per capita income, per capita total federal spending, net federal spending, and percent minority population are four controls that are used as proxies for state economic conditions that may impact the independent-dependent variable relationship. Measures of per capita income control for wage disparities that might exist across states, while federal spending measures capture per capita federal net allocation as a function of per capita congressional representation (Atlas et al, 1995). Canto and Webb “report negative associations between state per capita total spending and growth in per capita income, and between state transfer payments and per capita income growth” (as cited in Jones, 1990, p. 221) indicating the potential unintended consequences of such policies on the economic vitality of the state.

Per capita income is coded for each state as an actual dollar amount. Per capita income is available annually from the United States Census Bureau and Bureau of Economic Analysis at <http://www.bea.gov/regional/spi/default.cfm?series=summary>. Annual data are averaged for the two years of each Congress. Per capita total spending is

measured as a ratio of annual total federal spending in each state to the population of that state. Data are available as per capita federal spending received. Annual data are averaged for the two years of each Congress. Federal spending data (including net federal spending) and state per capita total spending data are available at from Tax Foundation at <http://www.taxfoundation.org/research/show/347.html> and Northeast-Midwest Institute at <http://www.nemw.org/fundsrank.htm>. Northeast-Midwest Institute (<http://www.nemw.org/data.htm#fedspend>) defines net federal spending in a state as the state's return on federal tax dollars or the net inflow of federal dollars into a state. It is determined by dividing an adjusted level of federal spending by an estimated level of federal tax burden. The result is an estimated amount of federal spending returned to each state or region for \$1 in federal taxes. Values greater than \$1 indicate higher levels of federal spending in a state relative to its federal tax burden and values less than a \$1 indicate a higher flow of federal tax dollars out of the state than federal spending into the state. Minority is coded as two variables representing the percentages of African Americans and Hispanics in each state. Data for percentages of African Americans and Hispanics in a population data are available from the United States Census Bureau at <http://www.census.gov>.

Control variables for economic conditions are summarized in Table 3.3.

Table 3.3 Control variables for state economic conditions

Variable	<i>Coding of variables</i>
Ethnic Category	
African-American	Percent African-American in state
Hispanic	Percent Hispanic in state
Per Capita Income	Dollar value of per capita income in state
Per Capita Total Spending	Dollar value of per capita total federal spending in the state
Net Federal Spending	Proportion of federal spending to federal tax revenue in state expressed numerically.

E-score Development

In addressing the research question of the role of economic efficiency as another dimension of ideology distinct from liberalism and conservatism, E-scores were developed for each legislator voting in the 99th – 108th Congress, inclusive. Criteria for economically inefficient policy established by Stigler (1971) and Kennedy (2005) guided the scoring process. Those criteria signaling a reduction in economic efficiency are subsidies or price supports that lead to a misallocation of resources; barriers to entry of markets or regulations within an industry or pervasively throughout the economy limit competition; policies that affect substitutes and complements of goods within an industry from special interest demands voiced in opposition; and wage and price controls that artificially set wage floors or ceilings. Minimum wage laws are an example of a wage control, but they are not included in compiling the E-score since that policy area is included in the model as a dependent variable.

Using roll call votes pertaining to one or more of the above criteria, a nominal E-score value is developed for each House and Senate member serving in Congress during the period under study. Based on the E-score formula discussed earlier, the value is a

number between 0 and 100; the higher the number assigned, the greater the legislator's support for economically efficient policies.

Vote Selection Criterion

Criteria for vote selection for both the E-score and the dependent variables of minimum wage and medical malpractice legislation follow the same logic developed by Kennedy (2005, p. 60). That is, legislation selected is unambiguous relative to the intent of the roll call vote. For example, the final vote on legislation that contains multiple components in addition to each policy area is not included because a vote in support or opposition to the bill may not reflect support or opposition to specific components in the legislation. The criteria consider not only the title of the legislation, but also the intent of the legislation. Some congressional action (e.g., invoking cloture in the Senate) requires investigation of the legislation and the debate that preceded such action. Understanding the intent of the legislation is crucial to deciding if a vote in support of the policy position is economically efficient or inefficient.

Important differences exist, however, between selection of votes for each dependent policy area and selection of votes in developing an E-score. Minimum wage and medical malpractice are specific policy areas considered within a context of how votes in support or opposition to legislation in each area affect economic efficiency. Only those votes pertaining to each of the policy areas is considered in evaluating the economic efficiency of the legislation.

But economic efficiency is not limited to these two policy areas and encompasses more issue areas. Economic efficiency is maximization of aggregate social

benefits of policy decisions to aggregate social costs. This expands the number of issues that can be considered in devising an E-score to other policy areas where economic efficiency can be measured. Public policy making that is economically efficient is consistent with Pareto improving positions, where it is not possible to make someone better off without making someone else worse off.

Stigler (1971) and Kennedy (2005) find that analyzing legislation that is economically inefficient is not only the flip side of economic efficiency, but also enhances the model for identifying and selecting roll call votes. Legislation signaling economic efficiency reduction involves regulation in private markets or direct intervention where a market failure does not exist (Kennedy, 2005, p. 56). According to Stigler, the nature of any policy having clear welfare implications is paramount to analyzing legislation as economically efficient or inefficient (as cited in Kennedy, 2005, pp. 28-29).

For this dissertation all roll call votes for each Congress (99th – 108th, inclusive) are analyzed. Only legislation meeting one or more of the four categories developed by Stigler and Kennedy is selected for inclusion in the analyses. Using these categories a roll call vote in support or opposition to the selected legislation is evaluated. All legislation selected is identifiable as either enhancing economic efficiency or signaling a reduction in economic efficiency. Roll call votes are tabulated for each legislator voting. Roll call votes in support of economically efficient legislation are recorded as an economic efficiency-enhancing vote by that legislator; roll call votes in opposition to economically efficient legislation are recorded as an economically inefficient vote by that legislator. Roll call votes in support of economically inefficient legislation are

recorded as an economically inefficient vote by that legislator; roll call votes by each legislator in opposition to economically inefficient legislation are recorded as economic efficiency enhancing. Each vote was identified in the *Washington Post* database (<http://projects.washingtonpost.com/congress/>) and Congressional Quarterly Congress Collection (<http://www.cq.com>) with the latter the data source for each vote.

Table 3.4 summarizes the development of the E-score model. Tables found in Appendix C list all House and Senate roll call votes by Congress included in devising each E-score. For each piece of legislation the tables provide a title, bill number, narrative description of the legislation, and indicate if support for the legislation represents an economically efficiency enhancing or reducing event. Votes in support of economically efficient positions are coded 1 and votes for supporting inefficient positions are coded 0. Within each Congress a legislator’s votes are totaled, divided by the total number of votes possible, and converted to a percentage.

Table 3.4 Summary of E-score model development

Congresses considered	99 th – 108 th (1985 – 2005)
Chambers of Congress	House of Representatives and Senate
Votes considered	Roll call votes in House and Senate where economic efficiency is affected
Criteria	Economic efficiency standards developed by Stigler (1971) and Kennedy (2005)
Coding	Votes for economically efficient positions = 1 Votes for economically inefficient positions = 0 Percentage of votes for economic efficiency based on total votes = 0 – 100; higher scores depict higher economic efficiency

Methods of Analysis

In considering the research question the model must measure the multiple effects between independent and dependent variables, while controlling for extraneous factors, and analyze if the combination of relationships produces changes across years of the study. This research employs two different methodologies: multiple regression analysis of the effect of various explanatory (independent) variables on two dependent variables and interrupted time-series analysis in measuring changes in behavior over time.

Regression Analysis

Ordinary Least Squares (OLS) analysis measures the direct impact of each independent variable on the dependent variables. To test for indirect effects, several regressions are run between the variables in the model. Of particular interest is the relationship between E-Score and other independent variables, such as ADA scores and ACU scores, and the extent that E-scores appear to transcend liberal-conservative ideology.

While bivariate associations between an independent variable and dependent variable might exist, controlling for the effects of other independent variables is necessary in measuring if the association is direct, indirect, or spurious. Units of analysis for this study are legislators in the U.S. House and Senate. When data on a population are available and the population is rather small, the entire population should be sampled. For this study the sample will consist of all legislators voting on each dependent variable. Tests of significance demonstrate how likely an association between two variables in a sample might or might not exist. These associations are measured by an F-

Test for the entire model and a T-Test for each hypothesis. Variables in the model with a predicted association (+ or -) between independent and dependent allow the use of a one-tailed test. Independent and dependent variables where a predicted relationship does not exist require the use of a two-tailed test to measure the association between such variables. Statistical significant is determined at the 0.05 level.

The regression coefficient (beta) measures the strength of association between the independent and dependent variables. While tests of significance address the likelihood of causal associations existing, beta values are important in identifying changes per unit in the dependent variable as a result of applying multiple independent variables. The standardized regression coefficients or Betas compare the relative impacts of the independent variables.

Two dependent variables are analyzed within the model: minimum wage legislation and medical malpractice legislation. The model considers a legislator's support for economic efficiency in analyzing each dependent variable separately. The multivariate regression equation for each dependent variable in the model is as follows.

Medical malpractice policy area:

$$VOTE_{it} = a_0 + b_1 ESCORE_{it} + b_2 ADA_{it} + b_3 ACU_{it} + b_4 DW\ NOMINATE_{it} + b_5 HEALTH_{it} + b_6 LAWYER_{it} + b_7 CHAMBERENVIRONMENT_{it}$$

where,

$VOTE_{it}$ = dependent variable representing a scoring model of final, roll call votes by a legislator on medical malpractice policy.

a_0 = constant term representing parameter at Y-intercept.

$b_1 \dots b_7$ = coefficients (beta) for independent variables in the model

$ESCORE_i$ = E-score for legislator i in time t .

ADA_{it} = ADA scores for legislator i in time t .

ACU_{it} = ACU scores for legislator i in time t .

$DW\ NOMINATE_{it}$ = DW Nominate scores for legislator i in time t .

$HEALTH_{it}$ = Health related political contributions to legislator i in time t .

$LAWYER_{it}$ = Law related political contributions to legislator i in time t .

$CHAMBER\ ENVIRONMENT_{it}$ = Chamber environment including party unity and party leadership control for legislator i in time t .

Minimum wage policy area:

$$VOTE_{it} = a_0 + b_1 ESCORE_{it} + b_2 ADA_{it} + b_3 ACU_{it} + b_4 DW\ NOMINATE_{it} + b_5 LABOR_{it} + b_6 BUSINESS_{it} + b_7 CHAMBERENVIRONMENT_{it}$$

where,

$VOTE_{it}$ is the dependent variable representing a scoring model of final, roll call votes by a legislator on minimum wage policy.

a_0 = constant term representing parameter at Y-intercept.

$b_1 \dots b_7$ = coefficients (beta) for independent variables in the model

$ESCORE_i$ = E-score for legislator i in time t .

ADA_{it} = ADA scores for legislator i in time t .

ACU_{it} = ACU scores for legislator i in time t .

$DW\ NOMINATE_{it}$ = DW Nominate scores for legislator i in time t .

$LABOR_{it}$ = Labor related political contributions to legislator i in time t .

$BUSINESS_{it}$ = Business related political contributions to legislator i in time t .

$CHAMBER\ ENVIRONMENT_{it}$ = Chamber environment including party unity and party leadership control for legislator i in time t .

Interrupted Time-series Design

With interrupted time series, it is possible to measure the impact of changes in political party control of the institution (House and Senate) on the support for public policies analyzed in the policy areas across years. The goal is to determine whether changes in political control affect subsequent observations of legislative ideology and self-interest. The intent of using this technique is to evaluate the effect of political party changes on legislative decision-making, and if such decision-making impacts economic efficiency. In separate analyses each independent variable (ADA, ACU, and E-score) is regressed on time and two dummy variables.

Changes in economic efficiency are especially relevant in considering the role of party and legislative voting. Party and the influence of party in controlling congressional institutions are major factors linking legislative decision-making (Sinclair, 1977; Menefee-Libey, 1991, Carsey & Layman, 2004) with a growing ideological chasm between each political party (Flanigan & Zingale, 2002, pp. 57-63). The extent that party control affects economic efficiency is compared to the impact of party control on liberal-conservative ideology in analyzing the role of economic efficiency in predicting behavior. Changes in E-scores, as a measure of economic efficiency, and ADA, ACU, and DW-NOMINATE scores, as measures of liberal-conservative ideology, are evaluated by comparing the Congresses before and after the following events: the 1986 congressional election with the Democratic Party regaining control of the Senate, 1994 election with Republicans sweeping both houses of Congress, and the 2000 election with closely divided, Republican controlled Congress and a Republican president.

The key additions in an interrupted time series design are two dummy counting variables. One dummy variable is coded zero for observations before changes in institutional control (e.g., a Democratic majority in the Senate is replaced by a Republican majority) and one for observations thereafter. It is used as an indicator of whether a change in behavior occurred in and around the event in question. The second dummy variable is coded zero for observations prior to the change in party control and one for the first year after the change in party control, two for the next, three for the next, and so forth. This variable is called a post counter. It is used in determining whether any change in pattern detected is long term or short term in duration.

The dependent variable for the analysis is median scores on legislation within each policy area by Congress in measuring the magnitude of changes over time. With median scores sensitive to even minor changes in party control, separate regression analyses are run to measure percent change in median scores from one Congress to the next. A separate regression analysis of median scores for political party minus median scores for another political party for each Congress is another method employed in capturing magnitude of E-score changes.

Changes in party control of the Senate occurred with the 100th Congress and for the presidency with the 103rd and 107th Congresses. Party control for House and Senate changed with the 104th Congress. A limitation with using interrupted time series design in measuring changes in legislative behavior around these events is the lack of roll call votes available on legislation within either policy area for each point in time. Too few votes does not allow for accurate analysis of the data before and after a base year.

Hypothesis Development

The expected associations between the independent (explanatory) variables and each dependent variable in the model are summarized below. They are based on prior research and will assist in answering these key questions:

- 1) What factors, ideology or self-interest, contribute significantly to legislative decision-making?
- 2) Is a legislator's support for economically efficient policy making situational or rather consistent across time?
- 3) Does political party control affect legislative voting to the extent that economic efficiency is compromised and public policy formulation altered?

Hypothetical Associations and Legislative Voting

Hypotheses are developed in explaining legislative voting within each of the two dependent variable policy areas of this study, medical malpractice reform and minimum wage. E-scores measure the economic efficiency of legislative voting and legislators are assigned scores representing the economic efficiency of voting decisions. Because this study considers the extent that E-scores are predictors of legislative behavior over time in each house of Congress, changes in economic efficiency are considered as functions of length of term in office and, for senators, the number of years into his or her term. Research shows that voting behavior of legislators is more variable early in their career, with junior members more likely to vote along party lines than senior members (Stratmann, 2000). Political parties are increasingly polarized along a liberal-conservative spectrum (Shipan & Lowry, 2001, p. 247). Considering if senior members

vote in relatively higher numbers according to their ideology and if that ideology follows an economically efficient outcome, then differences in time in office are important to this study.

Behavioral labels, such as liberal or conservative, describe legislative ideology and offer clues to support or opposition of a policy issue (Shaffer, 1989). Hinich and Pollard find that labeling patterns of political behavior allow a constituency to derive a label of relative conservatism or relative liberalism that exists across issues (as cited in Poole, 1988, p. 118). As proxies of liberalism and conservatism, ADA scores and ACU scores, respectively, are tools for estimating that legislators who are more liberal are less likely to support malpractice reform than conservative legislators. ADA and ACU scores are usually highly, negatively correlated. Inclusion of both scores in a model reduces some of the bias that places the opposing ideology at a polar extreme (Brunell, Koetzle, Dinardo, Grofman, & Feld, 1999; Austen-Smith, 1993). DW-NOMINATE scores adjust the effect of time on behavioral labels that might otherwise fail to identify gradual changes in relative voting positions.

Organized interests affect legislative decision making by appealing to a legislator's self-interests. Downs (1957) finds the desire to win reelection as a strong incentive for legislative actions, while Sears and Funk (1990) cite the short-term impact of an issue and material well-being afforded to an individual as examples of self-interested behavior. That material well-being naturally flows with political contributions, considering the impact of lobbying efforts by interest groups connected to each policy area is important in understanding self-interested behavior in this study. Frequently, these organized interests are channeled to gain access or influence particular groups or

individuals (Ainsworth, 1997). Hypothesizing that higher legal contributions are anathema to legislative support for medical malpractice reform but higher health care contributions are consistent with limiting medical liability and reducing insurance premiums are examples of organized interests lobbying legislative allies as the highest priority before expanding supportive coalitions (Hojnacki & Kimball, 1998).

Divided government is found to reduce the passage of significant legislation (Edwards, Barrett, & Peake, 1997). A party label provides brand name identification with party leaders commissioned to maintain or enhance the party's reputation (Hager & Talbert, 2000). Carsey and Layman (2004) examine citizen preferences for divided government as a function of ideological locations and perceptions of the two parties. Applying this principle, legislators also position themselves within political parties. According to conditional party government theory party members support party positions under certain circumstances. Forgette and Sala (1999) argue that majority party members in particular vote with their parties (p. 467). If a legislator votes with party and not according to maximizing net social benefit of the policy position, then economic efficiency associated with his or her vote suffers. If constituents align with a political party to push public policies, legislators, who are driven by self-interest in seeking reelection are less likely to apply economically efficient principles to their decision making in addressing the concerns of citizens.

Medical malpractice reform policy area

Medical malpractice reform is an economically efficient public policy objective (Knauss & Levy, pp. 2-12; Note, 1996, pp. 1765-1773). That is, medical malpractice

reforms that reduce medical liability and burgeoning insurance premiums produce economically efficient social benefits. Medical malpractice reform improves allocation of resources and reduces rent-seeking behavior from excessive tort awards. Table 3.5 presents the hypotheses related to medical malpractice reform votes and the expected regression coefficient sign for each relationship. The positive signs suggest that hypothetical associations between each independent variable and medical malpractice reform expand social benefits. (In the case of Hypothesis 6 the sign designation reflects the arbitrary coding of Republican Party influence as a negative number and the Democratic numbers as positive.)

Table 3.5 Hypotheses for medical malpractice reform policy area

Hypotheses	Expected Sign of Regression Coefficient
H 1: Legislators with higher E-scores vote in support of medical malpractice reform.	+
H 2: Legislators with higher ADA scores vote in opposition to medical malpractice reform.	-
H 3: Legislators with higher ACU scores vote in support of medical malpractice reform.	+
H 4: Legislators with higher legal political contributions to total contributions vote in opposition to medical malpractice reform.	-
H 5: Legislators with higher health care political contributions to total contributions vote in support of malpractice reform.	+
H 6: Republican legislators are likely to vote for malpractice reform more often than Democratic legislators.	-
H 7: The closer senators are to the end of their current term in office, the more likely they are to support malpractice reform.	+
H 8: The longer a legislator has served, the more likely he or she supports medical malpractice reform.	+
H 9: The greater the ideological division between the legislator's party and the party of the executive branch, the less likely the legislator supports medical malpractice reform.	-
H 10: Legislators from the minority party (House or Senate) are more likely than majority party legislators to support medical malpractice reform.	+
H 11: The greater the division between the ideology of the legislator and the median ideology of the party to which the legislator belongs, the more likely the legislator supports medical malpractice reform.	+

Minimum wage policy area

Minimum wage legislation is inversely associated with economic efficiency.

Table 3.6 presents the hypotheses associated with this policy area. With the exception of Hypothesis 6, a hypothesis arbitrarily coded in measuring political party influence, support for minimum wage legislation is economically inefficient, suggesting that

hypothesized associations supporting minimum wage legislation increase public costs at the expense of social benefits. Thus, the negative signs associated with the variables related to economic efficiency.

Table 3.6 Hypotheses for minimum wage legislation policy area

Hypotheses	Expected Sign of Regression Coefficient
H 1: Legislators with a higher E-score will oppose increasing the minimum wage.	+
H 2: Legislators with higher ADA scores will support increasing the federal minimum wage.	-
H 3: Legislators with higher ACU scores will oppose increasing the federal minimum wage.	+
H 4: Legislators with higher business political contributions to total contributions will oppose increasing the minimum wage.	+
H 5: Legislators with higher labor political contributions to total contributions will support increasing the minimum wage.	-
H 6: Democrat legislators are likely to vote for increasing the minimum wage more often than Republicans.	+
H 7: The closer senators are to the end of their current term in office, the less likely they are to support increasing the minimum wage.	+
H 8: The longer a legislator has served, the less likely he or she will support increasing the minimum wage.	+
H 9: The greater the ideological division between the legislator's party and the party of the executive branch, the more likely the legislator will support increasing the minimum wage.	-
H 10: Legislators from the minority party (House or Senate) are less likely than majority party legislators to support increasing the federal minimum wage.	+
H 11: The greater the division between the ideology of the legislator and the median ideology of the party to which the legislator belongs, the less likely the legislator supports increasing the federal minimum wage.	+

Since increases in a minimum wage are redistributive, representatives with higher E-scores are less likely to support such legislation. Those legislators who are more liberal and favor redistribution as a public policy are more inclined to support passage. Labor and business contributions are used in measuring self-interest with this variable. While labor represents the interests of the worker, business captures those interests that typically oppose increases in minimum wage as an addition to labor costs.

Hypothetical associations within the chamber environment are the inverse of those formulated for medical malpractice reform. With increases in minimum wage an inefficient act, legislators who are recently into their careers or at the mercy of self-interests from constituents pushing policy development, supporting inefficient legislation is more likely.

Limitations of Research

A potential concern with comprising an economic efficiency model is the subjectivity associated with choosing roll-call votes for inclusion into an E-score model. Kennedy (2005) argues that efficiency is an objective criterion while liberal-conservative ideology measured through ADA is subjective. Selecting votes for any vote model involves a degree of subjectivity. Each vote in support of a policy position involves a decision made by a legislator that involves interpretation of that decision. Simon argues that legislators are individuals and individuals make decisions based on decision premises (as cited in Fry, 1989, p. 185). Each vote for a public policy consists of a compilation of individual decisions made at each decision premise. Underlying

premises of each decision involve an individual assessment of benefits and costs, but must be considered through aggregate effects of social benefits and social costs.

Selecting those votes where individual decisions produce a clearly understood impact on net social benefits is a challenge for researchers. Closely selecting each vote based on the four premises offered by Stigler underscores those issues that reflect less ambiguous efficiency positions. Finding enough votes to analyze and select in comprising the E-core is a concern. Limiting selection of votes comprising the E-Score to those roll-call votes for amendments or final passage potentially limits the inclusion of other votes that could signal efficiency or inefficiency.

Including traditional measures of liberal-conservative ideology with an economically efficient variable introduces two measures of ideology that correlate in a regression model. Kennedy (2005) found that the E-score for both 106th and 107th Congresses correlate with ADA -0.79 in the House and -0.80 in Senate. Multicollinearity is a problem where correlation between variables produces undesirable effects. Multicollinearity refers to correlations among variables where nominally different measures quantify the same phenomenon to a high degree and are redundant (Gujarati, 1988, p. 283-285). Adding or deleting predictor variables changes the regression result. Adding cases or dropping variables is a technique used in this study to lessen the effects of multicollinearity when correlations between variables adversely affect regression results.

The next chapter presents the results of the quantitative analyses used to test the hypotheses presented above.

CHAPTER FOUR

ANALYSIS AND EMPIRICAL RESULTS

Chapter Four presents the results of empirical analyses of the relationship between the independent variables and each dependent variable in the study. Medical malpractice reform and minimum wage were each evaluated as dependent variables in measuring economic efficiency as a predictor of legislative behavior. Multiple regression analysis and interrupted time series analysis are employed in making these analyses.

Using the Pearson correlation coefficient, initially bivariate associations were run between each independent variable and each dependent variable to investigate the relationship between the variables. Bivariate associations indicate how closely two variables correlate, but are inadequate for analyzing direct effects between variables when multiple variables are part of a model. They are important in identifying those independent variables that are relatively highly correlated and that may produce multicollinearity, where the close association affects the regression model such that analyzing which variables produce changes in the dependent variable is compromised.

Pearson correlation coefficients were examined for correlations over 0.60 in order to determine potential multicollinearity between the independent variables. Highly correlated bivariate associations between the independent variables, ADA, ACU, and

DW Nominate scores as measures of a liberal-conservative spectrum, necessitate analyzing the effects of these three scores separately. The regression model is run with each of the ideology variables included and then with each measure of ideology independently. Each variable measures different aspects of ideology – ADA (liberal), ACU (conservative), and DW Nominate (a moving spectrum of liberalism and conservatism). Running separate multiple regression analyses with ADA, ACU, and DW Nominate scores reduces the likelihood that multicollinearity affects the model.

Analyzing changes in the economic efficiency of legislative voting over time is important to this study. Measuring legislative voting over each Congress from the 99th Congress through the 108th Congress (1985-2004), inclusive, captures sweeping changes in political party control of each chamber of Congress after the 1994 congressional election and also includes changes in control of either chamber and the impact of executive-legislative relationships over the time period of the study.

While the period under study began with mixed control of the House and Senate, this was followed by a period of Democrat control of both houses in the 100th-103rd Congresses. From the 104th through 108th, the Republicans took control over both houses. Split party control between the Congress and the president was the norm. Table 4.1 illustrates executive-legislative party divisions for each Congress covered in the study.

Table 4.1 Party Divisions, 99th-108th Congresses

Congress	House	Senate	President
99	Democrat	Republican	Republican
100	Democrat	Democrat	Republican
101	Democrat	Democrat	Republican
102	Democrat	Democrat	Republican
103	Democrat	Democrat	Democrat
104	Republican	Republican	Democrat
105	Republican	Republican	Democrat
106	Republican	Republican	Democrat
107	Republican	Varied control*	Republican
108	Republican	Republican	Republican

* Control of Senate shifted between both parties

Chapter Four is divided into four sections. The chapter begins with descriptions of trends for each measure of ideology in the study – E-score, ADA, ACU, and DW Nominate – over the time period of the study. The results are presented. Analyzing variability of each measure of ideology is essential in exploring to what extent E-score is different from traditional measures of liberal-conservative ideology in explaining legislative behavior.

The next section is divided into two parts. Each part is a multivariate analysis of each dependent variable (medical malpractice and minimum wage) and their respective hypotheses. The analysis addresses each dependent variable singularly for each Congress across each chamber. With the purpose of the study surrounding the role of E-score as an ideological tool for predicting legislative behavior each dependent variable, to standardize the analysis between each dependent variable roll call votes were coded to represent an economically efficiency enhancing legislative position. Roll call votes for medical malpractice are economically efficiency enhancing and votes for minimum wage are not economically efficiency enhancing. That is, roll call votes in support of

medical malpractice and votes in opposition to minimum wage increases are coded as economically efficiency enhancing.

Three distinct scoring models are employed in compiling votes for computing the value of each dependent variable. For each dependent variable policy area – medical malpractice and minimum wage – when only one piece of legislation is considered in that Congress, the dependent variable is computed based on roll call votes for that single piece of legislation. For those Congresses where more than one piece of dependent variable legislation is considered roll call votes are tabulated within a scoring model to reflect a percent of the total roll call votes within each policy included in this analysis. For example, if four pieces of legislation were analyzed in the policy area and a legislator voted in support of increasing economic efficiency one time out of four a score of 25 was assigned to the legislator.

Legislation for each dependent variable policy area was not considered within each Congress of the study and therefore roll call votes are not available for analysis in some Congresses. To alleviate the problem of no dependent variable available for analysis in these Congresses, separate scoring models for each dependent variable policy area are computed in the House and Senate for those legislators serving in each Congress during the time period of the study, 1985-2004. In the same manner as the scoring model for multiple pieces of legislation in the same Congress, a score is assigned for the legislator as a percent of the total roll call votes available for analysis within each policy area across each Congress in the House and Senate.

All legislation in each policy area where roll call votes were cast is not included in the scoring models. Only that legislation that specifically addressed the policy area(s)

was included. That is, legislation that was part of other bills or failed to clearly distinguish economic efficiency implications of the legislator’s vote on the policy position is not included. Table 4.2 summarizes legislation included in the dependent variable scoring model for each Congress of the study in House and Senate. For each piece of legislation in the table the name of the legislation, bill number, and date when the roll call vote was cast is included.

Table 4.2 Dependent variable legislation for each Congress: House and Senate

HOUSE		
Congress	Dependent variables	
	Medical Malpractice	Minimum Wage
99	Military Medical Malpractice. HR 3174. (10.7.85)	No dependent variable legislation
100	High Risk Occupational Liability. HR 162. (10.15.87)	No dependent variable legislation
101	No dependent variable legislation	Minimum Wage Increase Passage. HR 2. (3.23.89) Minimum Wage Veto Over Ride. HR 2. (6.14.89) Minimum Wage Increase Passage. HR 2710. (11.1.89)
102	No dependent variable legislation	No dependent variable legislation
103	No dependent variable legislation	No dependent variable legislation
104	Product Liability Medical Malpractice Cap. HR 956. (3.9.95)	Employee Commuting / Minimum Wage Increase. HR 1227. (5.23.96)
	Product Liability Passage. HR 956. (3.10.95)	
105	No dependent variable legislation	No dependent variable legislation
106	No dependent variable legislation	Minimum Wage 2 year Increase. HR 3846. (3.9.00) Minimum Wage Increase Continuance. HR 3846. (3.9.00)
107	Medical Malpractice Award Passage. HR 4600. (9.26.02)	No dependent variable legislation
108	No dependent variable legislation	No dependent variable legislation

SENATE		
Congress	Dependent Variables	
	Medical Malpractice	Minimum Wage
99	No dependent variable legislation	No dependent variable legislation
100	No dependent variable legislation	Minimum Wage Cloture. S837. (9.23.88)
101	No dependent variable legislation	Minimum Wage Increase. S4. (4.11.89) Minimum Wage Increase. HR2. (4.12.89) Minimum Wage – Training Wage. HR2710. (11.8.89) Minimum Wage passage. HR2710. (11.8.89)
102	No dependent variable legislation	No dependent variable legislation
103	No dependent variable legislation	No dependent variable legislation
104	Product Liability OB. HR 956. (5.2.95) Product Liability \$500,000. HR 956. (5.2.95) Product Liability Cloture. HR 956. (9.4.95)	No dependent variable legislation
105	No dependent variable legislation	No dependent variable legislation
106	No dependent variable legislation	No dependent variable legislation
107	Patients Rights Malpractice Liability. S 1052. (6.29.01)	No dependent variable legislation
108	Medical Malpractice Cloture. S 2061. (2.24.04)	No dependent variable legislation

Results presented include regression output for each dependent variable scoring model – for legislators voting across each Congress and legislators voting on legislation in the Congress and chamber under consideration – in each policy area – medical malpractice reform and minimum wage legislation.

The third section of this chapter captures changes in legislative behavior associated with changes in political party control of the institution or the presidency. Kellough's (1990) interrupted time series model is employed in this analysis. Three

change points within the 99th through 108th Congress are considered for analysis: 100th Senate, which included Democrats reverting to majority control of the chamber; sweeping Republican majorities in the House and Senate beginning with the 104th Congress; and a closely divided House and Senate in the 107th. Only the second case has enough time periods before and after the change to make the interrupted time series results useful. For the other two time periods, a comparison of trends within the first Congress after the change is the major basis of the analysis. Similarly change in the presidency at the start of the 103rd Congress is examined.

The chapter concludes with a summary of analyses conducted and overall findings from each association.

Descriptive Analysis

Ideology is a key component of this study. ADA, ACU, DW Nominate, and E-score are variables that measure ideology. ADA and ACU measure a liberal-conservative spectrum through liberal and conservative interest group ratings, respectively. DW Nominate also measures liberal-conservative ideology but makes relative adjustments to ideology over time by assigning weights to scores. Each of these three measures of ideology captures legislative voting characteristics of a legislator.

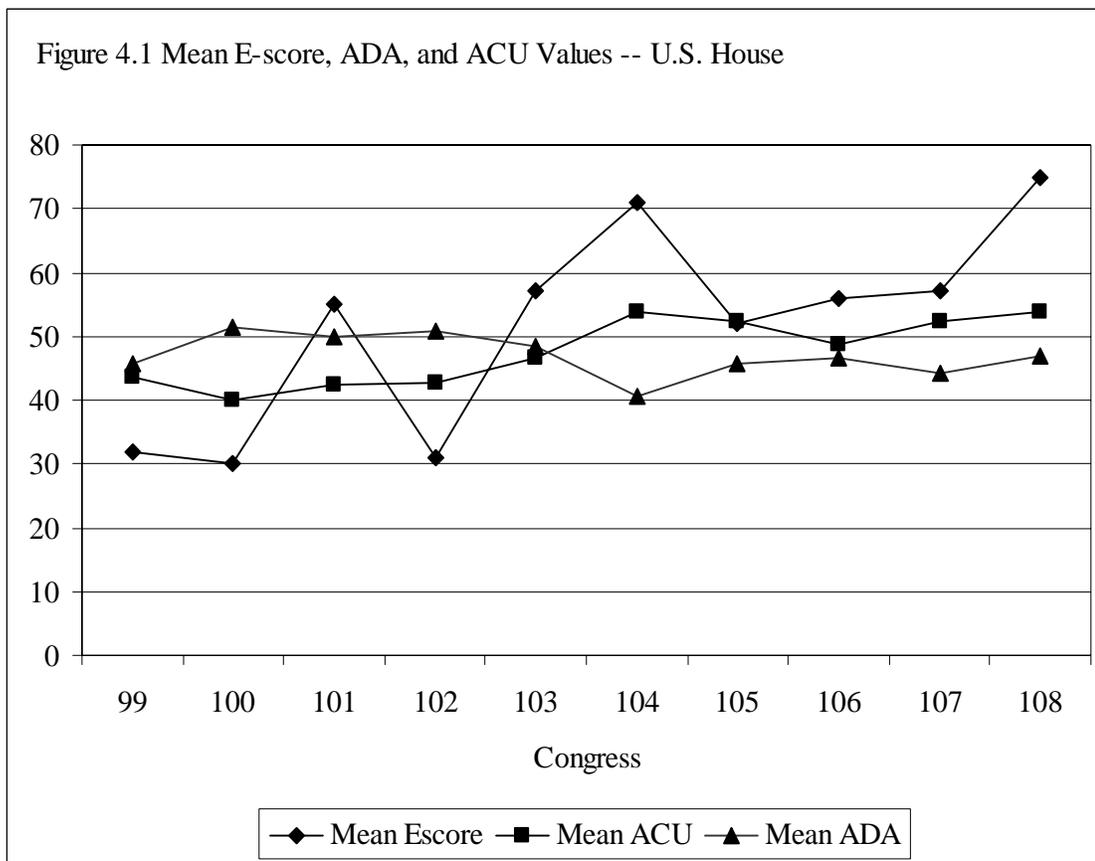
E-score transcends these traditional measures of liberalism and conservatism by considering not the characteristics of a legislator but how the vote by the legislator affects society through social benefit and social costs. Higher E-scores are associated with higher levels of social benefit as opposed to social costs and lower E-scores are associated with lower levels of social benefit as opposed to social costs (Kennedy, 2005,

pp. 45-49). Whether a legislator is liberal or conservative supporting policies that maximize benefits has many positive public policy implications.

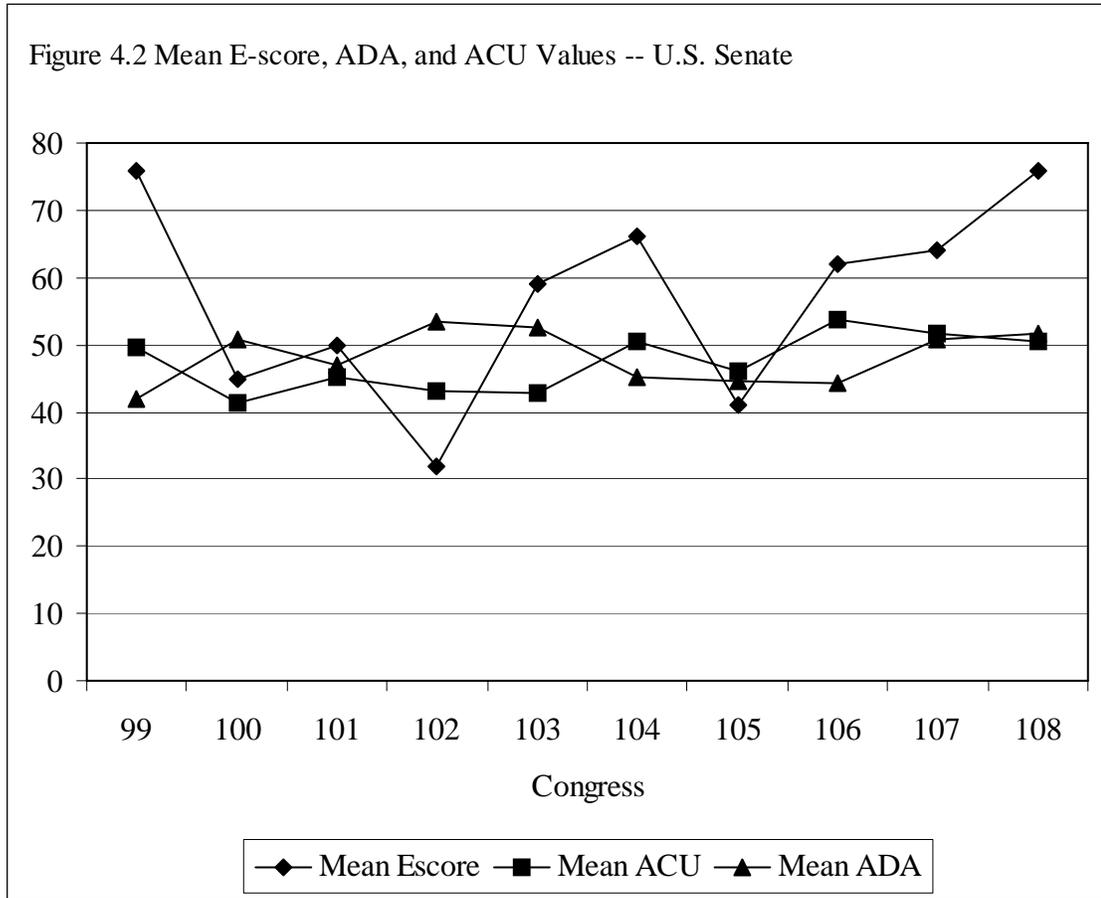
Pearson correlations among these four measures of ideology are relatively high. ADA is negatively correlated with ACU, DW Nominate, and E-score. That is, higher (lower) values for ADA are associated with lower (higher) values for ACU, DW Nominate, and E-score. The correlations among these variables are not perfectly positive or negative; variation exists among movement of the variables.

What is important to this study is that E-score has variation and is not the same as traditional ideology. E-score variation indicates that economic efficiency is not the same as liberal-conservative ideology. This is true across both House and Senate.

Referring to Figure 4.1, mean values for E-score, ACU, and ADA in the House indicate that not only do E-score values experience a wider variation than values for ADA and ACU the trend for E-scores appears to be higher over time. Mean ADA and ACU values are consistent through the time period of the study. ACU scores gradually climb and ADA scores remain virtually flat. Major shifts upward for ACU and downward for ADA occur with Republican control of both chambers of Congress beginning with the 104th Congress.

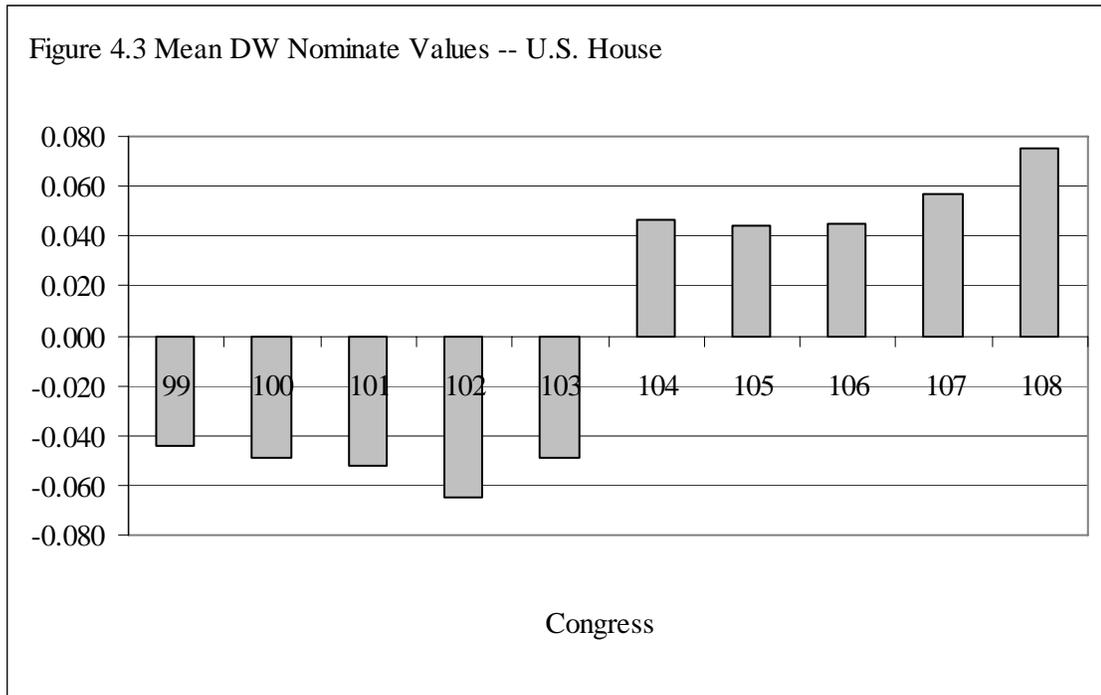


As indicated in Figure 4.2, in the Senate much more variation occurs in each of the variables, especially the E-scores. Throughout the time period examined, ADA and ACU scores shift several times but remain virtually flat. Increases in ACU scores and decreases in ADA scores reflect a shift in Republican control of both chambers of Congress beginning with the 104th Congress. The shift is not to the extent of much higher conservatism in the House and does not appear to be a harbinger of changes in a long-term trend in ideology in the Senate.



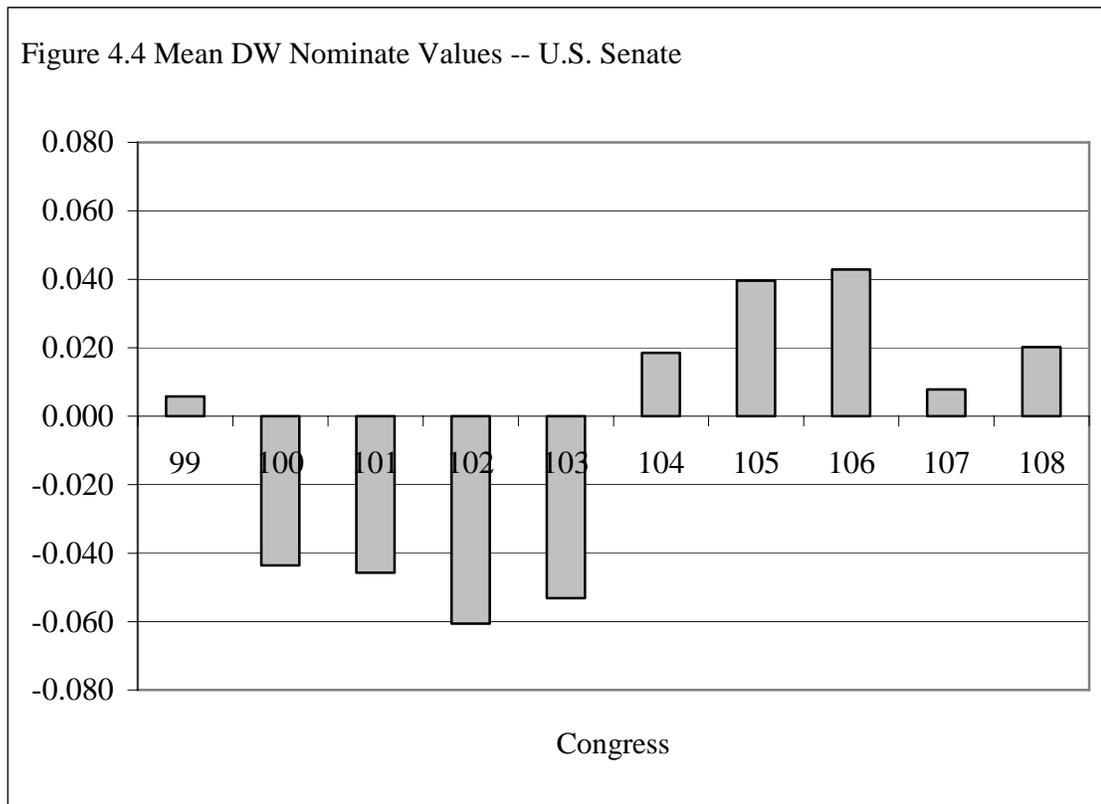
A relatively stronger increase in conservatism in the House is not only apparent from ADA and ACU values from each Congress of the study, but also from weighted DW Nominate measures of liberalism and conservatism that experience relative changes within the institution and among its members. Referring to mean values for DW Nominate in the House in Figure 4.3, the trend in conservatism over the period of this study is generally upward with a sharp spike beginning with the 104th Congress and gradually continuing thereafter. Positive numbers indicate a conservative orientation and negative numbers a liberal orientation. In each Congress a positive number is found

when the majority in charge is Republican and a negative number is found when the majority in charge is Democratic.



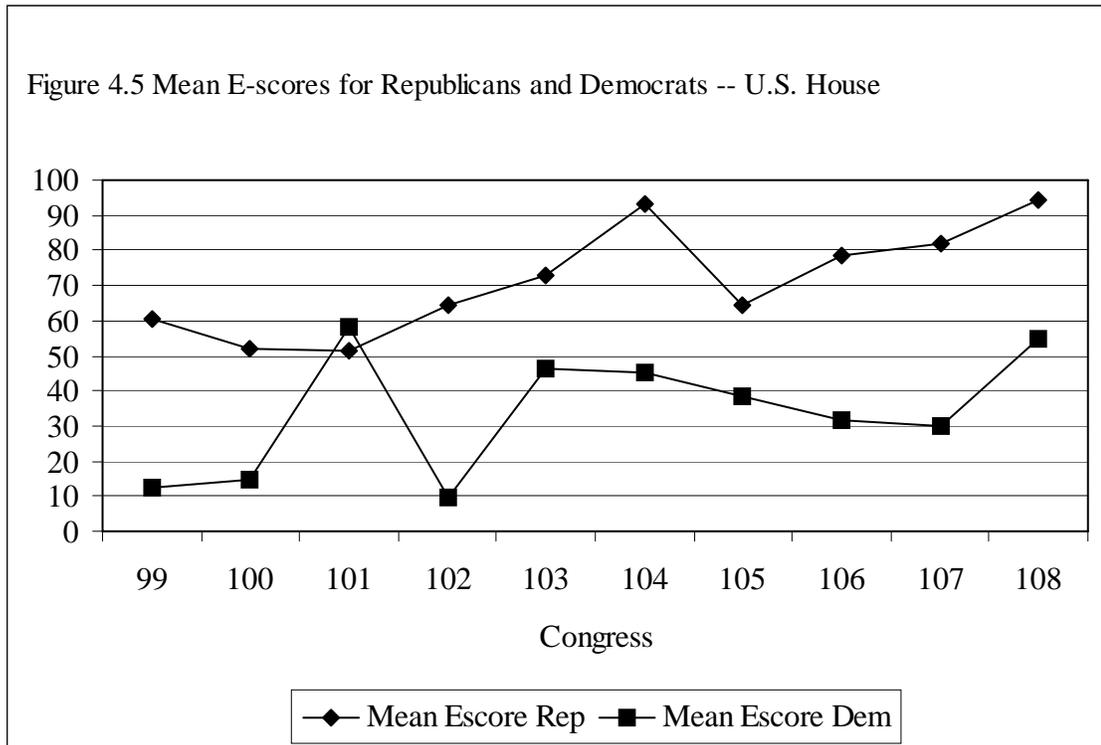
In the Senate DW Nominate values also experience a sharp increase beginning with the 104th Congress, but the chamber does not become increasingly conservative. Changes in DW Nominate scores from the 99th Congress to the 108th Congress show very little absolute change from beginning to end, but much variability from one Congress to the next. A shift in orientation from liberal to conservative with the 104th Congress is associated with relatively more extreme DW Nominate scores. Immediately preceding the shift in orientation, the Senate was becoming more liberal with higher negative DW Nominate scores. Immediately after the change in party control with the

104th Congress the Senate was relatively more conservative, as DW Nominate scores were increasingly higher, positive numbers. DW Nominate scores further away from changes in party control with the 104th Congress, i.e. DW Nominate scores for Congresses closer chronologically to the 99th or 108th Congress, experience less movement and are generally closer to zero, a point where ideology is relatively balanced between liberal and conservative. Figure 4.4 illustrates mean DW Nominate values for the U.S. Senate.



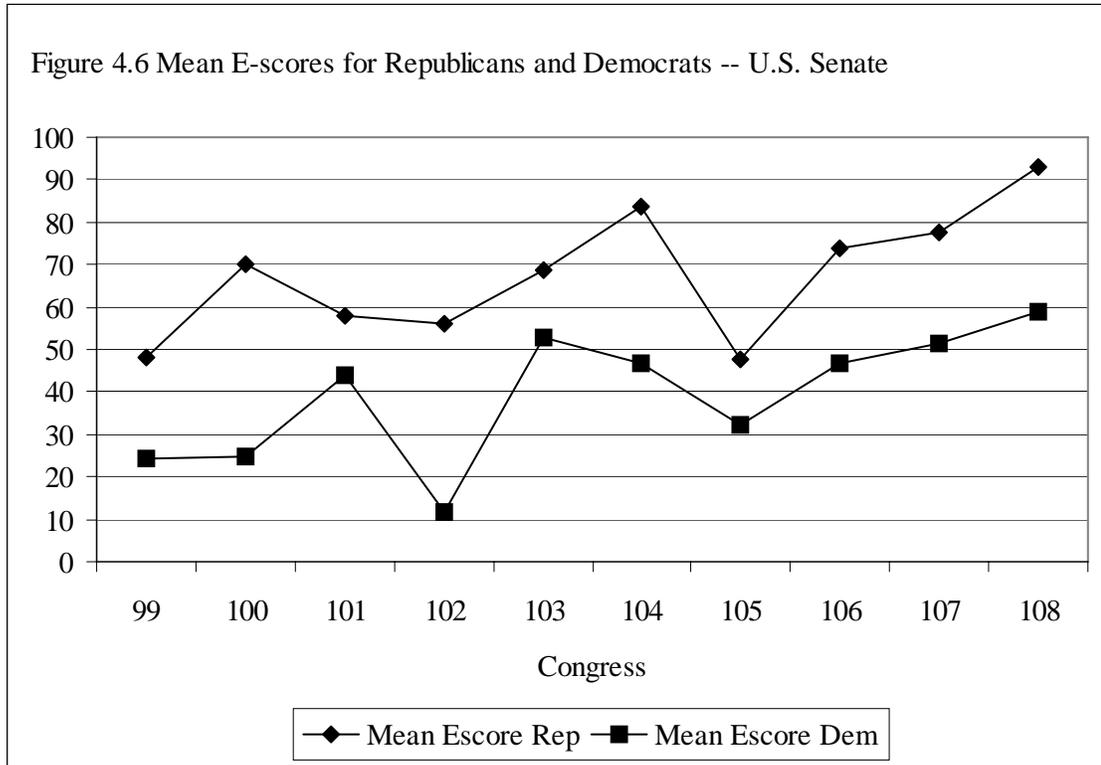
Mean E-score values generally increased in the House but remained flat in the Senate. Trends in the relationships among E-score values across political parties offer comparisons to traditional liberal-conservative measures of ideology. When comparing

changes in E-scores as a function of political party, variability among Republican and Democrat members of Congress is evident. Figures 4.5 and 4.6 indicate that in each chamber, mean E-scores are higher for Republicans than Democrats. The only exception is the 101st House, where mean E-score values for Democrats were slightly higher than mean E-score values of Republican members.



Wider absolute differences generally exist between E-scores of Republican and Democrat members in the House relative to the Senate. The distribution of E-score values for Democrats from the 99th to 103rd Congress is very similar. In the House a spike in E-scores was higher for Republicans than Democrats beginning with the 104th Congress. Mean E-score values for Democrats in the Senate have increased since the 105th Congress, while E-scores for Democrats in the House slowly fell from the 103rd

Congress until 107th and then jumped sharply. In comparing House and Senate E-scores this pattern for Democrats indicates more variation within the E-score in later Congresses as opposed to earlier Congresses in the study. Republican E-score values drop more sharply in the Senate than in the House in the 105th Congress.



Ideology Vector

In analyzing the variability of E-score relative to traditional measures of a liberal-conservative spectrum, the four ideology variables in the model – ADA, ACU, DW Nominate, and E-score – were regressed against each dependent variable. For Congresses where legislation was not considered and a dependent variable was not available, a scoring model of votes for legislation considered across all Congresses was used as the dependent variable for each policy area, minimum wage and medical

malpractice. Tables 4.3 and 4.4 present the effect of each ideology variable on legislative voting in the House and Senate, respectively, for Congresses where dependent variable legislation was available. For each Congress statistically significant relationships between each independent variable and the appropriate dependent variable are indicated at $p < 0.01$ and $p < 0.05$ levels of significance. One or more ideology variables were statistically significant in each House where dependent variable legislation was available for the Congress analyzed. For medical malpractice ACU was statistically significant in the 99th Congress and ADA in the 104th Congress. ACU, ADA, and DW Nominate were each statistically significant in the 100th Congress. For the 107th Congress ADA and E-score were statistically significant.

For minimum wage dependent variable E-score is statistically significant in 101st, 104th, and 106th Congresses. E-score is positively correlated with minimum wage in the 101st and 106th Congress, but inversely correlated with minimum wage in the 104th Congress. An inverse correlation with minimum wage suggests that legislators with higher economic efficiency ratings do not always support economically efficient policies.

Overall, the model produced statistically significant results for each ideology variable across the Congresses where medical malpractice or minimum wage legislation was available as dependent variables. Standardized coefficients indicate that the directional impact of each ideology variable on changes in the dependent variables was consistent with each hypothesis in all Congresses analyzed. Two exceptions are an inverse correlation for ACU and medical malpractice in the 99th Congress and an inverse

correlation between E-score and votes in opposition to increasing the minimum wage in the 104th Congress.

Table 4.3 Regression Analysis of Ideology Influences on Legislative Voting in House

HOUSE					
Medical Malpractice					
Congress	Independent Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99th	ACU	-0.637**	0.236	-0.511	-2.697**
	ADA	0.042	0.223	0.034	0.187
	DW Nominate	6.715	15.562	0.059	0.432
	E-score	-0.079	0.076	-0.066	0.301
N 439		R2 0.289	Adjusted R2 0.282	Constant 107.431	
100th	ACU	0.639**	0.150	0.463	4.245**
	ADA	-0.413**	0.154	-0.280	-2.682**
	DW Nominate	12.650*	5.517	0.092	2.293*
	E-score	-0.015	0.048	-0.011	-0.320
N 441		R2 0.633	Adjusted R2 0.630	Constant 49.529	
104th	ACU	0.114	0.169	0.094	0.674
	ADA	-0.777**	0.150	-0.626	-5.178**
	DW Nominate	12.381	11.218	0.114	1.104
	E-score	0.070	0.073	0.046	0.969
N 445		R2 0.754	Adjusted R2 0.752	Constant 80.234	
107th	ACU	0.035	0.162	0.028	0.215
	ADA	-0.948**	0.145	-0.775	-6.531**
	DW Nominate	-0.347	10.667	-0.003	-0.033
	E-score	0.145*	0.068	0.092	2.115*
N 444		R2 0.770	Adjusted R2 0.767	Constant 83.700	

Minimum Wage					
Congress	Independent Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
101st	ACU	0.664**	0.121	0.612	5.495**
	ADA	-0.247*	0.112	-0.224	-2.202*
	DW Nominate	1.908	5.424	0.019	0.352
	E-score	0.192	0.052	0.108	3.688**
N 442		R2 0.672	Adjusted R2 0.669	Constant 1.905	
104th	ACU	0.377	0.221	0.297	1.706
	ADA	-0.126	0.190	-0.094	-0.662
	DW Nominate	54.007**	15.692	0.476	3.442**
	E-score	-0.232	0.100	-0.144	-2.329*
N 445		R2 0.549	Adjusted R2 0.545	Constant 35.686	
106th	ACU	1.140**	0.203	0.908	5.612**
	ADA	0.473**	0.154	0.385	3.081**
	DW Nominate	24.821*	12.515	0.239	1.983*
	E-score	0.153	0.055	0.111	2.792**
N 440		R2 0.770	Adjusted R2 0.767	Constant -49.658	

* p < 0.05

** p < 0.01

In the Senate the model produced no statistically significant results for ideology variables when minimum wage was considered as the dependent variable in the 100th Congress or medical malpractice in the 104th Congress. For medical malpractice dependent variable ADA was statistically significant in the 107th and 108th Congresses and inversely correlated to movements in the dependent variable. For minimum wage dependent variable, ACU and DW Nominate are each statistically significant in the 101st Congress and positively related to the dependent variable as hypothesized.

Table 4.4 Regression Analysis of Ideology Influences on Legislative Voting in Senate

SENATE					
Medical Malpractice					
Congress	Independent Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
107th	ACU	0.351	0.357	0.271	0.984
	ADA	-1.124**	0.336	-0.876	-3.347**
	DW Nominate	-25.546	22.129	-0.230	-1.154
	E-score	-0.055	0.094	-0.029	-0.587
N 102		R2 0.821	Adjusted R2 0.813	Constant 89.525	
108th	ACU	0.548	0.327	0.375	1.679
	ADA	-0.915**	0.248	-0.693	-3.682**
	DW Nominate	-21.927	23.303	-0.194	-0.941
	E-score	0.046	0.139	0.024	0.332
N 100		R2 0.791	Adjusted R2 0.781	Constant 66.940	
Minimum Wage					
101st	ACU	0.655*	0.257	0.572	2.553*
	ADA	0.107	0.177	0.094	0.609
	DW Nominate	43.746*	17.875	0.425	2.447*
	E-score	0.063	0.067	0.043	0.940
N 101		R2 0.839	Adjusted R2 0.832	Constant -6.505	

* p < 0.05

** p < 0.01

For Congresses where dependent variable legislation was not available a scoring model of votes including all dependent variable legislation for each dependent variable separately was considered. Scores representing each dependent variable are a compilation of scores for each individual Congress for those legislators serving across all Congresses in the model. Tables 4.5 and 4.6 summarize the results of each ideology variable regressed against a scoring model for each dependent variable in the House and Senate, respectively.

Table 4.5 Regression Analysis of Scoring Models from 99th to 108th Congress of Ideology Influences on Legislative Voting in House

HOUSE					
Medical Malpractice					
Congress	Independent Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
105th	ACU	-0.315	0.329	-0.320	-0.958
	ADA	-0.511	0.298	-0.558	-1.714
	DW Nominate	48.998*	19.747	0.616	2.481*
	E-score	0.033	0.090	0.029	0.367
N 444		R2 0.754	Adjusted R2 0.738	Constant 99.936	
108th	ACU	-0.132	0.264	-0.124	-0.499
	ADA	-0.459*	0.186	-0.527	-2.467*
	DW Nominate	31.218	16.729	0.406	1.866
	E-score	0.107	0.093	0.105	1.151
N 440		R2 0.772	Adjusted R2 0.757	Constant 83.315	
Minimum Wage					
Congress	Independent Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
100th	ACU	0.981**	0.302	1.008	3.255**
	ADA	0.237	.0310	0.228	0.766
	DW Nominate	6.685	7.758	0.069	0.862
	E-score	0.080	0.075	0.083	1.061
N 441		R2 0.781	Adjusted R2 0.766	Constant -26.254	
102nd	ACU	0.847**	0.331	0.854	2.560**
	ADA	0.274	0.306	0.249	0.894
	DW Nominate	-8.911	14.482	-0.096	-0.615
	E-score	0.426**	0.108	0.408	3.944**
N 441		R2 0.787	Adjusted R2 0.773	Constant -36.949	
103rd	ACU	1.198**	0.452	1.186	2.651**
	ADA	0.774	0.407	0.724	1.902
	DW Nominate	27.632	23.277	0.307	1.187
	E-score	0.150	0.105	0.125	1.429
N 442		R2 0.734	Adjusted R2 0.717	Constant -72.171	
105th	ACU	1.302**	0.368	1.195	3.539**
	ADA	0.611	0.333	0.604	1.835
	DW Nominate	11.790	22.050	0.134	0.535
	E-score	0.303**	0.100	0.244	3.016**
N 444		R2 0.748	Adjusted R2 0.732	Constant -75.137	

107th	ACU	0.849*	0.405	0.833	2.099*
	ADA	0.645	0.369	0.682	1.746
	DW Nominate	48.552	25.451	0.565	1.908
	E-score	0.153	0.144	0.127	1.062
N 444		R2 0.683	Adjusted R2 0.662	Constant -50.760	
108th	ACU	0.230	0.382	0.210	0.603
	ADA	-0.084	0.268	-0.087	-0.313
	DW Nominate	48.495*	23.316	0.570	2.080*
	E-score	-0.076	0.126	-0.067	-0.602
N 440		R2 0.655	Adjusted R2 0.632	Constant 27.799	

* p < 0.05

** p < 0.01

In the House the model produced no statistically significant variables in the 101st, 102nd, 103rd, and 106th Congresses for medical malpractice dependent variable, and 99th Congress for minimum wage dependent variable. For each of the other Congresses where a scoring model was used in the absence of dependent variable legislation for that Congress – 105th and 108th for medical malpractice and 100th, 102nd, 103rd, 105th, 107th, and 108th for minimum wage dependent variables, respectively – at least one ideology variable was statistically significant in the model. E-score was statistically significant in the 102nd and 105th Congresses with minimum wage as the dependent variable.

Table 4.6 Regression Analysis of Scoring Models from 99th to 108th Congress of Ideology Influences on Legislative Voting in Senate

SENATE					
Medical Malpractice					
Congress	Independent Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
101st	ACU	-0.636	0.518	-0.714	-1.228
	ADA	-0.804	0.406	-0.908	-1.977
	DW Nominate	69.303	43.413	0.819	1.596
	E-score	-0.475**	0.148	-0.366	-3.210**
N 101		R2 0.823	Adjusted R2 0.783	Constant 143.292	
102nd	ACU	1.198*	0.505	1.450	2.374*
	ADA	1.235*	0.528	1.556	2.339*
	DW Nominate	44.623	38.202	0.537	1.168
	E-score	0.544*	0.219	0.522	2.480*
N 102		R2 0.799	Adjusted R2 0.754	Constant -79.471	
103rd	ACU	1.523*	0.587	1.884	2.597*
	ADA	0.241	0.473	0.267	0.509
	DW Nominate	-62.401	47.850	-0.750	-1.304
	E-score	0.003	0.122	0.003	0.024
N 102		R2 0.813	Adjusted R2 0.769	Constant -34.502	
Minimum Wage					
102nd	ACU	-0.168	0.378	-0.146	-0.444
	ADA	-0.611	0.396	-0.550	-1.543
	DW Nominate	80.651**	28.643	0.694	2.816**
	E-score	-0.225	0.164	-0.155	-1.369
N 102		R2 0.942	Adjusted R2 0.929	Constant 89.282	
104th	ACU	0.952**	0.262	0.908	3.642**
	ADA	-0.216	0.165	-0.195	-1.307
	DW Nominate	-13.559	28.396	-0.121	-0.477
	E-score	0.011	0.162	0.005	0.068
N 103		R2 0.961	Adjusted R2 0.953	Constant 3.354	
105th	ACU	0.681*	0.278	0.556	2.450*
	ADA	-0.877*	0.348	-0.773	-2.525*
	DW Nominate	-35.295	27.890	-0.320	-1.266
	E-score	-0.184	0.111	-0.077	-1.667
N 100		R2 0.967	Adjusted R2 0.960	Constant 63.902	

* p < 0.05

** p < 0.01

In the Senate the model produced no statistically significant results in the 99th, 100th, 105th, and 106th Congresses with medical malpractice as the dependent variable and in the 99th, 103rd, 106th, 107th, and 108th with minimum wage as the dependent variable. In the remaining Congresses – 101st, 102nd, 103rd for medical malpractice and 102nd, 104th, and 105th for minimum wage dependent variables, respectively – where a scoring model was used in compiling a dependent variable at least one ideology variable was statistically significant in each Congress. E-score was statistically significant in the 101st and 102nd Congresses with medical malpractice as the dependent variable.

Multivariate Analysis

Ideology is the key component in analyzing variability of E-score relative to legislative liberalism and conservatism. Including self-interest and party environment vectors in a multivariate analysis is important in understanding influences affecting legislative voting. This section is divided into two parts for analyzing each dependent variable in the model – medical malpractice and minimum wage. The analysis tests the respective hypotheses of each dependent variable in the House and Senate in measuring the impact of each variable in the model on changes in the dependent variables. Self-interest and chamber environment vectors are added to the multivariate analysis with the ideology vector. Self-interest variables are contributions received by legislators. For medical malpractice dependent variable self-interest variables are health and law contributions, and business and labor contributions for minimum wage dependent variable.

Pearson correlations were used to identify strong bivariate correlations among ideology variables and party unity between each other and also control variables within the model. Initial regression runs indicated multicollinearity, precluding using highly correlated variables within single regression runs. For this reason analyzing all variables in the model simultaneously is problematic.

Strong bivariate correlations required modification to existing hypotheses for testing. A hypothesis for DW nominate was added as a measure of liberalism and conservatism that captures the time aspect of ideology. Ideological differences between the legislator and party were modified to analyze distinctions between the legislator's personal ideology and the ideology of the party to which he or she belongs. Tables 4.7 and 4.8 summarize each hypothesis for medical malpractice and minimum wage dependent variables, respectively.

Hypotheses are modified in the model for testing relationships between variables in answering the research question. In order to standardize the measurement of each dependent variable, hypotheses for minimum wage express the relationship between variables in the model and the dependent variable, but the expected sign of the regression coefficient is modified to reflect economic efficiency. That is, support for medical malpractice legislation enhances economic efficiency, but support for minimum wage legislation suppresses economic efficiency. Coding minimum wage such that a vote against the legislation is a vote for economic efficiency produces a regression coefficient that is consistent across both dependent variables. The expected sign of the regression coefficient in Table 4.8 reflects coding of the variable in economically efficient terms.

Table 4.7 Hypotheses for medical malpractice reform policy area

Hypotheses	Expected Sign of Regression Coefficient
H 1: Legislators with higher E-scores vote in support of medical malpractice reform.	+
H 2: Legislators with higher ADA scores vote in opposition to medical malpractice reform.	-
H 3: Legislators with higher ACU scores vote in support of medical malpractice reform.	+
H 4: Legislators with higher DW Nominate scores vote in support of medical malpractice reform.	+
H 5: Legislators with higher health care political contributions to total contributions vote in support of malpractice reform.	+
H 6: Legislators with higher legal political contributions to total contributions vote in opposition to medical malpractice reform.	-
H 7: Republican legislators are likely to vote for malpractice reform more often than Democratic legislators.	-
H 8: The closer senators are to the end of their current term in office, the more likely they are to support malpractice reform.	+
H 9: The longer a legislator has served, the more likely he or she supports medical malpractice reform.	+
H 10: Legislators from the minority party (House or Senate) are more likely than majority party legislators to support medical malpractice reform	+
H 11: The greater the ideological division between the legislator and the median ideology of the legislator's party, the more likely the legislator supports medical malpractice reform.	+

Modifications to hypotheses for minimum wage dependent variable were necessary to avoid multicollinearity associated with using highly correlated variables in testing each existing hypothesis. Differences in the hypothesis for minimum wage remain self-interest variables measuring political contributions and the inverse relationship between support for minimum wage legislation and economic efficiency.

Table 4.8 Hypotheses for minimum wage legislation policy area

Hypotheses	Expected Sign of Regression Coefficient
H 1: Legislators with higher E-scores vote in opposition to increasing the minimum wage.	+
H 2: Legislators with higher ADA scores vote in support of increasing the federal minimum wage.	-
H 3: Legislators with higher ACU scores vote in opposition to increasing the federal minimum wage.	+
H 4: Legislators with higher DW Nominate scores vote in opposition to increasing the minimum wage.	+
H 5: Legislators with higher business political contributions to total contributions vote in opposition to increasing the minimum wage.	+
H 6: Legislators with higher labor political contributions to total contributions vote in support of increasing the minimum wage.	-
H 7: Republican legislators are less likely to vote for increasing the minimum wage more often than Democrats.	-
H 8: The closer senators are to the end of their current term in office, the less likely they are to support increasing the minimum wage.	+
H 9: The longer a legislator has served, the less likely he or she will support increasing the minimum wage.	+
H 10: Legislators from the minority party (House or Senate) are less likely than majority party legislators to support increasing the federal minimum wage.	+
H 11: The greater the division between the ideology of the legislator and the median ideology of the legislator's party, the less likely the legislator supports increasing the federal minimum wage.	+

For each dependent variable a base model of independent and control variables was identified that will be consistent for hypothesis testing for each dependent variable.

For medical malpractice variables included in the base model are E-score, Health

Contributions, Lawyer Contributions, First Elected, Northeast, South, West, Differences

in Legislator DW Nominate and Median Party, Medical Malpractice Crisis, Ratio of Federal Spending, Per Capita Income, Percentage African American, and Percentage Hispanic. For minimum wage dependent variable the base models are identical to those variables included in medical malpractice except Medical Malpractice Crisis is replaced by Minimum Wage Laws and Health and Law are replaced by Business and Labor as measures of self-interest.

Five variables – Party Unity, ACU, ADA, DW Nominate, and Legislative Party – are highly correlated and are not included concurrently in a regression analysis of changes in the dependent variable. These five variables are substituted for testing the appropriate hypothesis. For example, in testing H 2 for either dependent variable, ADA variable was included in addition to the base model, but Party Unity, ACU, DW Nominate, and Legislative Party were not. The same logic applies to testing of H 3. ACU was included in the model but Party Unity, ADA, DW Nominate, and Legislative Party were not.

The key issue in standardizing hypothesis analysis is maintaining consistency across observations. The base model of independent and control variables for each dependent variable was used in testing each hypothesis and measuring changes in each dependent variable. Base model variables are identified under each dependent variable category – medical malpractice and minimum wage – with each of the five highly correlated variables specified for the appropriate hypothesis test.

Hypothesis Testing

The model uses base variables across each hypothesis for testing the impact of independent variables on the dependent variable, medical malpractice reform and then minimum wage. Party Unity, ACU, ADA, DW Nominate, and Legislative Party are highly correlated and are used individually in testing the appropriate hypothesis. The House and Senate base models are the same with the exception of Current Term, which is used only in the Senate model and two self-interest variables (Health and Law; Business and Labor) that vary with the dependent variable used. Current Term measures the years served since the senator was last elected or reelected to office. Table 4.9 summarizes the variables used in the model and the corresponding hypothesis tested. Variables in parentheses represent those substituted when minimum wage is the dependent variable.

Table 4.9 Variables Used in Testing Hypotheses for Medical Malpractice and Minimum Wage

<i>Base Independent and Control Variables</i>	<i>Hypotheses</i>
E-score	<i>Variables used in testing H 1, 5, 6, 9, and 11 in House and Senate with H 8 tested in Senate only.</i>
First Elected	
Health (Business)	
Lawyer (Labor)	
Percent African American	
Percent Hispanic	
Per capita income	
Ratio federal spending per tax dollar received	
Difference legislator DW Nominate and median party	
Northeast	
West	
South	
Medical Malpractice Crisis (Minimum Wage Laws)	
Current Term	
<i>Substituted Variables Tested with Base Variables</i>	
Party Unity	H 7 Tested in House and Senate
ADA	H 2 Tested in House and Senate
ACU	H 3 Tested in House and Senate
DW Nominate	H 4 Tested in House and Senate
Legislative Party	H 10 Tested in House and Senate

For each Congress (99-108) six separate regression analyses were conducted for the House and Senate in order to avoid including highly correlated variables within the same model. The base model was run first and then Party Unity, ADA, ACU, DW Nominate, and Legislative Party were each separately added to the model and the impact of each addition analyzed.

House

Table 4.10 presents the base model analysis for the House using medical malpractice as the dependent variable. A strong self-interest component to legislative decision exists through statistically significant political contributions to Health and Lawyer groups. E-score is also a strong predictor of legislative behavior, as a measure of

ideology. Referring to Table 4.9 for a summary of base and substituted variables used in testing each hypothesis, the following hypotheses were tested in the Base Model with results for each test presented here. In testing Hypothesis 1a: Legislators with higher E-scores vote in support of medical malpractice reform, E-score was found to be a statistically significant base variable for each House in the analysis except in the 101st Congress. In each Congress in which E-score was statistically significant levels of significance of $p < 0.01$ indicate the results most likely were not the result of random occurrences. Standardized coefficients for the variable indicate positive movement between higher E-scores and economically efficient voting in each Congress except the 99th Congress; in the 99th Congress the correlation is negative. Positive correlations between E-score and support for medical malpractice reform are consistent with hypothesized associations. E-score is a powerful predictor of behavior in the base model.

Table 4.10 Regression Analysis of Base Model for 99th to 108th House: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99th	Year Elected	-0.233	0.248	-0.044	-0.940
	Northeast	-10.125	6.384	-0.101	-1.586
	South	-1.025	5.921	-0.012	-0.173
	West	6.470	6.725	0.060	0.962
	Diff DW Nom	-28.910	17.647	-0.076	-1.638
	Fed Spending	1.979	9.798	0.011	0.202
	Per Cap Inc	0.003	0.001	0.132	2.095*
	African Amer.	-77.031	38.172	-0.121	-2.018*
	Hispanic	-38.095	31.563	-0.070	-1.207
	Med Mal Crisis	6.851	4.601	0.083	1.489
	Health	-9.235	10.706	-0.045	-0.863
	Lawyer	27.804	11.027	0.132	2.521*
	E-score	-0.485	0.061	-0.410	-7.983**
N 439		R2 0.247	Adjusted R2 0.221	Constant	65.407
100th	Year Elected	0.148	0.265	0.024	0.557
	Northeast	1.037	7.542	0.009	0.137

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	South	-0.335	7.503	-0.003	-0.045
	West	-16.710	8.326	-0.135	-2.007*
	Diff DW Nom	13.117	9.841	0.058	1.333
	Fed Spending	19.885	11.644	0.093	1.708
	Per Cap Inc	-0.004	0.001	-0.176	-2.840**
	African Amer.	68.050	47.135	0.087	1.444
	Hispanic	32.955	38.103	0.051	0.865
	Med Mal Crisis	8.430	5.280	0.084	1.597
	Health	59.178	13.629	0.220	4.342**
	Lawyer	-62.904	13.275	-0.233	-4.738**
	E-score	0.468	0.069	0.329	6.769**
N 441 R2 0.353 Adjusted R2 0.332 Constant 57.990					
101st	Year Elected	-0.621	0.806	-0.098	-0.770
	Northeast	-13.229	17.082	-0.156	-0.774
	South	23.363	16.038	0.317	1.457
	West	15.828	19.355	0.193	0.818
	Diff DW Nom	11.174	37.300	0.043	0.300
	Fed Spending	-25.908	32.501	-0.145	-0.797
	Per Cap Inc	0.002	0.003	0.159	0.753
	African Amer.	-47.005	91.384	-0.087	-0.514
	Hispanic	-55.786	70.500	-0.165	-0.791
	Med Mal Crisis	11.459	11.073	0.170	1.035
	Health	53.182	22.290	0.313	2.386*
	Lawyer	-83.397	37.792	-0.304	-2.207*
	E-score	-0.357	0.209	-0.216	-1.709
N 442 R2 0.353 Adjusted R2 0.182 Constant 59.825					
102nd	Year Elected	0.699	0.575	0.111	1.214
	Northeast	-5.377	12.162	-0.062	-0.442
	South	9.897	11.951	0.132	0.828
	West	-3.391	13.828	-0.040	-0.245
	Diff DW Nom	-13.578	23.790	-0.052	-0.571
	Fed Spending	27.640	23.454	0.159	1.178
	Per Cap Inc	0.003	0.002	0.215	1.502
	African Amer.	8.411	55.786	0.016	0.151
	Hispanic	-50.497	51.719	-0.151	-0.976
	Med Mal Crisis	2.464	6.994	0.036	0.352
	Health	-14.094	54.300	-0.023	-0.260
	Lawyer	-287.526	87.119	-0.311	-3.300**
	E-score	0.641	0.093	0.679	6.890**
N 441 R2 0.674 Adjusted R2 0.592 Constant -36.450					
103rd	Year Elected	-0.429	0.702	-0.071	-0.611
	Northeast	-19.172	14.925	-0.221	-1.285

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	South	1.031	14.340	0.014	0.072
	West	-1.851	17.427	-0.022	-0.106
	Diff DW Nom	45.533	36.598	0.143	1.244
	Fed Spending	25.657	26.837	0.156	0.956
	Per Cap Inc	0.003	0.002	0.203	1.176
	African Amer.	-3.059	67.856	-0.006	-0.045
	Hispanic	-11.615	58.563	-0.036	-0.198
	Med Mal Crisis	9.341	8.726	0.138	1.070
	Health	-38.133	60.397	-0.068	-0.631
	Lawyer	-405.586	97.666	-0.435	-4.153**
	E-score	0.458	0.114	0.420	4.000**
N 442 R2 0.500 Adjusted R2 0.376 Constant -25.668					
104th	Year Elected	0.164	0.186	0.028	0.880
	Northeast	-6.748	5.379	-0.059	-1.255
	South	-4.288	5.320	-0.044	-0.806
	West	-0.786	5.784	-0.007	-0.136
	Diff DW Nom	36.544	9.023	0.138	4.050**
	Fed Spending	7.292	9.748	0.034	0.748
	Per Cap Inc	0.001	0.001	0.045	0.853
	African Amer.	6.059	25.102	0.010	0.241
	Hispanic	-26.254	19.093	-0.060	-1.375
	Med Mal Crisis	-1.114	3.509	-0.012	-0.317
	Health	73.428	33.916	0.068	2.165*
	Lawyer	170.462	40.289	-0.143	-4.231**
E-score	1.030	0.053	0.670	19.544**	
N 445 R2 0.616 Adjusted R2 0.604 Constant -28.535					
105th	Year Elected	-0.291	0.830	-0.046	-0.351
	Northeast	18.581	16.772	-0.214	-1.108
	South	10.376	17.647	0.138	0.588
	West	7.944	19.865	0.095	.0400
	Diff DW Nom	50.702	43.757	0.139	1.159
	Fed Spending	21.728	35.930	0.131	0.605
	Per Cap Inc	0.002	0.002	0.157	0.764
	African Amer.	-36.428	74.510	-0.069	-0.489
	Hispanic	-52.742	67.716	-0.177	-0.779
	Med Mal Crisis	8.751	9.715	0.129	0.901
	Health	8.137	63.285	0.016	0.129
	Lawyer	229.941	124.917	-0.228	-1.841
E-score	0.560	0.134	0.499	4.173**	
N 444 R2 0.374 Adjusted R2 0.218 Constant -16.421					
106th	Year Elected	0.226	0.642	0.036	0.352

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Northeast	-6.684	13.499	-0.077	-0.495
	South	13.880	14.022	0.185	0.990
	West	13.533	15.474	0.161	0.875
	Diff DW Nom	24.561	34.050	0.068	0.721
	Fed Spending	2.639	29.400	0.017	0.090
	Per Cap Inc	0.001	0.002	0.147	0.868
	African Amer.	-37.598	58.120	-0.072	-0.647
	Hispanic	-59.041	54.768	-0.202	-1.078
	Med Mal Crisis	4.752	7.710	0.070	0.616
	Health	-37.391	49.985	-0.073	-0.748
	Lawyer	-291.115	84.958	-0.337	-3.427**
	E-score	0.620	0.090	0.645	6.924**
N 440 R2 0.612 Adjusted R2 0.515 Constant 6.449					
107th	Year Elected	0.303	0.209	0.046	1.447
	Northeast	8.431	5.939	0.068	1.420
	South	-0.279	5.526	-0.003	-0.050
	West	-3.452	6.064	-0.028	-0.569
	Diff DW Nom	10.295	15.694	0.020	0.656
	Fed Spending	4.343	10.186	0.023	0.426
	Per Cap Inc	0.000	0.001	-0.016	-0.304
	African Amer.	11.822	26.372	0.019	0.448
	Hispanic	0.605	20.171	0.001	0.030
	Med Mal Crisis	0.023	3.768	0.000	0.006
	Health	72.399	30.271	0.075	2.392*
	Lawyer	-229.406	40.162	-0.192	-5.712**
E-score	1.104	0.054	0.703	20.627**	
N 444 R2 0.626 Adjusted R2 0.614 Constant -6.002					
108th	Year Elected	-0.436	0.643	-0.075	-0.678
	Northeast	-11.882	13.781	-0.137	-0.862
	South	-1.479	15.271	-0.020	-0.097
	West	-5.588	16.676	-0.066	-0.335
	Diff DW Nom	47.840	37.096	0.132	1.290
	Fed Spending	8.330	22.131	0.074	0.376
	Per Cap Inc	0.001	0.001	0.162	1.043
	African Amer.	-57.796	63.081	-0.110	-0.916
	Hispanic	-39.327	55.186	-0.146	-0.713
	Med Mal Crisis	-1.352	8.382	-0.020	-0.161
	Health	-0.182	39.812	0.000	-0.005
	Lawyer	-159.504	106.011	-0.157	-1.505
E-score	0.751	0.106	0.736	7.062**	
N 440 R2 0.565 Adjusted R2 0.457 Constant -11.767					

* p < 0.05, ** p < 0.01

Because DW Nominate is highly correlated with other ideology variables such as the E-score, differences in a legislator's DW Nominate scores and median DW Nominate scores for his or her party (Diff DW Nom) were analyzed to test Hypothesis 11a: The greater the ideological division between the legislator and the median ideology of the legislator's party, the more likely the legislator supports medical malpractice reform. In the Base Model the variable was statistically significant ($p < 0.01$) only in the 104th House and the coefficient in this year was positive. A positive standardized coefficient reflects a positive relationship between higher DW Nominate difference scores, an indication of more legislator conservatism, relative to conservatism of his or her median party. The more division that exists between a legislator's ideology and median party ideology the greater is the legislator's support for economically efficient policies. In the years where the variable did not achieve statistical significance in the model, the signs for the coefficients varied from year to year. Results for this test were NOT as hypothesized.

Two self-interest hypotheses tested in the Base Model. These are Hypothesis 5a: *Legislators with higher health care political contributions to total contributions vote in support of malpractice reform* and Hypothesis 6a: *Legislators with higher legal political contributions to total contributions vote in opposition to medical malpractice reform*. In reporting these results each hypothesis is considered together in illustrating the effect of self-interest on supporting or opposing economically efficient legislation. Health is statistically significant in the 100th, 101st, 104th, and 107th Congresses and Law is statistically significant the 99th through 107th Congresses. Directional movements between each self interest variable were as hypothesized with Health contributions

contributing to greater support for economically efficient policymaking and Law contributions negatively related to a legislator's support for economically efficient policies. These results held for each Congress with the exception of the 99th House, where Law contributions were positively related to economic efficiency. With lower standardized coefficients self-interest variables generally did not produce higher per unit effects in measuring support for medical malpractice reform. While statistically significant at $p < 0.05$, higher p values indicate a greater presence of random chance affecting the results.

Hypothesis 9a reads: The longer a legislator has served, the more likely he or she supports medical malpractice reform. Accordingly, legislators with longer tenures were expected to take the economically efficient position on this reform more often than legislators with shorter tenures. The variable was not statistically significant in the Base Model for any Congress, and the sign for the coefficient was not consistent.

Coefficients of determination (R square and adjusted R square) indicate how well the regression line approximates actual data points. Adjusted R square adjusts for the number of independent variables in the equation and gives a more accurate picture of well the independent variables explain the dependent variable's behavior. According to adjusted R square in Base Model analysis, over 60 percent of the variation in the vote is explained by the model applied to the 104th and 107th Houses and the least variation is explained for the 101st House (about 8 percent). As the following analyses will indicate, coefficients of determination were generally lower in the base model than when substituting party unity, ADA, ACU, DW Nominate, and legislative party into the model. Each of the substituted variables is a measure of either ideology (ADA, ACU,

and DW Nominate) or party (party unity and legislative party) and as substitutions indicate, ideology and party variables are strong predictors of legislative behavior in this model. Adding those variables to the model enhances the fit of the regression and produces higher coefficients of determination.

Party Unity was the first variable substituted into the base. Consistent with previous research results reported in Table 4.10 indicate that political party is an important factor in legislative voting. Party unity measures how closely legislators adhere to party positions in voting decisions in supporting or opposing policies. In each Congress coefficients of determination increased when party unity was substituted into the model.

Party unity is a statistically significant variable in each Congress in the model and Republicans overwhelming support medical malpractice reform in each Congress except the 99th. In the 99th Congress Republicans are not unified in support of medical malpractice reform. E-score was statistically significant in the base model in the 100th, 102nd, 103rd, 104th, 105th, 106th, and 108th Houses, but in each of these years E-score failed to reach statistical significance when considered with party unity in the model. This is an indication of the strength of political parties in legislative voting that might displace economic efficiency in predicting behavior and lends support to Hypothesis 7a: Republican legislators are likely to vote for malpractice reform more often than Democratic legislators.

Introducing party unity into the model produces mixed effects for the self-interests of legislators. In the 100th and 101st Houses both measures of self-interest were statistically significant in the base model but failed tests of statistical significance

when measured with party unity. Lawyer was statistically significant in the base model but failed tests of statistical significance in the 102nd, 103rd, and 106th Houses with party unity substitution. Changes in statistical significance for self interest variables when considered with a party variable are indicative of the relative strength of party vis-à-vis self-interest in explaining legislative behavior in the model. Like E-score as a measure of ideology, changes in statistical significance for self-interest, a strong predictor of behavior, must be considered with the collective effects of party principles that guide legislators. Also the signs for both self-interest variables follow no consistent pattern.

Table 4.11 Regression Analysis of Base Model and Party Unity Substitution for 99th to 108th House: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99 th	Year Elected	-0.325	0.246	-0.062	-1.323
	Northeast	-7.289	6.344	-0.073	-1.149
	South	-2.717	5.856	-0.031	-0.464
	West	4.866	6.644	0.045	0.732
	Diff DW Nom	-31.703	17.410	-0.083	-1.821
	Fed Spending	3.004	9.661	0.017	0.311
	Per Cap Inc	0.002	.001	0.116	1.857
	African Amer.	-63.779	37.814	-0.100	-1.687
	Hispanic	-34.759	31.121	-0.064	-1.117
	Med Mal Crisis	7.423	4.538	0.090	1.636
	Health	-0.966	10.817	-0.005	-0.089
	Lawyer	25.752	10.884	0.122	2.366*
	E-score	-0.275	0.085	-0.232	-3.231**
Party Unity	0.124	0.036	0.248	3.471**	
N 439		R2 0.271	Adjusted R2 0.243	Constant	58.256
100th	Year Elected	0.236	0.200	0.039	1.180
	Northeast	-3.994	5.683	-0.033	-0.703
	South	2.258	5.648	0.021	0.400
	West	-11.117	6.273	-0.090	-1.772
	Diff DW Nom	15.156	7.405	0.067	2.047*
	Fed Spending	14.856	8.766	0.070	1.695
	Per Cap Inc	-0.002	0.001	-0.109	-2.320*
African Amer.	29.878	35.535	0.038	0.841	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Hispanic	36.098	28.671	0.056	1.259
	Med Mal Crisis	4.453	3.980	0.045	1.119
	Health	5.829	10.711	0.022	0.544
	Lawyer	-11.284	10.427	-0.042	-1.082
	E-score	-0.006	0.059	-0.004	-0.106
	Party Unity	-0.446	0.026	-0.743	-17.250**
N 441		R2 0.635	Adjusted R2 0.622	Constant 71.400	
101st	Year Elected	-0.071	0.448	-0.011	-0.159
	Northeast	-2.115	9.490	-0.025	-0.223
	South	-5.378	9.260	-0.073	-0.581
	West	-3.318	10.838	-0.040	-0.306
	Diff DW Nom	17.488	20.604	0.067	0.849
	Fed Spending	19.632	18.451	0.110	1.064
	Per Cap Inc	0.001	0.001	0.057	0.487
	African Amer.	65.285	51.554	0.121	1.266
	Hispanic	-14.090	39.124	-0.042	-0.360
	Med Mal Crisis	-1.015	6.226	-0.015	-0.163
	Health	3.870	13.154	0.023	0.294
	Lawyer	-26.304	21.549	-0.096	-1.221
	E-score	-0.010	0.120	-0.006	-0.084
	Party Unity	-0.349	0.033	-0.864	-10.617**
N 442		R2 0.807	Adjusted R2 0.751	Constant 29.073	
102nd	Year Elected	0.044	0.460	0.007	0.096
	Northeast	-1.805	9.469	-0.021	-0.191
	South	-5.657	9.649	-0.075	-0.586
	West	-6.137	10.755	-0.073	-0.571
	Diff DW Nom	-2.267	18.583	-0.009	-0.122
	Fed Spending	23.209	18.239	0.133	1.272
	Per Cap Inc	0.001	0.002	0.063	0.549
	African Amer.	55.474	44.067	0.103	1.259
	Hispanic	-2.298	41.001	-0.007	-0.056
	Med Mal Crisis	-2.992	5.511	-0.044	-0.543
	Health	-3.653	42.228	-0.006	-0.087
	Lawyer	-77.717	76.389	-0.084	-1.017
	E-score	0.024	0.127	0.025	0.189
	Party Unity	-0.332	0.056	-0.841	-5.927**
N 441		R2 0.807	Adjusted R2 0.754	Constant 26.190	
103rd	Year Elected	-0.360	0.419	-0.060	-0.859
	Northeast	-4.812	9.042	-0.056	-0.532
	South	-6.817	8.608	-0.091	-0.792
	West	-5.383	10.422	-0.064	-0.517
	Diff DW Nom	26.651	21.960	0.083	1.214
	Fed Spending	24.288	16.041	0.147	1.514
	Per Cap Inc	0.001	0.001	0.065	0.621

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	African Amer.	47.375	40.887	0.089	1.159
	Hispanic	-14.410	35.004	-0.045	-0.412
	Med Mal Crisis	-1.169	5.326	-0.017	-0.219
	Health	7.726	36.405	0.014	0.212
	Lawyer	-39.510	69.460	-0.042	-0.569
	E-score	0.087	0.078	0.079	1.107
	Party Unity	-0.323	0.033	-0.842	-9.724**
N 442		R2 0.825	Adjusted R2 0.777	Constant 19.638	
104th	Year Elected	0.177	0.152	0.031	1.164
	Northeast	-5.377	4.410	-0.047	-1.219
	South	-5.089	4.361	-0.052	-1.167
	West	-4.985	4.750	-0.044	-1.049
	Diff DW Nom	63.334	7.631	0.238	8.300**
	Fed Spending	16.480	8.016	0.076	2.056*
	Per Cap Inc	0.002	0.001	0.105	2.381*
	African Amer.	20.983	20.602	0.035	1.018
	Hispanic	-11.799	15.682	-0.027	-0.752
	Med Mal Crisis	-4.318	2.885	-0.047	-1.497
	Health	56.531	27.825	0.052	2.032*
	Lawyer	-67.156	33.809	-0.057	-1.986*
	E-score	0.131	0.076	0.085	1.711
Party Unity	-0.375	0.026	-0.714	-14.255**	
N 445		R2 0.742	Adjusted R2 0.734	Constant -6.616	
105th	Year Elected	-0.233	0.409	-0.037	-0.570
	Northeast	-8.207	8.305	-0.095	-0.988
	South	-8.364	8.820	-0.111	-0.948
	West	-8.990	9.879	-0.107	-0.910
	Diff DW Nom	24.601	21.661	0.067	1.136
	Fed Spending	27.772	17.713	0.167	1.568
	Per Cap Inc	0.001	0.001	0.136	1.345
	African Amer.	14.659	36.937	0.028	0.397
	Hispanic	11.394	33.747	0.038	0.338
	Med Mal Crisis	-1.192	4.850	-0.018	-0.246
	Health	4.440	31.189	0.009	0.142
	Lawyer	3.370	64.215	0.003	0.052
	E-score	0.042	0.078	0.038	0.546
Party Unity	-0.351	0.027	-0.898	-12.771**	
N 444		R2 0.851	Adjusted R2 0.810	Constant -3.291	
106th	Year Elected	-0.007	0.394	-0.001	-0.019
	Northeast	-6.682	8.272	-0.077	-0.808
	South	-3.903	8.800	-0.052	-0.444
	West	-3.566	9.656	-0.042	-0.369
	Diff DW Nom	15.909	20.885	0.044	0.762

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Fed Spending	19.702	18.107	0.128	1.088
	Per Cap Inc	0.001	0.001	0.149	1.436
	African Amer.	10.952	35.991	0.021	0.304
	Hispanic	2.252	34.194	0.008	0.066
	Med Mal Crisis	0.440	4.747	0.007	0.093
	Health	-18.058	30.699	-0.035	-0.588
	Lawyer	-80.594	56.717	-0.093	-1.421
	E-score	0.090	0.079	0.093	1.136
	Party Unity	-0.315	0.034	-0.816	-9.354
N 440 R2 0.857 Adjusted R2 0.818 Constant 4.273					
107th	Year Elected	0.224	0.161	0.034	1.392
	Northeast	2.247	4.570	0.018	0.492
	South	-0.041	4.238	0.000	-0.010
	West	-4.902	4.652	-0.040	-1.054
	Diff DW Nom	-1.389	12.057	-0.003	-0.115
	Fed Spending	8.767	7.817	0.046	1.122
	Per Cap Inc	0.000	0.001	0.009	0.207
	African Amer.	-32.711	20.397	-0.051	-1.604
	Hispanic	8.994	15.479	0.021	0.581
	Med Mal Crisis	-.300	2.890	-0.003	-0.104
	Health	42.491	23.284	0.044	1.825
	Lawyer	-124.729	31.419	-0.104	-3.970**
	E-score	0.151	0.070	0.097	2.174*
Party Unity	-0.411	0.024	-0.750	-16.908**	
N 444 R2 0.780 Adjusted R2 0.773 Constant 35.137					
108th	Year Elected	0.043	0.374	0.007	0.115
	Northeast	-7.599	7.959	-0.088	-0.955
	South	-8.569	8.834	-0.114	-0.970
	West	-11.260	9.633	-0.134	-1.169
	Diff DW Nom	16.955	21.605	0.047	0.785
	Fed Spending	18.921	12.805	0.168	1.478
	Per Cap Inc	0.001	0.001	0.123	1.370
	African Amer.	6.736	36.919	0.013	0.182
	Hispanic	18.329	32.319	0.068	0.567
	Med Mal Crisis	-0.192	4.835	-0.003	-0.040
	Health	-16.004	23.012	-0.042	-0.695
	Lawyer	-39.942	62.239	-0.039	-0.642
	E-score	0.102	0.088	0.100	1.156
Party Unity	-0.312	0.030	-0.843	-10.263**	
N 440 R2 0.858 Adjusted R2 .819 Constant 5.645					

* p < 0.05, ** p < 0.01

Table 4.12 summarizes regression results with ADA add to the base model.

Consistent with Hypothesis 2a: *Legislators with higher ADA scores vote in opposition to medical malpractice reform*, ADA is statistically significant at the $p < 0.01$ level in each Congress analyzed and negatively related to economically efficient legislation in each Congress except the 99th.

From the standardized coefficients for each regression analysis with ADA in the model changes in the variable produce relatively greater changes in the dependent variable, medical malpractice, than other relationships in the model. The strength of these relationships, as indicated by the standardized coefficient, is evidence of the impact of ideology on legislative behavior.

Table 4.12 Regression Analysis of Base Model and ADA Substitution for 99th to 108th House: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
99th	Year Elected	-0.364	0.242	-0.069	-1.505
	Northeast	-7.048	6.204	-0.070	-1.136
	South	0.036	5.748	0.000	0.006
	West	3.602	6.531	0.034	0.552
	Diff DW Nom	-29.103	17.103	-0.077	-1.702
	Fed Spending	5.482	9.504	0.030	0.577
	Per Cap Inc	0.001	0.001	0.064	1.031
	African Amer.	-26.410	38.401	-0.042	-0.688
	Hispanic	-31.213	30.605	-0.058	-1.020
	Med Mal Crisis	7.051	4.465	0.085	1.579
	Health	5.482	10.730	0.027	0.511
	Lawyer	21.993	10.784	0.104	2.039*
	E-score	-0.170	0.084	-0.143	-2.016*
ADA	0.488	0.093	0.393	5.249**	
N 439		R2 0.298	Adjusted R2 0.272	Constant 42.076	
100th	Year Elected	0.081	0.203	0.013	0.399
	Northeast	-0.340	5.753	-0.003	-0.059
	South	-8.651	5.781	-0.080	-1.496
	West	-12.198	6.359	-0.099	-1.918
	Diff DW Nom	8.625	7.516	0.038	1.148
	Fed Spending	16.552	8.884	0.078	1.863
	Per Cap Inc	-0.001	0.001	-0.028	-0.588

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
	African Amer.	0.314	36.405	0.000	0.009
	Hispanic	19.423	29.116	0.030	0.667
	Med Mal Crisis	2.806	4.049	0.028	0.693
	Health	-3.070	11.040	-0.011	-0.278
	Lawyer	-19.021	10.464	-0.070	-1.818
	E-score	0.060	0.058	0.043	1.042
	ADA	-1.095	0.065	-0.739	-16.729**
N 441		R2 0.625	Adjusted R2 0.611	Constant	103.966
101st	Year Elected	-0.384	0.463	-0.060	-0.828
	Northeast	-1.522	9.875	-0.018	-0.154
	South	-4.034	9.602	-0.055	-0.420
	West	-2.101	11.252	-0.026	-0.187
	Diff DW Nom	7.504	21.414	0.029	0.350
	Fed Spending	8.960	18.977	0.050	0.472
	Per Cap Inc	0.004	0.002	0.296	2.422
	African Amer.	20.142	52.881	0.037	0.381
	Hispanic	-36.952	40.512	-0.109	-0.912
	Med Mal Crisis	-6.805	6.611	-0.101	-1.029
	Health	-11.742	14.337	-0.069	-0.819
	Lawyer	-16.061	22.707	-0.059	-0.707
	E-score	0.043	0.126	0.026	0.344
ADA	-0.879	0.088	-0.937	-10.036**	
N 442		R2 0.791	Adjusted R2 0.730	Constant	34.099
102nd	Year Elected	0.286	0.522	0.045	0.547
	Northeast	-5.614	10.806	-0.065	-0.520
	South	-0.711	10.968	-0.009	-0.065
	West	-5.247	12.296	-0.062	-0.427
	Diff DW Nom	-6.247	21.222	-0.024	-0.294
	Fed Spending	15.740	21.066	0.090	0.747
	Per Cap Inc	0.003	0.002	0.244	1.916
	African Amer.	10.904	49.569	0.020	0.220
	Hispanic	-47.993	45.956	-0.144	-1.044
	Med Mal Crisis	-4.655	6.482	-0.069	-0.718
	Health	25.571	49.328	0.041	0.518
	Lawyer	-161.619	84.007	-0.175	-1.924
	E-score	0.195	0.142	0.207	1.372
ADA	-0.619	0.161	-0.623	-3.857**	
N 441		R2 0.747	Adjusted R2 0.678	Constant	14.178
103rd	Year Elected	-0.257	0.469	-0.043	-0.547
	Northeast	-5.251	10.117	-0.061	-0.519
	South	-7.105	9.631	-0.095	-0.738
	West	-3.426	11.643	-0.041	-0.294
	Diff DW Nom	30.961	24.514	0.097	1.263
	Fed Spending	14.188	17.983	0.086	0.789

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
	Per Cap Inc	0.003	0.002	0.205	1.777
	African Amer.	-14.412	45.350	-0.027	-0.318
	Hispanic	-39.842	39.275	-0.125	-1.014
	Med Mal Crisis	-1.215	5.973	-0.018	-0.203
	Health	49.156	41.761	0.088	1.177
	Lawyer	-114.176	74.513	-0.122	-1.532
	E-score	0.023	0.093	0.021	0.247
	ADA	-0.824	0.102	-0.852	-8.095**
N 442		R2 0.781	Adjusted R2 0.721	Constant 34.924	
104th	Year Elected	-0.036	0.145	-0.006	-0.249
	Northeast	-7.323	4.186	-0.064	-1.750
	South	-3.159	4.155	-0.032	-0.760
	West	-3.631	4.525	-0.032	-0.802
	Diff DW Nom	18.845	7.163	0.070	2.631**
	Fed Spending	12.072	7.596	0.056	1.589
	Per Cap Inc	0.002	0.001	0.146	3.483**
	African Amer.	4.297	19.693	0.007	0.218
	Hispanic	-15.417	14.903	-0.035	-1.034
	Med Mal Crisis	-3.601	2.745	-0.039	-1.312
	Health	61.506	26.376	0.057	2.332*
	Lawyer	-70.729	31.977	-0.060	-2.212*
	E-score	0.067	0.071	0.044	0.940
ADA	-0.981	0.059	-0.792	-16.559**	
N 445		R2 0.770	Adjusted R2 0.762	Constant 33.685	
105th	Year Elected	-0.132	0.499	-0.021	-0.264
	Northeast	-0.779	10.245	-0.009	-0.076
	South	-2.457	10.686	-0.033	-0.230
	West	-2.125	11.981	-0.025	-0.177
	Diff DW Nom	27.300	26.403	0.075	1.034
	Fed Spending	28.264	21.599	0.170	1.309
	Per Cap Inc	0.003	0.001	0.254	2.052*
	African Amer.	-12.171	44.839	-0.023	-0.271
	Hispanic	-24.574	40.791	-0.083	-0.602
	Med Mal Crisis	-3.943	5.983	-0.058	-0.659
	Health	21.690	38.050	0.042	0.570
	Lawyer	-48.065	77.387	-0.048	-0.621
	E-score	0.106	0.093	0.094	1.131
ADA	-0.771	0.080	-0.841	-9.646**	
N 444		R2 0.778	Adjusted R2 0.718	Constant 0.603	
106th	Year Elected	-0.002	0.443	0.000	-0.005
	Northeast	-2.878	9.316	-0.033	-0.309
	South	-1.454	9.868	-0.019	-0.147
	West	0.458	10.799	0.005	0.042

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
	Diff DW Nom	13.968	23.505	0.039	0.594
	Fed Spending	9.600	20.280	0.063	0.473
	Per Cap Inc	0.002	0.001	0.224	1.916
	African Amer.	-3.034	40.306	-0.006	-.075
	Hispanic	-26.739	37.977	-0.092	-0.704
	Med Mal Crisis	-2.624	5.400	-0.039	-0.486
	Health	-5.632	34.695	-0.011	-0.162
	Lawyer	-119.506	62.698	-0.138	-1.906
	E-score	0.152	0.087	0.158	1.744
	ADA	-0.714	0.093	-0.755	-7.649**
N 440 R2 0.819 Adjusted R2 0.770 Constant 31.711					
107th	Year Elected	0.319	0.160	0.048	1.988*
	Northeast	1.990	4.502	0.016	0.442
	South	-0.524	4.175	-0.005	-0.125
	West	-4.410	4.574	-0.036	-0.964
	Diff DW Nom	-14.769	11.963	-0.029	-1.235
	Fed Spending	9.805	7.690	0.051	1.275
	Per Cap Inc	0.001	0.001	0.062	1.531
	African Amer.	-38.502	20.130	-0.061	-1.913
	Hispanic	7.761	15.220	0.018	0.510
	Med Mal Crisis	-1.180	2.843	-0.012	-0.415
	Health	43.322	22.937	0.045	1.889
	Lawyer	-133.152	31.650	-0.111	-4.207**
	E-score	0.110	0.069	0.070	1.587
ADA	-0.961	0.055	-0.785	-17.597**	
N 444 R2 0.788 Adjusted R2 0.780 Constant 63.855					
108th	Year Elected	-0.064	0.436	-0.011	-0.146
	Northeast	-2.276	9.360	-0.026	-0.243
	South	0.289	10.288	0.004	0.028
	West	-3.908	11.234	-0.046	-0.348
	Diff DW Nom	26.003	25.135	0.072	1.035
	Fed Spending	1.878	14.928	0.017	0.126
	Per Cap Inc	0.002	0.001	0.199	1.895
	African Amer.	-16.525	42.801	-0.032	-0.386
	Hispanic	-31.434	37.183	-0.117	-0.845
	Med Mal Crisis	-6.787	5.687	-0.100	-1.193
	Health	-14.824	26.878	-0.039	-0.552
	Lawyer	-106.227	71.714	-0.105	-1.481
	E-score	0.213	0.098	0.208	2.162*
ADA	-0.655	0.082	-0.754	-7.976**	
N 440 R2 0.807 Adjusted R2 0.754 Constant 40.307					

*p < 0.05, ** p < 0.01

How the substitution of ADA into the model affects other variables is important. E-score was statistically significant in all Congresses but the 101st House in the Base Model but failed each test of statistical significance except in the 108th House when ADA was added to the model. Controls for economic conditions appear to play a larger role in the ADA Model, where per capita income became statistically significant in the 101st, 104th, and 105th Congresses. In each Congress the association was positive, indicating that higher per capita incomes in a state are associated with higher levels of support for legislative economic efficiency.

Coefficients of determination show a stronger fit in explaining variability for the regression line in the ADA model. Substituting ADA into the model produced results that frequently explained over 70 percent of model variability. Relatively higher coefficients of determination, negative standardized coefficients, and levels of statistical significance indicate a strong inverse relationship between liberal philosophy and economically efficient legislative positions.

ACU is a measure of conservative ideology that can be used in comparing legislative behavior predicted through ADA, a measure of liberal ideology. Testing Hypothesis 3a: Legislators with higher ACU scores vote in support of medical malpractice reform, statistically significant results were produced for ACU in each Congress in the model (see Table 4.13). The variable was positively correlated with support for economically efficient policies in each Congress except the 99th Congress, and the regression output produced relatively strong standardized coefficients for that variable. ACU and ADA each indicate a strong presence of liberal-conservative ideology in legislative voting. Inclusion of each variable separately in the base model

produced highly significant t scores and standardized coefficients with the relatively strongest impact in the model.

Coefficients of determination that explain variability in the model follow trends found with party unity and ADA substitutions. Substituting ACU into the model better explains variability than base model variables alone.

Table 4.13 Regression Analysis of Base Model and ACU Substitution for 99th to 108th House: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
99th	Year Elected	-0.406	0.241	-0.077	-1.686
	Northeast	-6.575	6.163	-0.065	-1.067
	South	0.388	5.690	0.004	0.068
	West	5.126	6.461	0.048	0.793
	Diff DW Nom	-22.227	17.036	-0.058	-1.305
	Fed Spending	3.771	9.413	0.021	0.401
	Per Cap Inc	0.001	0.001	0.062	1.011
	African Amer.	-23.958	38.150	-0.037	-0.628
	Hispanic	-29.437	30.337	-0.054	-0.970
	Med Mal Crisis	7.704	4.421	0.093	1.743
	Health	9.167	10.774	0.045	0.851
	Lawyer	20.032	10.735	0.095	1.866
	E-score	-0.104	0.088	-0.088	-1.180
ACU	-0.563	0.098	-0.454	-5.729**	
N 439		R2 0.309	Adjusted R2 0.238	Constant 87.046	
100th	Year Elected	0.232	0.199	0.038	1.166
	Northeast	2.423	5.664	0.020	0.428
	South	-6.789	5.647	-0.063	-1.202
	West	-12.593	6.257	-0.102	-2.013*
	Diff DW Nom	10.582	7.391	0.047	1.432
	Fed Spending	15.201	8.748	0.071	1.738
	Per Cap Inc	-0.001	0.001	-0.067	-1.428
	African Amer.	9.033	35.559	0.012	0.254
	Hispanic	23.242	28.618	0.036	0.812
	Med Mal Crisis	2.862	3.978	0.029	0.720
	Health	-5.624	10.896	-0.021	-0.516
	Lawyer	-21.091	10.257	-0.078	-2.056*
	E-score	0.017	0.058	0.012	0.287
ACU	1.051	0.061	0.759	17.329**	
N 441		R2 0.636	Adjusted R2 0.623	Constant 17.398	
101st	Year Elected	-0.032	0.466	-0.005	-0.069
	Northeast	0.979	9.896	0.012	0.099

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
	South	-3.433	9.575	-0.047	-0.359
	West	-4.011	11.272	-0.049	-0.356
	Diff DW Nom	0.206	21.415	0.001	0.010
	Fed Spending	13.457	19.042	0.075	0.707
	Per Cap Inc	0.003	0.002	0.235	1.934
	African Amer.	36.021	53.045	0.067	0.679
	Hispanic	-36.725	40.468	-0.109	-0.908
	Med Mal Crisis	-6.103	6.585	-0.090	-0.927
	Health	-11.090	14.291	-0.065	-0.776
	Lawyer	-14.846	22.717	-0.054	-0.654
	E-score	0.102	0.128	0.062	0.796
	ACU	0.889	0.088	0.940	10.052**
N 442		R2 0.792	Adjusted R2 0.731	Constant -45.962	
102nd	Year Elected	0.226	0.503	0.036	0.450
	Northeast	-2.880	10.410	-0.033	-0.277
	South	-3.423	10.637	-0.046	-0.322
	West	-5.746	11.832	-0.068	-0.486
	Diff DW Nom	-15.143	20.338	-0.058	-0.745
	Fed Spending	21.702	20.092	0.125	1.080
	Per Cap Inc	0.003	0.002	0.223	1.820
	African Amer.	8.148	47.684	0.015	0.171
	Hispanic	-34.248	44.356	-0.103	-0.772
	Med Mal Crisis	-2.784	6.091	-0.041	-0.457
	Health	18.749	46.986	0.030	0.399
	Lawyer	-129.318	82.378	-0.140	-1.570
	E-score	0.131	0.139	0.138	0.942
	ACU	0.636	0.142	0.708	4.491**
N 441		R2 0.766	Adjusted R2 0.702	Constant -43.448	
103rd	Year Elected	-0.324	0.467	-0.054	-0.694
	Northeast	-1.944	10.156	-0.022	-0.191
	South	-8.821	9.620	-0.118	-0.917
	West	-4.355	11.602	-0.052	-0.375
	Diff DW Nom	15.622	24.632	0.049	0.634
	Fed Spending	17.225	17.891	0.104	0.963
	Per Cap Inc	0.002	0.002	0.167	1.451
	African Amer.	8.138	45.180	0.015	0.180
	Hispanic	-33.051	39.064	-0.104	-0.846
	Med Mal Crisis	-1.268	5.952	-0.019	-0.213
	Health	42.265	41.388	0.075	1.021
	Lawyer	-82.162	76.158	-0.088	-1.079
	E-score	0.084	0.089	0.077	0.940
ACU	0.760	0.093	0.831	8.149**	
N 442		R2 0.783	Adjusted R2 0.723	Constant -36.398	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
104th	Year Elected	0.174	0.152	0.030	1.143
	Northeast	-5.548	4.393	-0.049	-1.263
	South	-2.989	4.347	-0.031	-0.688
	West	-5.417	4.755	-0.048	-1.139
	Diff DW Nom	18.315	7.565	0.068	2.421*
	Fed Spending	19.874	8.018	0.091	2.479*
	Per Cap Inc	0.003	0.001	0.157	3.553**
	African Amer.	-0.482	20.701	-0.001	-0.023
	Hispanic	-10.805	15.730	-0.025	-0.687
	Med Mal Crisis	-5.089	2.879	-0.055	-1.767
	Health	60.352	27.721	0.056	2.177*
	Lawyer	-50.572	33.951	-0.043	-1.490
	E-score	0.192	0.073	0.125	2.637**
	ACU	0.880	0.061	0.726	14.340**
N 445 R2 0.746 Adjusted R2 .737 Constant -76.724					
105th	Year Elected	-0.166	0.519	-0.026	-0.320
	Northeast	-1.775	10.647	-0.020	-0.167
	South	-4.068	11.146	-0.054	-0.365
	West	-1.406	12.461	-0.017	-0.113
	Diff DW Nom	32.537	27.427	0.089	1.186
	Fed Spending	30.765	22.483	0.185	1.368
	Per Cap Inc	0.003	0.001	0.271	2.105*
	African Amer.	-0.153	46.750	0.000	-0.003
	Hispanic	-30.209	42.404	-0.102	-0.712
	Med Mal Crisis	-5.048	6.261	-0.075	-0.806
	Health	19.615	39.582	0.038	0.496
	Lawyer	-21.832	81.398	-0.022	-0.268
	E-score	0.201	0.093	0.179	2.162*
	ACU	0.794	0.088	0.805	9.059**
N 444 R2 0.760 Adjusted R2 0.694 Constant -87.910					
106th	Year Elected	0.146	0.464	0.023	0.314
	Northeast	-1.033	9.794	-0.012	-0.105
	South	-1.611	10.379	-0.021	-0.155
	West	1.273	11.326	0.015	0.112
	Diff DW Nom	-2.777	24.930	-0.008	-0.111
	Fed Spending	19.104	21.388	0.125	0.893
	Per Cap Inc	0.002	0.001	0.225	1.834
	African Amer.	-12.050	42.183	-0.023	-0.286
	Hispanic	-19.667	40.001	-0.067	-0.492
	Med Mal Crisis	-0.846	5.632	-0.013	-0.150
	Health	-11.317	36.335	-0.022	-0.311
	Lawyer	-100.985	67.225	-0.117	-1.502
	E-score	0.230	0.086	0.240	2.693**
	ACU	0.692	0.099	0.696	6.962**

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
N 440		R2 0.801	Adjusted R2 0.747	Constant -50.810	
107th	Year Elected	0.308	0.167	0.046	1.844
	Northeast	2.886	4.672	0.023	0.618
	South	-3.509	4.348	-0.033	-0.807
	West	-5.436	4.750	-0.044	-1.144
	Diff DW Nom	-16.466	12.444	-0.032	-1.323
	Fed Spending	11.915	7.993	0.062	1.491
	Per Cap Inc	0.001	0.001	0.103	2.411*
	African Amer.	-29.157	20.922	-0.046	-1.394
	Hispanic	11.207	15.812	0.027	0.709
	Med Mal Crisis	-0.998	2.953	-0.010	-0.338
	Health	55.246	23.777	0.057	2.323*
	Lawyer	-136.498	32.876	-0.113	-4.152**
	E-score	0.242	0.068	0.154	3.565**
ACU	0.901	0.056	0.717	16.099**	
N 444		R2 0.771	Adjusted R2 0.763	Constant -52.866	
108th	Year Elected	-0.159	0.457	-0.027	-0.347
	Northeast	-3.397	9.832	-0.039	-0.345
	South	-9.679	10.877	-0.129	-0.890
	West	-4.479	11.814	-0.053	-0.379
	Diff DW Nom	23.679	26.489	0.065	0.894
	Fed Spending	10.293	15.680	0.091	0.656
	Per Cap Inc	0.002	0.001	0.224	2.027*
	African Amer.	-6.146	45.251	-0.012	-0.136
	Hispanic	-12.717	39.266	-0.047	-0.324
	Med Mal Crisis	-5.423	5.964	-0.080	-0.909
	Health	-10.907	28.242	-0.029	-0.386
	Lawyer	-87.968	75.744	-0.087	-1.161
	E-score	0.246	0.103	0.241	2.398*
ACU	0.778	0.107	0.733	7.254**	
N 440		R2 0.786	Adjusted R2 0.727	Constant -49.010	

* p < 0.05, ** p < 0.01

Substituting ACU into the model produced effects unlike those in the ADA model, however. Higher federal spending in a state is statistically significant in the 104th Congress when considered with ACU. Ratio is positively correlated with support for medical malpractice reform and is an indication that legislators support economically

efficient policies when federal largess pours into his or her state. The statistical significance of E-score in the base model diminished when substituting ACU and was only statistically significant in the 104th through 108th Congresses. Perhaps equally as important, from the base model E-score remains statistically significant in the 104th, 105th, 106th, and 107th Congresses, while with the ADA substitution it is not. The relation between ACU and E-score could be an indication that modeling economic efficiency through an E-score works better with measures of conservative ideology.

Table 4.14 summarizes regression results from substituting DW Nominate into the model. DW Nominate measures liberal-conservative ideology but weighs ongoing roll call votes in Congress as a method of measuring legislative activity over time. By substituting the variable into the model it is possible to analyze changes in ideology over time and compare results from more static measures of ideology such as ACU and ADA. DW Nominate is statistically significant in each Congress in the model at the $p < 0.01$ level in each test. Directional movements between DW Nominate and support for medical malpractice are positively correlated in each House except the 99th, where associations were negative. Positive associations indicate that greater legislative conservatism leads to greater support for economically efficient lawmaking and are consistent with Hypothesis 4a: Legislators with higher DW Nominate scores vote in support of medical malpractice reform.

Standardized coefficients indicate that the effect of changes in DW Nominate on support are relatively strong compared to other variables in the model (especially measures of self-interest), but do not appreciably differ from ADA and ACU scores that do not capture a time element to ideology. While shifts in ideology for the House as an

institution occurred beginning with the 104th Congress (see Figure 4.4) relative comparisons to other traditional measures of ideology (ACU and ADA) do not find that capturing a time element produces a better predictor of legislative voting. In substituting DW Nominate with controls for federal spending and differences in legislator ideology from his or her median party ideology mirroring those effects in the 104th House from substituting ACU, similarities exist in using ACU and DW Nominate to model effects of economic efficiency.

Table 4.14 Regression Analysis of Base Model and DW Nominate Substitution for 99th to 108th House: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99th	Year Elected	-0.411	0.244	-0.078	-1.683
	Northeast	-5.817	6.262	-0.058	-0.929
	South	-1.311	5.747	-0.015	-0.228
	West	3.976	6.546	0.037	0.607
	Diff DW Nom	-30.504	17.167	-0.080	-1.777
	Fed Spending	3.768	9.518	0.021	0.396
	Per Cap Inc	0.002	0.001	0.078	1.249
	African Amer.	-56.827	37.559	-0.089	-1.513
	Hispanic	-31.633	30.659	-0.058	-1.032
	Med Mal Crisis	7.503	4.469	0.091	1.679
	Health	5.497	10.818	0.027	0.508
	Lawyer	23.199	10.803	0.110	2.148*
	E-score	-0.160	0.088	-0.135	-1.815
DW Nominate	-42.638	8.687	-0.378	-4.908**	
N 439		R2 0.294	Adjusted R2 0.267	Constant	63.717
100th	Year Elected	0.182	.243	0.030	0.747
	Northeast	0.326	6.918	0.003	0.047
	South	-2.619	6.887	-0.024	-0.380
	West	-15.999	7.637	-0.129	-2.095*
	Diff DW Nom	10.560	9.030	0.047	1.169
	Fed Spending	18.178	10.681	0.085	1.702
	Per Cap Inc	-0.003	.001	-0.122	-2.133*
	African Amer.	60.875	43.238	0.078	1.408
	Hispanic	32.182	34.946	0.050	0.921
	Med Mal Crisis	6.913	4.846	0.069	1.427
	Health	40.655	12.683	0.151	3.205**
	Lawyer	-39.797	12.468	-0.147	-3.192**
	E-score	0.343	.065	0.241	5.276**

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	DW Nominate	50.953	5.920	0.373	8.607**
N 441		R2 0.457	Adjusted R2 0.438	Constant 50.804	
101st	Year Elected	-0.020	0.500	-0.003	-0.039
	Northeast	-0.969	10.607	-0.011	-0.091
	South	-8.342	10.452	-0.114	-0.798
	West	-7.930	12.175	-0.097	-0.651
	Diff DW Nom	-12.528	23.224	-0.047	-0.539
	Fed Spending	17.173	20.698	0.096	0.830
	Per Cap Inc	0.002	0.002	0.174	1.332
	African Amer.	27.137	56.742	0.051	0.478
	Hispanic	4.383	44.062	0.013	0.099
	Med Mal Crisis	0.490	6.923	0.007	0.071
	Health	2.562	14.788	0.015	0.173
	Lawyer	-33.534	23.905	-0.121	-1.403
	E-score	0.033	0.135	0.020	0.242
DW Nominate	73.302	8.079	0.847	9.074**	
N 442		R2 0.763	Adjusted R2 0.692	Constant 5.050	
102nd	Year Elected	0.716	0.507	0.114	1.414
	Northeast	4.652	10.997	0.054	0.423
	South	-0.301	10.826	-0.004	-0.028
	West	-4.368	12.178	-0.052	-0.359
	Diff DW Nom	-29.258	21.309	-0.112	-1.373
	Fed Spending	23.234	20.681	0.133	1.123
	Per Cap Inc	0.002	0.002	0.181	1.433
	African Amer.	29.989	49.414	0.056	0.607
	Hispanic	-28.486	45.869	-0.085	-0.621
	Med Mal Crisis	-5.668	6.483	-0.084	-0.874
	Health	31.044	49.119	0.050	0.632
	Lawyer	-138.883	85.199	-0.150	-1.630
	E-score	0.223	0.133	0.236	1.682
DW Nominate	52.834	13.179	0.631	4.009**	
N 441		R2 0.752	Adjusted R2 0.684	Constant -16.031	
103rd	Year Elected	-0.099	0.479	-0.017	-0.208
	Northeast	-4.125	10.324	-0.048	-0.400
	South	-6.187	9.789	-0.082	-0.632
	West	-5.750	11.855	-0.068	-0.485
	Diff DW Nom	30.644	24.946	0.096	1.228
	Fed Spending	26.469	18.240	0.161	1.451
	Per Cap Inc	0.003	0.002	0.201	1.710
	African Amer.	1.545	46.122	0.003	0.033
	Hispanic	-17.963	39.811	-0.056	-0.451
	Med Mal Crisis	-1.510	6.090	-0.022	-0.248
	Health	28.834	41.927	0.051	0.688
	Lawyer	-67.357	79.146	-0.072	-0.851

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	E-score	0.054	0.093	0.049	0.576
	DW Nominate	68.586	8.741	0.841	7.847**
N 442		R2 0.774	Adjusted R2 0.712	Constant -21.062	
104th	Year Elected	0.240	0.158	0.042	1.519
	Northeast	-6.128	4.573	-0.053	-1.340
	South	-5.662	4.524	-0.058	-1.252
	West	-5.069	4.929	-0.045	-1.028
	Diff DW Nom	8.578	7.982	0.032	1.075
	Fed Spending	17.536	8.326	0.081	2.106*
	Per Cap Inc	0.002	0.001	0.097	2.119*
	African Amer.	28.409	21.412	0.047	1.327
	Hispanic	-10.889	16.276	-0.025	-0.669
	Med Mal Crisis	-3.563	2.989	-0.038	-1.192
	Health	58.314	28.856	0.054	2.021*
	Lawyer	-77.065	35.036	-0.065	-2.200*
	E-score	0.252	0.076	0.164	3.318**
DW Nominate	72.987	5.772	0.672	12.646**	
N 445		R2 0.723	Adjusted R2 0.714	Constant -13.690	
105th	Year Elected	0.112	0.500	0.018	0.224
	Northeast	-5.850	10.153	-0.068	-0.576
	South	-8.844	10.777	-0.118	-0.821
	West	-7.639	12.032	-0.091	-0.635
	Diff DW Nom	22.501	26.426	0.062	0.851
	Fed Spending	33.733	21.602	0.203	1.562
	Per Cap Inc	0.003	0.001	0.239	1.935
	African Amer.	0.397	44.885	0.001	0.009
	Hispanic	0.959	41.023	0.003	0.023
	Med Mal Crisis	-2.159	5.939	-0.032	-0.364
	Health	22.972	38.016	0.045	0.604
	Lawyer	-1.521	78.618	-0.002	-0.019
	E-score	0.065	0.095	0.058	0.679
DW Nominate	69.533	7.197	0.874	9.661**	
N 444		R2 0.779	Adjusted R2 0.718	Constant -44.561	
106th	Year Elected	0.385	0.472	0.061	0.816
	Northeast	-3.126	9.922	-0.036	-0.315
	South	-2.806	10.585	-0.037	-0.265
	West	-0.649	11.550	-0.008	-0.056
	Diff DW Nom	14.931	25.033	0.041	0.596
	Fed Spending	24.261	21.816	0.158	1.112
	Per Cap Inc	0.002	0.001	0.221	1.769
	African Amer.	-9.183	42.867	-0.018	-0.214
	Hispanic	-9.012	40.876	-0.031	-0.220
Med Mal Crisis	-0.221	5.706	-0.003	-0.039	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Health	-3.974	37.021	-0.008	-0.107
	Lawyer	-122.503	67.179	-0.142	-1.824
	E-score	0.171	0.094	0.178	1.827
	DW Nominate	56.533	8.379	0.718	6.747**
N 440		R2 0.795	Adjusted R2 0.739	Constant -28.102	
107th	Year Elected	0.405	0.171	0.061	2.377
	Northeast	3.041	4.844	0.025	0.628
	South	-4.669	4.504	-0.045	-1.037
	West	-6.199	4.935	-0.051	-1.256
	Diff DW Nom	-19.806	12.930	-0.039	-1.532
	Fed Spending	16.187	8.323	0.085	1.945
	Per Cap Inc	0.001	0.001	0.059	1.347
	African Amer.	-9.453	21.495	-0.015	-0.440
	Hispanic	15.556	16.435	0.037	0.947
	Med Mal Crisis	1.912	3.067	0.019	0.623
	Health	57.332	24.638	0.059	2.327
	Lawyer	-133.461	33.325	-0.112	-4.005
	E-score	0.376	0.067	0.239	5.648
	DW Nominate	68.086	4.704	0.625	14.473
N 444		R2 0.753	Adjusted R2 0.745	Constant -9.336	
108th	Year Elected	0.291	0.470	0.050	0.619
	Northeast	-5.771	9.863	-0.067	-0.585
	South	-9.982	10.953	-0.133	-0.911
	West	-9.346	11.901	-0.111	-0.785
	Diff DW Nom	26.817	26.612	0.074	1.008
	Fed Spending	20.376	15.869	0.181	1.284
	Per Cap Inc	0.002	0.001	0.198	1.781
	African Amer.	-9.374	45.482	-0.018	-0.206
	Hispanic	14.279	40.053	0.053	0.357
	Med Mal Crisis	-0.808	5.977	-0.012	-0.135
	Health	0.588	28.386	0.002	0.021
	Lawyer	-44.526	77.272	-0.044	-0.576
	E-score	0.164	0.112	0.160	1.465
	DW Nominate	59.028	8.242	0.767	7.162
N 440		R2 0.783	Adjusted R2 0.724	Constant -28.316	

* p < 0.05, ** p < 0.01

The effect on other variables of substituting DW Nominate into the model finds self-interest and E-score statistically significant variables disappear when testing DW Nominate in the 101st, 102nd, 103rd, 105th, and 106th Congresses. The strength of

ideology in these Congresses relative to E-score illustrates the effect of liberal-conservative legislative principles to economic concerns. Controlling for state economic conditions, per capita income is statistically significant in the 100th and 104th Houses and the West statistically significant in the 100th House. Standardized coefficients for West and per capita income indicate a negative correlation with support for medical malpractice reform in the 100th House, but per capita income is positively correlated in the 104th House.

Legislator party variable is a measure of the effect of party on legislative behavior from the perspective of institutional control. It measures whether the legislator is of the same party as the party in control of the House. Table 4.15 shows the results of substituting this variable into the base model.

Table 4.15 Regression Analysis of Base Model and Legislator Party Substitution for 99th to 108th House: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99th	Year Elected	-0.253	0.249	-0.048	-1.015
	Northeast	-10.226	6.386	-0.102	-1.601
	South	-1.600	5.957	-0.018	-0.269
	West	6.432	6.727	0.060	0.956
	Diff DW Nom	-30.060	17.696	-0.079	-1.699
	Fed Spending	2.183	9.803	0.012	0.223*
	Per Cap Inc	0.003	0.001	0.130	2.063*
	African Amer.	-76.859	38.182	-0.121	-2.013*
	Hispanic	-37.012	31.593	-0.068	-1.172
	Med Mal Crisis	6.930	4.603	0.084	1.505
	Health	-8.927	10.714	-0.044	-0.833
	Lawyer	28.571	11.062	0.136	2.583**
	E-score	-0.485	0.061	-0.410	-7.981**
Legislator Party	3.447	3.803	0.041	0.906	
N 439		R2 0.249	Adjusted R2 0.220	Constant 64.004	
100th	Year Elected	0.135	0.208	0.022	0.648
	Northeast	-5.955	5.923	-0.050	-1.005
	South	4.778	5.884	0.044	0.812
	West	-10.345	6.533	-0.084	-1.584

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Diff DW Nom	15.781	7.708	0.070	2.047
	Fed Spending	13.700	9.127	0.064	1.501
	Per Cap Inc	-0.003	.001	-0.133	-2.736
	African Amer.	34.565	36.972	0.044	0.935
	Hispanic	35.085	29.837	0.054	1.176
	Med Mal Crisis	5.081	4.140	0.051	1.227
	Health	14.072	11.054	0.052	1.273
	Lawyer	-14.643	10.843	-0.054	-1.350
	E-score	0.052	0.060	0.037	0.870
	Legislator Party	-68.832	4.396	-0.678	-15.657
N 441		R2 0.604	Adjusted R2 0.590	Constant 109.291	
101st	Year Elected	-0.055	0.447	-0.009	-0.123
	Northeast	-3.733	9.445	-0.044	-0.395
	South	-4.601	9.210	-0.063	-0.500
	West	-1.898	10.783	-0.023	-0.176
	Diff DW Nom	24.948	20.573	0.095	1.213
	Fed Spending	22.260	18.452	0.124	1.206
	Per Cap Inc	0.000	0.001	-0.022	-0.185
	African Amer.	63.393	51.358	0.117	1.234
	Hispanic	-1.351	39.142	-0.004	-0.035
	Med Mal Crisis	1.563	6.165	0.023	0.253
	Health	9.277	12.942	0.055	0.717
	Lawyer	-24.833	21.516	-0.090	-1.154
	E-score	-0.046	0.119	-0.028	-0.386
Legislator Party	-58.331	5.470	-0.852	-10.664	
N 442		R2 0.808	Adjusted R2 0.752	Constant 69.589	
102nd	Year Elected	0.106	0.463	0.017	0.229
	Northeast	-2.563	9.567	-0.030	-0.268
	South	-4.084	9.697	-0.054	-0.421
	West	-5.323	10.869	-0.063	-0.490
	Diff DW Nom	1.663	18.876	0.006	0.088
	Fed Spending	25.893	18.429	0.149	1.405
	Per Cap Inc	0.000	0.002	0.027	0.229
	African Amer.	62.779	44.831	0.116	1.400
	Hispanic	-0.515	41.547	-0.002	-0.012
	Med Mal Crisis	-1.849	5.545	-0.027	-0.333
	Health	-10.397	42.665	-0.017	-0.244
	Lawyer	-92.990	76.308	-0.101	-1.219
	E-score	0.107	0.118	0.114	0.910
Legislator Party	-51.507	8.933	-0.758	-5.766	
N 441		R2 0.802	Adjusted R2 0.748	Constant 52.679	
103rd	Year Elected	-0.396	0.432	-0.066	-0.916
	Northeast	-6.987	9.293	-0.081	-0.752
	South	-6.164	8.872	-0.082	-0.695

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	West	-5.708	10.749	-0.068	-0.531
	Diff DW Nom	34.423	22.589	0.108	1.524
	Fed Spending	25.142	16.541	0.152	1.520
	Per Cap Inc	0.000	0.001	0.027	0.245
	African Amer.	58.237	42.342	0.109	1.375
	Hispanic	-6.854	36.099	-0.021	-0.190
	Med Mal Crisis	-0.235	5.477	-0.003	-0.043
	Health	-3.587	37.412	-0.006	-0.096
	Lawyer	-53.643	71.174	-0.058	-0.754
	E-score	0.117	0.080	0.107	1.468
	Legislator Party	-54.861	5.920	-0.807	-9.267
N 442		R2 0.814	Adjusted R2 0.763	Constant 53.966	
104th	Year Elected	0.240	0.158	0.042	1.515
	Northeast	-6.143	4.573	-0.054	-1.343
	South	-5.663	4.524	-0.058	-1.252
	West	-5.085	4.929	-0.045	-1.032
	Diff DW Nom	81.578	8.456	0.307	9.647
	Fed Spending	17.528	8.326	0.081	2.105
	Per Cap Inc	0.002	0.001	0.097	2.123
	African Amer.	28.247	21.411	0.047	1.319
	Hispanic	-10.815	16.276	-0.025	-0.664
	Med Mal Crisis	-3.548	2.989	-0.038	-1.187
	Health	58.203	28.856	0.054	2.017
	Lawyer	-77.282	35.032	-0.065	-2.206
	E-score	0.252	0.076	0.164	3.316
	Legislator Party	58.522	4.628	0.633	12.646
N 445		R2 0.723	Adjusted R2 0.714	Constant -41.948	
105th	Year Elected	-0.286	0.416	-0.045	-0.686
	Northeast	-11.136	8.438	-0.128	-1.320
	South	-7.051	8.965	-0.094	-0.787
	West	-9.942	10.072	-0.118	-0.987
	Diff DW Nom	30.580	22.018	0.084	1.389
	Fed Spending	27.607	18.037	0.166	1.531
	Per Cap Inc	0.001	0.001	0.098	0.951
	African Amer.	15.066	37.618	0.029	0.401
	Hispanic	17.555	34.446	0.059	0.510
	Med Mal Crisis	0.860	4.916	0.013	0.175
	Health	-4.155	31.773	-0.008	-0.131
	Lawyer	7.213	65.508	0.007	0.110
	E-score	0.041	0.079	0.036	0.515
	Legislator Party	59.937	4.807	0.886	12.470
N 444		R2 0.845	Adjusted R2 0.803	Constant -22.387	
106th	Year Elected	-0.018	0.400	-0.003	-0.045

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Northeast	-8.140	8.402	-0.094	-0.969
	South	-1.916	8.895	-0.026	-0.215
	West	-3.772	9.814	-0.045	-0.384
	Diff DW Nom	22.302	21.189	0.062	1.053
	Fed Spending	19.578	18.388	0.128	1.065
	Per Cap Inc	0.001	0.001	0.110	1.046
	African Amer.	8.265	36.514	0.016	0.226
	Hispanic	5.792	34.812	0.020	0.166
	Med Mal Crisis	1.809	4.808	0.027	0.376
	Health	-23.720	31.140	-0.046	-0.762
	Lawyer	-87.682	57.373	-0.101	-1.528
	E-score	0.102	0.080	0.106	1.286
	Legislator Party	53.532	5.865	0.791	9.127
N 440		R2 0.853	Adjusted R2 0.812	Constant -13.216	
107th	Year Elected	0.230	0.168	0.035	1.371
	Northeast	2.839	4.767	0.023	0.595
	South	1.184	4.424	0.011	0.268
	West	-4.590	4.854	-0.037	-0.946
	Diff DW Nom	4.764	12.565	0.009	0.379
	Fed Spending	8.262	8.156	0.043	1.013
	Per Cap Inc	0.000	0.001	-0.016	-0.368
	African Amer.	-28.518	21.273	-0.045	-1.341
	Hispanic	8.601	16.152	0.020	0.532
	Med Mal Crisis	0.198	3.015	0.002	0.066
	Health	43.224	24.302	0.045	1.779
	Lawyer	-134.061	32.753	-0.112	-4.093
	E-score	0.259	0.070	0.165	3.677
Legislator Party	67.142	4.433	0.671	15.147	
N 444		R2 0.761	Adjusted R2 0.753	Constant 5.005	
108th	Year Elected	0.033	0.381	0.006	0.087
	Northeast	-8.336	8.120	-0.096	-1.027
	South	-7.078	9.007	-0.094	-0.786
	West	-11.613	9.835	-0.138	-1.181
	Diff DW Nom	18.625	22.033	0.051	0.845
	Fed Spending	19.621	13.076	0.174	1.501
	Per Cap Inc	0.001	0.001	0.104	1.132
	African Amer.	5.804	37.678	0.011	0.154
	Hispanic	21.759	33.059	0.081	0.658
	Med Mal Crisis	0.843	4.939	0.012	0.171
	Health	-17.848	23.502	-0.047	-0.759
	Lawyer	-37.800	63.589	-0.037	-0.594
	E-score	0.122	0.089	0.120	1.377
Legislator Party	55.461	5.572	0.820	9.954	
N 440		R2 0.852	Adjusted R2 0.812	Constant -19.724	

* p < 0.05, ** p < 0.01

Directional impact of Legislator Party must be considered with changes in party control of the House over the time period of this study. Referring to party divisions summarized in Table 4.1, Democrats controlled the House during the 99th through 103rd Congresses and Republicans controlled the House during the 104th through 108th Congresses. Directional impact of a plus (+) indicates a relationship where the legislator of the majority party is more supportive of medical malpractice reform and a minus (-) indicates support for medical malpractice decrease if the legislator is not a member of the majority party. When Democrats are in the majority standardized coefficients are negative, indicating greater support for medical malpractice reform from Republicans, the party that does not control the House. Republicans are in the majority in the House in the 104th through 108th Congresses and vote increasingly for medical malpractice reform regardless of party control, as positive, statistically significant directional impact of Legislator Party indicates.

In testing Hypothesis 10a: *Legislators from the minority party (House) are more likely than majority party legislators to support medical malpractice reform*, legislator party was a statistically significant variable in each Congress with the exception of the 99th Congress. In each Congress, however, results indicate that Republican support for medical malpractice reform as the minority party continued after the party became the majority party beginning with the 104th Congress.

After Republican control beginning in the 104th Congress, E-score failed tests of statistical significance in the 105th, 106th, and 108th House, while the variable was statistically significant in the Base Model. That E-score is not statistically significant in those Congresses is a further indication of the importance of party in this model of

legislative voting. Legislators vote with party and Republican legislators support economically efficient legislation regardless of influences from party control of the institution. E-score remains statistically significant in the 108th House, but a weaker standardized coefficient relative to its standardized coefficient in the Base Model illustrates a stronger relative importance for party in this model than how closely a legislator supports greater economically efficient lawmaking.

When substituting legislator party, coefficients of determination are generally slightly higher than coefficients of determination in analyzing Base Model and substituting ADA and ACU. Higher coefficients of determination for legislator party are a reflection of party line voting; higher coefficients of correlation in later Congresses, e.g. 105th, 106, and 108th Houses, is consistent with an overall trend toward support for party line positions.

Minimum wage

Unlike medical malpractice legislation, considering minimum wage as a dependent variable illustrates the effect of legislative decision making on an economically inefficient variable. Voting for a minimum wage or minimum wage increase represents economic inefficiency; voting against such legislation is economically efficient. Table 4.16 summarizes the base model analysis when minimum wage votes represent the dependent variable in the House.

Three associations are consistent within the Base Model and assist in the testing of hypotheses 1, 6, and 9. E-score is a statistically significant variable in the base model in the 99th, 100th, 102nd, 104th, and 107th House. Associations between a higher E-

score and opposition to minimum wage increases are positive as expected in each of these Houses and all others except the 101st, lending support to Hypothesis 1b: Legislators with higher E-scores vote in opposition to increasing the minimum wage. The effect of E-score on changes in opposition to minimum wage is generally weaker than ACU and ADA ideology (to be discussed below)

Table 4.16 Regression Analysis of Base Model from 99th to 108th House: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99th	Year Elected	-0.912	0.584	-0.131	-1.562
	Northeast	-6.524	9.846	-0.071	-0.663
	South	-4.065	11.472	-0.049	-0.354
	West	-1.280	14.255	-0.014	-0.090
	Diff DW Nom	52.847	29.364	0.169	1.800
	Fed Spending	-14.234	19.533	-0.075	-0.729
	Per Cap Inc	-0.004	0.002	-0.221	-2.308*
	African Amer.	100.273	68.355	0.144	1.467
	Hispanic	30.746	71.728	0.059	0.429
	Min. Wage Law	10.636	9.442	0.121	1.127
	Business	17.217	13.887	0.119	1.240
	Labor	-29.369	19.819	-0.177	-1.482
	E-score	0.592	0.114	0.590	5.184**
N 439		R2 0.733	Adjusted R2 0.663	Constant 64.770	
100th	Year Elected	-0.809	0.606	-0.116	-1.334
	Northeast	-4.548	11.687	-0.047	-0.389
	South	-10.349	12.968	-0.128	-0.798
	West	-5.686	14.094	-0.063	-0.403
	Diff DW Nom	0.787	14.967	0.005	0.053
	Fed Spending	-19.609	20.616	-0.106	-0.951
	Per Cap Inc	-0.004	0.002	-0.236	-1.763
	African Amer.	152.423	78.792	0.221	1.935
	Hispanic	85.746	67.101	0.180	1.278
	Min. Wage Law	4.750	8.646	0.056	0.549
	Business	-1.445	20.841	-0.007	-0.069
	Labor	-141.362	24.644	-0.627	-5.736**
	E-score	0.271	0.099	0.278	2.730**
N 441		R2 0.711	Adjusted R2 0.633	Constant 108.814	
101st	Year Elected	-0.193	0.166	-0.043	-1.160
	Northeast	-4.867	4.603	-0.056	-1.057

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	South	-3.664	4.678	-0.048	-0.783
	West	-2.918	5.291	-0.032	-0.551
	Diff DW Nom	11.912	8.192	0.054	1.454
	Fed Spending	-4.827	8.249	-0.029	-0.585
	Per Cap Inc	-0.001	0.001	-0.097	-1.562
	African Amer.	6.425	23.031	0.014	0.279
	Hispanic	62.245	19.091	0.160	3.260**
	Min. Wage Law	1.744	3.691	0.023	0.472
	Business	8.721	4.153	0.081	2.100*
	Labor	-112.838	7.114	-0.643	-15.861**
	E-score	-0.037	0.071	-0.021	-0.522
N 442 R2 0.504 Adjusted R2 0.487 Constant 73.807					
102nd	Year Elected	-0.684	0.549	-0.098	-1.245
	Northeast	-2.051	10.595	-0.021	-0.194
	South	2.772	11.577	0.033	0.239
	West	-1.510	12.537	-0.016	-0.120
	Diff DW Nom	32.456	23.038	0.112	1.409
	Fed Spending	-10.851	21.779	-0.056	-0.498
	Per Cap Inc	-0.004	0.002	-0.261	-2.248*
	African Amer.	55.356	53.704	0.093	1.031
	Hispanic	-16.661	44.804	-0.045	-0.372
	Min. Wage Law	8.460	7.291	0.098	1.160
	Business	-24.058	38.679	-0.051	-0.622
	Labor	-60.264	33.521	-0.186	-1.798
	E-score	0.776	0.108	0.744	7.172**
N 441 R2 0.786 Adjusted R2 0.733 Constant 95.864					
103rd	Year Elected	-2.172	0.676	-0.326	-3.211**
	Northeast	-38.525	14.013	-0.402	-2.749**
	South	-9.725	14.080	-0.117	-0.691
	West	-14.376	17.576	-0.155	-0.818
	Diff DW Nom	65.246	37.797	0.185	1.726
	Fed Spending	-34.133	26.824	-0.187	-1.272
	Per Cap Inc	-0.003	0.002	-0.207	-1.410
	African Amer.	37.095	66.427	0.063	0.558
	Hispanic	35.815	54.611	0.102	0.656
	Min. Wage Law	23.208	9.892	0.280	2.346*
	Business	7.547	51.975	0.016	0.145
	Labor	-207.214	40.219	-0.610	-5.152**
	E-score	0.156	0.147	0.130	1.061
N 442 R2 0.631 Adjusted R2 0.539 Constant 152.292					

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
104th	Year Elected	0.085	0.230	0.014	0.371
	Northeast	-4.480	6.489	-0.037	-0.690
	South	0.638	6.879	0.006	0.093
	West	17.552	7.316	0.148	2.399*
	Diff DW Nom	39.356	11.691	0.137	3.366**
	Fed Spending	-18.833	12.284	-0.082	-1.533
	Per Cap Inc	-0.002	0.001	-0.111	-1.713
	African Amer.	49.944	32.807	0.077	1.522
	Hispanic	-33.529	23.268	-0.072	-1.441
	Min. Wage Law	-3.597	4.780	-0.034	-0.752
	Business	-25.111	21.849	-0.048	-1.149
	Labor	-124.294	21.193	-0.304	-5.865**
	E-score	0.549	0.085	0.341	6.492**
N 445 R2 0.459 Adjusted R2 0.441 Constant 75.644					
105th	Year Elected	-1.598	0.751	-0.230	-2.129*
	Northeast	-23.290	14.896	-0.243	-1.563
	South	-0.639	17.111	-0.008	-0.037
	West	5.745	18.776	0.062	0.306
	Diff DW Nom	56.063	42.904	0.139	1.307
	Fed Spending	-55.975	34.229	-0.305	-1.635
	Per Cap Inc	-0.004	0.002	-0.316	-1.788
	African Amer.	44.970	69.174	0.077	0.650
	Hispanic	-9.177	61.995	-0.028	-0.148
	Min. Wage Law	7.084	10.535	0.082	0.672
	Business	50.508	46.192	0.130	1.093
	Labor	-167.298	48.013	-0.449	-3.484**
	E-score	0.180	0.174	0.145	1.033
N 444 R2 0.546 Adjusted R2 0.433 Constant 199.709					
106th	Year Elected	-1.570	0.739	-0.225	-2.124*
	Northeast	24.922	14.997	-0.260	-1.662
	South	-2.508	16.440	-0.030	-0.153
	West	-4.039	17.574	-0.044	-0.230
	Diff DW Nom	47.226	41.333	0.118	1.143
	Fed Spending	-40.820	33.372	-0.241	-1.223
	Per Cap Inc	-0.002	0.002	-0.226	-1.254
	African Amer.	30.805	68.640	0.053	0.449
	Hispanic	18.626	61.869	0.058	0.301
	Min. Wage Law	11.803	10.338	0.137	1.142
	Business	3.441	47.849	0.008	0.072
	Labor	-176.556	53.576	-0.489	-3.295**
	E-score	0.200	0.157	0.189	1.275
N 440 R2 0.566 Adjusted R2 0.457 Constant 163.347					

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
107th	Year Elected	-1.280	0.689	-0.187	-1.858
	Northeast	-21.746	13.750	-0.227	-1.581
	South	4.009	14.914	0.048	0.269
	West	-0.593	16.792	-0.006	-0.035
	Diff DW Nom	23.304	39.153	0.058	0.595
	Fed Spending	-37.529	27.594	-0.251	-1.360
	Per Cap Inc	-0.002	0.001	-0.160	-1.045
	African Amer.	34.320	63.691	0.059	0.539
	Hispanic	23.467	57.858	0.077	0.406
	Min. Wage Law	11.254	9.720	0.131	1.158
	Business	70.559	38.432	0.180	1.836
	Labor	-105.742	39.897	-0.325	-2.650**
	E-score	0.420	0.140	0.349	2.990**
N 444		R2 0.624	Adjusted R2 0.531	Constant 104.925	
108th	Year Elected	-0.883	0.711	-0.137	1.242
	Northeast	-27.523	14.616	-0.287	-1.883
	South	-2.991	16.992	-0.036	-0.176
	West	-7.247	19.170	-0.078	-0.378
	Diff DW Nom	39.402	42.893	0.099	0.919
	Fed Spending	-23.525	24.423	-0.189	-0.963
	Per Cap Inc	-0.001	0.002	-0.151	-0.939
	African Amer.	26.319	73.846	0.046	0.356
	Hispanic	39.616	61.570	0.133	0.643
	Min. Wage Law	8.098	10.692	0.094	0.757
	Business	63.872	38.803	0.180	1.646
	Labor	-129.314	54.528	-0.351	-2.372*
	E-score	0.297	0.157	0.263	1.889
N 440		R2 0.535	Adjusted R2 0.418	Constant 87.218	

* p < 0.05, ** p < 0.01

Business and Labor are self-interest variables included in the analysis. Labor is statistically significant in each House except the 99th and 102nd. Negative standardized coefficients indicate an inverse relationship with higher Labor political contributions and opposition to increasing the minimum wage. This association is consistent with the expected result for testing Hypothesis 6b: Legislators with higher labor political contributions to total contributions vote in support of increasing the minimum wage.

Business contributions were measured in testing Hypothesis 5b: Legislators with higher business political contributions to total contributions vote in opposition to increasing the minimum wage. Business contributions were statistically significant to the model in only the 101st Congress, which is the only Congress where Hispanic is a statistically significant variable. Positive associations between the percentage of Hispanics in a state and higher Business contributions received by legislators in those states provide a link between a higher minority component of a population and economically efficient policymaking.

The time in years that a legislator has served in office is a control that appears to have more impact (statistically significant in more Congresses and higher standardized coefficients) when conducting hypothesis testing of minimum wage dependent variable than medical malpractice dependent variable. In testing Hypothesis 9b: The longer a legislator has served, the less likely he or she will support increasing the minimum wage, the variable for first elected is statistically significant in the base model in the 103rd, 105th, and 106th House. However, in each House coefficients indicate that the longer a legislator has served the more likely he or she will support increasing the minimum wage.

The base model considers divisions in legislator ideology and the median ideology of his or her party. These divisions are expressed through DW Nominate scores and offer a method of testing ideology in the Base Model without including highly correlated variables that must be substituted into the model for testing. In testing Hypothesis 11b: The greater the division between the ideology of the legislator and the median ideology of the legislator's party, the less likely the legislator supports

increasing the federal minimum wage, the variable is statistically significant in only the 104th House. Positive associations between legislator and party ideology reflect a statistically significant difference in a legislator's voting preferences when he or she diverges from party positions. A positive coefficient indicates that greater divisions produce more economically efficient policies. These findings are consistent with the stated hypothesis.

Coefficients of determination in the model are generally higher in the minimum wage model than the medical malpractice model and less susceptible to swings when other variables are substituted into the model. For most Congresses the Base Model for minimum wage explains 60 to 70 percent of variation in the dependent variable. Higher coefficients of determination for the base minimum wage model indicate a better fit of variables in measuring variance along the regression line. Less upward movement in coefficient of determination values with each substitution is evidence that either the Base Model is a better fit for analysis of the dependent variable or variation in each of the substituted variables adds less to explaining changes in the dependent variable. The various substitutions will be discussed below starting with Party Unity found in Table 4.17.

Table 4.17 Regression Analysis of Base Model and Party Unity Substitution for 99th to 108th House: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99th	Year Elected	-0.790	0.518	-0.113	-1.524
	Northeast	-10.414	8.779	-0.113	-1.186
	South	-6.969	10.188	-0.084	-0.684
	West	-0.374	12.628	-0.004	-0.030
	Diff DW Nom	65.263	26.208	0.209	2.490*
	Min. Wage Law	10.310	8.363	0.117	1.233
	Fed Spending	-5.893	17.437	-0.031	-0.338
	Per Cap Inc	-0.005	0.002	-0.239	-2.817**
	African Amer.	102.657	60.545	0.147	1.696
	Hispanic	62.477	64.065	0.120	0.975
	Business	10.817	12.413	0.075	0.871
	Labor	-6.823	18.510	-0.041	-0.369
	E-score	0.266	0.132	0.265	2.011*
	Party Unity	-0.225	0.058	-0.509	-3.839**
N 439		R2 0.795	Adjusted R2 0.736	Constant 70.436	
100th	Year Elected	-0.660	0.481	-0.095	-1.372
	Northeast	-8.052	9.277	-0.084	-0.868
	South	-21.253	10.462	-0.264	-2.031*
	West	-6.911	11.162	-0.077	-0.619
	Diff DW Nom	-7.090	11.939	-0.045	-0.594
	Min. Wage Law	2.624	6.857	0.031	0.383
	Fed Spending	-10.653	16.407	-0.058	-0.649
	Per Cap Inc	-0.004	0.002	-0.284	-2.678**
	African Amer.	161.684	62.414	0.234	2.591*
	Hispanic	127.710	53.691	0.268	2.379*
	Business	-23.575	16.997	-0.114	-1.387
	Labor	-79.312	22.607	-0.352	-3.508**
	E-score	0.088	0.085	0.091	1.035
	Party Unity	-0.252	0.046	-0.583	-5.436**
N 441		R2 0.823	Adjusted R2 0.770	Constant 121.159	
101st	Year Elected	-0.137	0.133	-0.030	-1.032
	Northeast	-2.076	3.662	-0.024	-0.567
	South	1.848	3.734	0.024	0.495
	West	2.018	4.242	0.022	0.476
	Diff DW Nom	9.336	6.585	0.042	1.418
	Min. Wage Law	0.790	2.932	0.010	0.269
	Fed Spending	-6.362	6.551	-0.039	-0.971
	Per Cap Inc	-0.002	0.001	-0.141	-2.843**
	African Amer.	41.112	18.485	0.087	2.224*
	Hispanic	39.722	15.282	0.102	2.599**
	Business	4.660	3.320	0.044	1.404
	Labor	-37.603	7.565	-0.214	-4.971**
	E-score	0.103	0.058	0.057	1.785

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Party Unity	-0.279	0.018	-0.625	-15.161**
N 442		R2 0.689	Adjusted R2 0.678	Constant 65.910	
102nd	Year Elected	-0.616	0.529	-0.088	-1.164
	Northeast	-1.216	10.194	-0.013	-0.119
	South	-0.613	11.229	-0.007	-0.055
	West	-0.731	12.060	-0.008	-0.061
	Diff DW Nom	38.572	22.313	0.133	1.729
	Min. Wage Law	8.623	7.011	0.100	1.230
	Fed Spending	-8.977	20.958	-0.047	-0.428
	Per Cap Inc	-0.004	0.002	-0.308	-2.713**
	African Amer.	63.401	51.760	0.106	1.225
	Hispanic	9.930	44.621	0.027	0.223
	Business	-4.558	38.156	-0.010	-0.119
	Labor	-33.063	34.354	-0.102	-0.962
	E-score	0.539	0.147	0.516	3.671**
Party Unity	-0.133	0.058	-0.305	-2.289*	
N 441		R2 0.806	Adjusted R2 0.753	Constant 106.777	
103rd	Year Elected	-1.121	0.589	-0.169	-1.904
	Northeast	-19.398	12.034	-0.203	-1.612
	South	-8.755	11.510	-0.106	-0.761
	West	-6.826	14.440	-0.074	-0.473
	Diff DW Nom	57.749	30.928	0.164	1.867
	Min. Wage Law	14.867	8.244	0.179	1.803
	Fed Spending	-22.911	22.032	-0.126	-1.040
	Per Cap Inc	-0.005	0.002	-0.311	-2.555*
	African Amer.	70.291	54.673	0.119	1.286
	Hispanic	47.637	44.696	0.135	1.066
	Business	36.281	42.844	0.075	0.847
	Labor	-70.471	42.161	-0.207	-1.671
	E-score	0.070	0.121	0.058	0.573
Party Unity	-0.237	0.046	-0.560	-5.180**	
N 442		R2 0.758	Adjusted R2 0.692	Constant 144.991	
104th	Year Elected	0.245	.206	.041	1.189
	Northeast	-4.969	5.783	-.041	-.859
	South	1.626	6.131	0.016	0.265
	West	12.932	6.535	0.109	1.979*
	Diff DW Nom	66.464	10.744	0.231	6.186**
	Min. Wage Law	-4.020	4.260	-0.038	-0.943
	Fed Spending	-11.007	10.973	-0.048	-1.003
	Per Cap Inc	-0.001	0.001	-0.044	-0.758
	African Amer.	55.512	29.242	0.085	1.898
	Hispanic	-4.509	20.926	-0.010	-0.215
Business	-26.873	19.472	-0.051	-1.380	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Labor	-23.504	21.263	-0.058	-1.105
	E-score	-0.179	0.103	-0.111	-1.734
	Party Unity	-0.401	0.039	-0.730	-10.319**
N 445		R2 0.571	Adjusted R2 0.556	Constant 73.823	
105th	Year Elected	-0.931	0.634	-0.134	-1.469
	Northeast	-13.963	12.440	-0.146	-1.122
	South	-4.169	14.148	-0.050	-0.295
	West	-3.732	15.619	-0.040	-0.239
	Diff DW Nom	32.528	35.737	0.081	0.910
	Min. Wage Law	7.264	8.700	0.084	0.835
	Fed Spending	-37.549	28.503	-0.205	-1.317
	Per Cap Inc	-0.004	0.002	-0.295	-2.022*
	African Amer.	43.822	57.123	0.075	0.767
	Hispanic	42.400	52.213	0.129	0.812
	Business	19.165	38.651	0.049	0.496
	Labor	-48.846	46.125	-0.131	-1.059
	E-score	0.088	0.145	0.071	0.608
Party Unity	-0.246	0.049	-0.571	-5.026**	
N 444		R2 0.697	Adjusted R2 0.613	Constant 161.084	
106th	Year Elected	-1.060	0.609	-0.152	-1.741
	Northeast	-20.847	12.225	-0.218	-1.705
	South	-4.255	13.379	-0.051	-0.318
	West	-7.733	14.315	-0.083	-0.540
	Diff DW Nom	30.595	33.776	0.076	0.906
	Min. Wage Law	9.399	8.423	0.109	1.116
	Fed Spending	-36.184	27.164	-0.214	-1.332
	Per Cap Inc	-0.002	0.001	-0.221	-1.502
	African Amer.	36.707	55.855	0.063	0.657
	Hispanic	52.266	50.740	0.162	1.030
	Business	60.139	40.398	0.141	1.489
	Labor	-73.178	47.829	-0.203	-1.530
	E-score	-0.162	0.145	-0.153	-1.116
Party Unity	-0.280	0.053	-0.657	-5.250**	
N 440		R2 0.718	Adjusted R2 0.641	Constant 144.267	
107th	Year Elected	-0.810	0.610	-0.118	-1.329
	Northeast	-20.263	11.964	-0.212	-1.694
	South	-0.909	13.024	-0.011	-0.070
	West	-5.712	14.654	-0.062	-0.390
	Diff DW Nom	14.895	34.111	0.037	0.437
	Min. Wage Law	6.080	8.542	0.071	0.712
	Fed Spending	-29.318	24.078	-0.196	-1.218
	Per Cap Inc	-0.002	0.001	-0.177	-1.328
African Amer.	19.195	55.510	0.033	0.346	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Hispanic	44.648	50.570	0.147	0.883
	Business	71.410	33.426	0.182	2.136*
	Labor	-57.375	36.549	-0.176	-1.570
	E-score	-0.003	0.158	-0.002	-0.017
	Party Unity	-0.226	0.054	-0.546	-4.213**
N 444		R2 0.721	Adjusted R2 0.645	Constant 114.741	
108th	Year Elected	-0.241	0.584	-0.037	-0.412
	Northeast	-19.772	11.843	-0.207	-1.670
	South	-5.460	13.676	-0.066	-0.399
	West	-14.037	15.470	-0.151	-0.907
	Diff DW Nom	2.136	35.180	0.005	0.061
	Min. Wage Law	3.120	8.649	0.036	0.361
	Fed Spending	-11.689	19.766	-0.094	-0.591
	Per Cap Inc	-0.002	0.001	-0.169	-1.305
	African Amer.	32.073	59.408	0.055	0.540
	Hispanic	80.233	50.089	0.269	1.602
	Business	69.354	31.228	0.195	2.221*
	Labor	-36.179	47.107	-0.098	-0.768
	E-score	-0.113	0.147	-0.100	-0.767
	Party Unity	-0.277	0.051	-0.677	-5.420**
N 440		R2 0.705	Adjusted R2 0.624	Constant 87.628	

* p < 0.05, ** p < 0.01

Political parties shape legislative voting in each Congress in the model (99th through 108th Congresses). Testing Hypothesis 7b: *Republican legislators are less likely to vote for increasing the minimum wage more often than Democrats*, party unity is a statistically significant variable that indicates strong Republican support for economically efficient policies. Republican legislators were found to be less likely to support increasing the minimum wage, an economically inefficient policy.

Substituting party unity into the model increased the statistical significance of Business as a measure of self-interest across the model from Base Model analysis and further exposed links between state economic conditions and legislative voting. Per capita income in a state was negatively related to opposing minimum wage policies.

This association is not surprising in that lower levels of per capita income could be a push for supporting wage floors. What is more surprising is that higher percentages of African Americans and Hispanics were found to be positively associated with minimum wage *opposition* in the 100th and 101st Congresses. Higher levels of minorities in the population are usually indicative of lower levels of per capita income in a state.

Differences in directional movements between these two control variables and opposition to increasing the minimum wage show that greater Republican unity can be affected by differences in state economic conditions. The effect of years of service to the model disappears when substituting party unity, as ideologies associated with length of tenure are replaced by greater adherence to party positions. Substituting party unity into the model raised coefficients of determination measures to a range of the high sixties to low eighties, offering support to party as a predictor of behavior.

Adding ADA to the Base Model (see Table 4.18) finds ADA to be statistically significant in each Congress and negatively correlated with opposition to increasing the minimum wage, results expected from testing Hypothesis 2b: *Legislators with higher ADA scores vote in support of increasing the federal minimum wage*. Compared to other independent variables in the model, for both minimum wage and medical malpractice dependent variables standardized coefficients for ADA indicate a relatively higher impact of that variable on per unit changes in support for either policy legislation. Controlling for effects of state economic conditions produced mixed results in the ADA model. Hispanic was statistically significant in the 101st House and per capita income was statistically significant in the 102nd House.

Table 4.18 Regression Analysis of Base Model and ADA Substitution from 99th to 108th House: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99th	Year Elected	-0.974	0.497	-0.140	-1.961
	Northeast	-7.871	8.371	-0.085	-0.940
	South	-3.116	9.749	-0.038	-0.320
	West	-0.481	12.113	-0.005	-0.040
	Diff DW Nom	74.859	25.425	0.240	2.944**
	Min. Wage Law	13.349	8.045	0.152	1.659
	Fed Spending	-9.620	16.629	-0.051	-0.579
	Per Cap Inc	-0.003	0.002	-0.133	-1.590
	African Amer.	29.390	60.178	0.042	0.488
	Hispanic	32.751	60.948	0.063	0.537
	Business	6.772	12.026	0.047	0.563
	Labor	-1.879	17.914	-0.011	-0.105
	E-score	0.325	0.114	0.324	2.855**
	ADA	-0.574	0.128	-0.537	-4.501**
N 439		R2 0.811	Adjusted R2 0.757	Constant 72.679	
100th	Year Elected	-0.826	0.474	-0.119	-1.744
	Northeast	-10.910	9.200	-0.114	-1.186
	South	-19.316	10.255	-0.240	-1.884
	West	-5.265	11.010	-0.059	-0.478
	Diff DW Nom	-16.552	12.091	-0.105	-1.369
	Min. Wage Law	3.309	6.759	0.039	0.490
	Fed Spending	-25.275	16.136	-0.137	-1.566
	Per Cap Inc	-0.002	0.002	-0.112	-1.051
	African Amer.	115.774	61.896	0.168	1.870
	Hispanic	82.686	52.422	0.174	1.577
	Business	-33.819	17.268	-0.163	-1.959
	Labor	-67.323	23.320	-0.299	-2.887**
	E-score	0.142	0.081	0.146	1.758
	ADA	-0.681	0.121	-0.661	-5.626**
N 441		R2 0.827	Adjusted R2 0.776	Constant 133.483	
101st	Year Elected	-0.196	0.137	-0.043	-1.427
	Northeast	-1.478	3.772	-0.017	-0.392
	South	-2.749	3.831	-0.036	-0.718
	West	-0.176	4.359	-0.002	-0.040
	Diff DW Nom	16.466	6.725	0.075	2.449*
	Min. Wage Law	4.902	3.029	0.063	1.618
	Fed Spending	-3.003	6.755	-0.018	-0.445
	Per Cap Inc	0.000	0.001	-0.031	-0.617
	African Amer.	1.684	18.837	0.004	0.089
	Hispanic	31.942	15.814	0.082	2.020*
	Business	5.531	3.411	0.052	1.621
	Labor	-30.850	8.374	-0.176	-3.684**
	E-score	0.142	0.061	0.078	2.339*

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	ADA	-0.738	0.053	-0.675	-13.863**
N 442		R2 0.670	Adjusted R2 0.658	Constant 66.403	
102nd	Year Elected	-0.549	0.511	-0.079	-1.075
	Northeast	-3.360	9.832	-0.035	-0.342
	South	-3.109	10.901	-0.037	-0.285
	West	-0.989	11.625	-0.011	-0.085
	Diff DW Nom	34.388	21.369	0.119	1.609
	Min. Wage Law	7.175	6.772	0.083	1.059
	Fed Spending	-11.765	20.194	-0.061	-0.583
	Per Cap Inc	-0.003	0.002	-0.236	-2.193*
	African Amer.	55.186	49.791	0.092	1.108
	Hispanic	3.903	42.072	0.011	0.093
	Business	-21.823	35.868	-0.046	-0.608
	Labor	-27.501	32.847	-0.085	-0.837
	E-score	0.496	0.135	0.475	3.657**
ADA	-0.424	0.138	-0.386	-3.081**	
N 441		R2 0.820	Adjusted R2 0.770	Constant 114.778	
103rd	Year Elected	-1.172	0.561	-0.176	-2.091*
	Northeast	-21.649	11.422	-0.226	-1.895
	South	-10.700	11.090	-0.129	-0.965
	West	-8.405	13.880	-0.091	-0.606
	Diff DW Nom	62.255	29.771	0.176	2.091*
	Min. Wage Law	18.340	7.836	0.221	2.340*
	Fed Spending	-28.826	21.145	-0.158	-1.363
	Per Cap Inc	-0.003	0.002	-0.207	-1.794
	African Amer.	28.665	52.334	0.049	0.548
	Hispanic	38.383	43.011	0.109	0.892
	Business	23.664	41.029	0.049	0.577
	Labor	-88.390	37.856	-0.260	-2.335*
	E-score	-0.019	0.120	-0.016	-0.161
ADA	-0.653	0.114	-0.611	-5.731**	
N 442		R2 0.776	Adjusted R2 0.714	Constant 158.396	
104th	Year Elected	-0.007	0.211	-0.001	-0.033
	Northeast	-5.401	5.946	-0.045	-0.908
	South	2.438	6.305	0.024	0.387
	West	13.859	6.715	0.117	2.064*
	Diff DW Nom	27.202	10.797	0.094	2.520*
	Min. Wage Law	-3.057	4.380	-0.029	-0.698
	Fed Spending	-14.957	11.261	-0.065	-1.328
	Per Cap Inc	0.000	0.001	-0.021	-0.355
	African Amer.	40.722	30.072	0.063	1.354
	Hispanic	-9.027	21.493	-0.020	-0.420
	Business	-31.184	20.027	-0.059	-1.557

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Labor	-33.084	21.961	-0.081	-1.507
	E-score	-0.070	0.104	-0.043	-0.670
	ADA	-0.877	0.099	-0.658	-8.887**
N 445		R2 0.547	Adjusted R2 0.531	Constant 105.712	
105th	Year Elected	-0.758	0.610	-0.109	-1.243
	Northeast	-8.074	12.050	-0.084	-0.670
	South	-2.096	13.501	-0.025	-0.155
	West	0.892	14.837	0.010	0.060
	Diff DW Nom	28.054	34.200	0.070	0.820
	Min. Wage Law	3.985	8.328	0.046	0.479
	Fed Spending	-34.174	27.272	-0.186	-1.253
	Per Cap Inc	-0.002	0.002	-0.201	-1.430
	African Amer.	26.548	54.666	0.046	0.486
	Hispanic	26.729	49.310	0.081	0.542
	Business	15.799	36.945	0.041	0.428
	Labor	-39.247	44.026	-0.105	-0.891
	E-score	0.098	0.138	0.079	0.709
ADA	-0.637	0.112	-0.629	-5.706**	
N 444		R2 0.723	Adjusted R2 0.647	Constant 159.298	
106th	Year Elected	-0.996	0.586	-0.143	-1.699
	Northeast	-18.267	11.780	-0.191	-1.551
	South	-3.836	12.855	-0.046	-0.298
	West	-4.437	13.740	-0.048	-0.323
	Diff DW Nom	21.423	32.616	0.053	0.657
	Min. Wage Law	6.884	8.126	0.080	0.847
	Fed Spending	-44.802	26.099	-0.264	-1.717
	Per Cap Inc	-0.002	0.001	-0.152	-1.075
	African Amer.	26.163	53.670	0.045	0.487
	Hispanic	36.261	48.464	0.112	0.748
	Business	57.434	38.535	0.134	1.490
	Labor	-59.775	46.419	-0.166	-1.288
	E-score	-0.144	0.136	-0.136	-1.057
ADA	-0.740	0.127	-0.708	-5.837**	
N 440		R2 0.740	Adjusted R2 0.668	Constant 170.109	
107th	Year Elected	-0.673	0.592	-0.098	-1.138
	Northeast	-20.739	11.534	-0.217	-1.798
	South	-0.056	12.537	-0.001	-0.004
	West	-2.256	14.087	-0.024	-0.160
	Diff DW Nom	4.112	33.081	0.010	0.124
	Min. Wage Law	3.156	8.325	0.037	0.379
	Fed Spending	-32.288	23.168	-0.216	-1.394
	Per Cap Inc	-0.001	0.001	-0.125	-0.969
	African Amer.	4.699	53.774	0.008	0.087

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Hispanic	32.005	48.557	0.106	0.659
	Business	70.875	32.233	0.181	2.199*
	Labor	-49.518	35.461	-0.152	-1.396
	E-score	-0.042	0.152	-0.035	-0.274
	ADA	-0.578	0.121	-0.611	-4.788**
N 444		R2 0.741	Adjusted R2 0.670	Constant 134.072	
108th	Year Elected	-0.276	0.584	-0.043	-0.473
	Northeast	-15.401	11.986	-0.161	-1.285
	South	1.663	13.715	0.020	0.121
	West	-6.409	15.443	-0.069	-0.415
	Diff DW Nom	1.852	35.246	0.005	0.053
	Min. Wage Law	-2.255	8.824	-0.026	-0.256
	Fed Spending	-23.838	19.674	-0.191	-1.212
	Per Cap Inc	-0.001	0.001	-0.096	-0.734
	African Amer.	0.671	59.677	0.001	0.011
	Hispanic	42.839	49.602	0.144	0.864
	Business	70.579	31.282	0.199	2.256*
	Labor	7.815	50.744	0.021	0.154
	E-score	-0.052	0.142	-0.046	-0.368
	ADA	-0.703	0.130	-0.732	-5.398**
N 440		R2 0.704	Adjusted R2 0.623	Constant 112.514	

* p < 0.05, ** p < 0.01

Directional impact of higher per capita income within the legislator's state negatively impacted support for economically efficient policy making, while higher levels of Hispanics within the states' population predicted greater support for economically efficient legislation. Legislators from states with higher percentages of Hispanics in the population were more likely to oppose increasing the minimum wage, while legislators from states with higher per capita incomes were more likely to support increasing the minimum wage. The effect of percentage Hispanic in the model produced very small (+0.082) changes in the model, however. Length of service for House members in Congress is statistically significant in the model for ADA. Controls for length of service negatively impact the model, although the effect is a relatively weak

0.176 standardized coefficient. E-score remains statistically significant in the 99th and 102nd Congresses with no changes in its positive directional impact with opposition to minimum wage increases.

As Table 4.19 indicates ACU is a statistically significant independent variable in each House analyzed (99th through 108th) in testing Hypothesis 3b: Legislators with higher ACU scores vote in opposition to increasing the federal minimum wage. A positive association exists between ACU and economic efficiency in each Congress, and based on p values, the variable offers perhaps the strongest ideological basis for predicting legislative behavior in this model. Legislators with higher ACU scores are found to oppose increasing the federal minimum wage, an economically inefficient public policy.

Controlling for state economic conditions finds legislators in states with higher percentages of minority population opposing minimum wage increases, while those in states with lower per capita incomes support increasing the minimum wage. Results for state economic conditions are consistent throughout the base model and each substitution. Although these associations were statistically significant in only the 100th and 101st House, the fact that greater differences in legislator ideology from median party ideology in the 100th House supports increasing the minimum wage, an economically inefficient act, suggests that factors associated with a legislators' constituency affects his or her support of economically efficient public policies.

E-score was statistically significant in the 101st and 102nd House and positively affected opposition to increasing the minimum wage. In comparison to ADA, *ceteris*

paribus, slightly higher coefficients of determination in each ACU regression suggest advantages of ACU over ADA in this model in explaining model variability.

Table 4.19 Regression Analysis of Base Model and ACU Substitution for 99th to 108th House: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99th	Year Elected	-0.838	0.491	-0.120	-1.706
	Northeast	-10.392	8.318	-0.112	-1.249
	South	-7.993	9.679	-0.097	-0.826
	West	-3.626	11.993	-0.039	-0.302
	Diff DW Nom	55.055	24.687	0.176	2.230*
	Min. Wage Law	10.473	7.937	0.119	1.319
	Fed Spending	-5.497	16.526	-0.029	-0.333
	Per Cap Inc	-0.003	0.002	-0.138	-1.676
	African Amer.	43.690	58.724	0.063	0.744
	Hispanic	41.594	60.338	0.080	0.689
	Business	3.543	12.036	0.024	0.294
	Labor	-5.893	17.403	-0.036	-0.339
	E-score	0.239	0.122	0.238	1.959
	ACU	0.651	0.139	0.596	4.665**
N 439		R2 0.815	Adjusted R2 0.762	Constant 22.941	
100th	Year Elected	-0.841	0.433	-0.121	-1.945
	Northeast	-11.630	8.402	-0.121	-1.384
	South	-22.873	9.430	-0.284	-2.426*
	West	-7.345	10.059	-0.082	-0.730
	Diff DW Nom	-23.107	11.230	-0.147	-2.058*
	Min. Wage Law	-0.034	6.208	0.000	-0.006
	Fed Spending	-18.531	14.710	-0.101	-1.260
	Per Cap Inc	-0.002	0.002	-0.109	-1.117
	African Amer.	127.129	56.337	0.184	2.257*
	Hispanic	111.836	48.026	0.235	2.329*
	Business	-26.112	15.296	-0.126	-1.707
	Labor	-44.920	22.491	-0.199	-1.997
	E-score	0.053	0.078	0.054	0.680
	ACU	0.755	0.110	0.782	6.877**
N 441		R2 0.856	Adjusted R2 0.813	Constant 56.610	
101st	Year Elected	-0.118	0.131	-0.026	-0.900
	Northeast	1.111	3.651	0.013	0.304
	South	-1.734	3.692	-0.023	-0.470
	West	-0.327	4.177	-0.004	-0.078
	Diff DW Nom	12.329	6.463	0.056	1.908
	Min. Wage Law	3.964	2.915	0.051	1.360
	Fed Spending	-4.811	6.507	-0.029	-0.739
	Per Cap Inc	-0.001	0.001	-0.079	-1.606
	African Amer.	13.890	18.174	0.029	0.764

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Hispanic	31.374	15.191	0.080	2.065*
	Business	5.368	3.284	0.050	1.635
	Labor	-25.293	7.963	-0.144	-3.176**
	E-score	0.193	0.058	0.107	3.311**
	ACU	0.766	0.049	0.715	15.497**
N 442		R2 0.692	Adjusted R2	0.681	Constant 4.745
102nd	Year Elected	-0.523	0.499	-0.075	-1.049
	Northeast	-0.924	9.583	-0.010	-0.096
	South	-4.028	10.639	-0.049	-0.379
	West	-0.837	11.335	-0.009	-0.074
	Diff DW Nom	29.657	20.842	0.102	1.423
	Min. Wage Law	7.215	6.600	0.084	1.093
	Fed Spending	-7.978	19.705	-0.041	-0.405
	Per Cap Inc	-0.004	0.002	-0.243	-2.318*
	African Amer.	49.079	48.581	0.082	1.010
	Hispanic	10.992	41.243	0.030	0.267
	Business	-11.743	35.137	-0.025	-0.334
	Labor	-21.897	32.169	-0.068	-0.681
	E-score	0.444	0.135	0.425	3.277**
	ACU	0.443	0.125	0.446	3.554**
N 441		R2 0.829	Adjusted R2	0.782	Constant 71.846
103rd	Year Elected	-0.981	0.534	-0.147	-1.836
	Northeast	-14.733	11.027	-0.154	-1.336
	South	-11.595	10.469	-0.140	-1.108
	West	-6.010	13.125	-0.065	-0.458
	Diff DW Nom	44.842	28.263	0.127	1.587
	Min. Wage Law	14.258	7.477	0.172	1.907
	Fed Spending	-26.862	19.968	-0.147	-1.345
	Per Cap Inc	-0.004	0.002	-0.239	-2.186*
	African Amer.	47.956	49.399	0.081	0.971
	Hispanic	40.858	40.597	0.116	1.006
	Business	27.195	38.746	0.056	0.702
	Labor	-62.177	37.165	-0.183	-1.673
	E-score	0.029	0.111	0.024	0.259
	ACU	0.666	0.101	0.659	6.568**
N 442		R2 0.800	Adjusted R2	0.745	Constant 96.880
104th	Year Elected	0.250	0.206	0.042	1.213
	Northeast	-5.300	5.782	-0.044	-0.917
	South	3.732	6.135	0.036	0.608
	West	12.748	6.534	0.107	1.951
	Diff DW Nom	21.672	10.554	0.075	2.053*
	Min. Wage Law	-4.627	4.260	-0.044	-1.086
	Fed Spending	-7.822	10.995	-0.034	-0.711

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Per Cap Inc	-2.783E-05	0.001	-0.002	-0.028
	African Amer.	36.747	29.255	0.057	1.256
	Hispanic	-0.107	20.979	0.000	-0.005
	Business	-23.059	19.465	-0.044	-1.185
	Labor	-31.122	20.922	-0.076	-1.488
	E-score	-0.136	0.100	-0.085	-1.358
	ACU	0.920	0.089	0.725	10.336**
N 445		R2 0.571	Adjusted R2 0.557	Constant 6.177	
105th	Year Elected	-0.578	0.557	-0.083	-1.037
	Northeast	-6.451	10.935	-0.067	-0.590
	South	-4.844	12.275	-0.058	-0.395
	West	1.672	13.466	0.018	0.124
	Diff DW Nom	25.500	31.042	0.063	0.821
	Min. Wage Law	0.992	7.597	0.012	0.131
	Fed Spending	-29.604	24.806	-0.162	-1.193
	Per Cap Inc	-0.002	0.002	-0.177	-1.380
	African Amer.	33.632	49.590	0.058	0.678
	Hispanic	25.451	44.688	0.078	0.570
	Business	8.917	33.613	0.023	0.265
	Labor	-28.998	39.546	-0.078	-0.733
	E-score	0.159	0.125	0.128	1.275
	ACU	0.741	0.104	0.680	7.091**
N 444		R2 0.772	Adjusted R2 0.709	Constant 77.294	
106th	Year Elected	-0.733	0.569	-0.105	-1.288
	Northeast	-12.557	11.406	-0.131	-1.101
	South	-4.396	12.329	-0.053	-0.357
	West	-3.316	13.176	-0.036	-0.252
	Diff DW Nom	0.973	31.810	0.002	0.031
	Min. Wage Law	5.630	7.810	0.065	0.721
	Fed Spending	-36.233	25.030	-0.214	-1.448
	Per Cap Inc	-0.002	0.001	-0.160	-1.174
	African Amer.	19.600	51.491	0.034	0.381
	Hispanic	43.224	46.542	0.134	0.929
	Business	50.588	36.612	0.118	1.382
	Labor	-46.422	44.960	-0.129	-1.033
	E-score	-0.088	0.126	-0.083	-0.701
	ACU	0.791	0.123	0.725	6.443**
N 440		R2 0.760	Adjusted R2 0.695	Constant 85.460	
107th	Year Elected	-0.615	0.559	-0.090	-1.099
	Northeast	-17.488	10.935	-0.183	-1.599
	South	-3.424	11.906	-0.041	-0.288
	West	-1.146	13.322	-0.012	-0.086
	Diff DW Nom	3.359	31.264	0.008	0.107

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Min. Wage Law	1.304	7.912	0.015	0.165
	Fed Spending	-31.388	21.919	-0.210	-1.432
	Per Cap Inc	-0.001	0.001	-0.082	-0.666
	African Amer.	3.197	50.832	0.006	0.063
	Hispanic	31.079	45.922	0.102	0.677
	Business	68.217	30.494	0.174	2.237*
	Labor	-41.315	33.663	-0.127	-1.227
	E-score	-0.023	0.136	-0.019	-0.170
	ACU	0.671	0.119	0.659	5.623**
N 444		R2 0.768	Adjusted R2 0.704	Constant 58.729	
108th	Year Elected	-0.265	0.552	-0.041	-0.480
	Northeast	-14.884	11.338	-0.155	-1.313
	South	-9.194	13.005	-0.111	-0.707
	West	-6.879	14.628	-0.074	-0.470
	Diff DW Nom	-4.661	33.496	-0.012	-0.139
	Min. Wage Law	-1.478	8.304	-0.017	-0.178
	Fed Spending	-16.651	18.670	-0.134	-0.892
	Per Cap Inc	-0.001	0.001	-0.088	-0.718
	African Amer.	27.537	56.352	0.048	0.489
	Hispanic	60.670	47.107	0.204	1.288
	Business	64.304	29.610	0.181	2.172*
	Labor	-14.740	45.543	-0.040	-0.324
	E-score	-0.125	0.138	-0.111	-0.908
ACU	0.853	0.138	0.779	6.189**	
N 440		R2 0.734	Adjusted R2 0.661	Constant 31.495	

* p < 0.05, ** p < 0.01

Table 4.20 presents the results of substituting DW Nominate into the model. With the exception of the 102nd House, DW Nominate is a statistically significant independent variable in each House lending support to Hypothesis 4b: Legislators with higher DW Nominate scores vote in opposition to increasing the minimum wage. The variable is positively correlated with economically efficient policymaking. That is, legislators with higher DW Nominate scores oppose increasing the minimum wage. This relationship is consistent throughout the testing of the model.

Table 4.20 Regression Analysis of Base Model and DW Nominate Substitution for 99th to 108th House: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99th	Year Elected	-0.532	0.503	-0.076	-1.058
	Northeast	-3.428	8.387	-0.037	-0.409
	South	-4.455	9.740	-0.054	-0.457
	West	1.986	12.124	0.021	0.164
	Diff DW Nom	61.581	25.004	0.197	2.463*
	Min. Wage Law	11.013	8.017	0.125	1.374
	Fed Spending	-5.503	16.696	-0.029	-0.330
	Per Cap Inc	-0.003	0.002	-0.176	-2.154*
	African Amer.	65.474	58.542	0.094	1.118
	Hispanic	45.405	60.982	0.087	0.745
	Business	3.800	12.159	0.026	0.313
	Labor	-2.315	17.862	-0.014	-0.130
	E-score	0.259	0.122	0.258	2.126*
DW Nominate	56.317	12.478	0.606	4.513**	
N 439		R2 0.811	Adjusted R2	0.747	Constant 54.751
100th	Year Elected	-0.292	0.573	-0.042	-0.510
	Northeast	-0.468	10.696	-0.005	-0.044
	South	-12.244	11.804	-0.152	-1.037
	West	-3.724	12.827	-0.041	-0.290
	Diff DW Nom	9.220	13.841	0.059	0.666
	Min. Wage Law	6.036	7.870	0.071	0.767
	Fed Spending	-12.038	18.881	-0.065	-0.638
	Per Cap Inc	-0.004	0.002	-0.229	-1.882
	African Amer.	139.821	71.735	0.202	1.949
	Hispanic	89.580	61.016	0.188	1.468
	Business	-10.730	19.152	-0.052	-0.560
	Labor	-123.624	23.031	-0.549	-5.368**
	E-score	0.242	0.091	0.249	2.679*
DW Nominate	28.590	8.593	0.297	3.327**	
N 441		R2 0.766	Adjusted R2	0.697	Constant 97.077
101st	Year Elected	-0.047	0.151	-0.010	-0.312
	Northeast	-2.744	4.160	-0.032	-0.660
	South	-1.994	4.222	-0.026	-0.472
	West	-1.752	4.771	-0.019	-0.367
	Diff DW Nom	13.089	7.406	0.059	1.767
	Min. Wage Law	3.064	3.337	0.040	0.918
	Fed Spending	-3.913	7.443	-0.024	-0.526
	Per Cap Inc	-0.001	0.001	-0.089	-1.579
	African Amer.	23.324	20.825	0.050	1.120
	Hispanic	48.827	17.274	0.125	2.827*
	Business	6.684	3.749	0.062	1.783
	Labor	-65.998	8.032	-0.376	-8.217**
E-score	0.069	0.065	0.038	1.053	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	DW Nominate	43.322	4.457	0.433	9.719**
N 442		R2 0.599	Adjusted R2	0.584	Constant 54.072
102nd	Year Elected	-0.441	0.561	-0.063	-0.786
	Northeast	0.149	10.514	0.002	0.014
	South	0.775	11.459	0.009	0.068
	West	-0.386	12.359	-0.004	-0.031
	Diff DW Nom	27.693	22.860	0.096	1.211
	Min. Wage Law	8.105	7.179	0.094	1.129
	Fed Spending	-9.866	21.444	-0.051	-0.460
	Per Cap Inc	-0.004	0.002	-0.264	-2.316*
	African Amer.	55.459	52.857	0.093	1.049
	Hispanic	0.317	45.299	0.001	0.007
	Business	-10.182	39.000	-0.022	-0.261
	Labor	-42.865	34.661	-0.132	-1.237
	E-score	0.624	0.141	0.598	4.410**
DW Nominate	19.229	11.742	0.208	1.638	
N 441		R2 0.797	Adjusted R2	0.741	Constant 93.305
103rd	Year Elected	-0.731	0.565	-0.110	-1.294
	Northeast	-16.273	11.262	-0.170	-1.445
	South	-8.235	10.731	-0.099	-0.767
	West	-6.561	13.450	-0.071	-0.488
	Diff DW Nom	60.852	28.807	0.172	2.112*
	Min. Wage Law	14.284	7.673	0.172	1.862
	Fed Spending	-18.556	20.592	-0.102	-0.901
	Per Cap Inc	-0.003	0.002	-0.216	-1.932
	African Amer.	36.833	50.613	0.062	0.728
	Hispanic	51.444	41.686	0.146	1.234
	Business	41.034	39.967	0.085	1.027
	Labor	-49.681	39.780	-0.146	-1.249
	E-score	0.008	0.115	0.006	0.067
DW Nominate	61.089	9.836	0.678	6.211**	
N 442		R2 0.790	Adjusted R2	0.733	Constant 106.470
104th	Year Elected	0.315	0.206	0.053	1.532
	Northeast	-5.844	5.768	-0.049	-1.013
	South	0.968	6.112	0.009	0.158
	West	12.401	6.519	0.104	1.902
	Diff DW Nom	2.786	10.960	0.010	0.254
	Min. Wage Law	-4.694	4.249	-0.045	-1.105
	Fed Spending	-8.868	10.956	-0.038	-0.809
	Per Cap Inc	-0.001	0.001	-0.041	-0.703
	African Amer.	60.995	29.171	0.094	2.091*
	Hispanic	-3.715	20.871	-0.008	-0.178
	Business	-25.600	19.414	-0.049	-1.319

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Labor	-22.995	21.174	-0.056	-1.086
	E-score	-0.131	0.099	-0.081	-1.316
	DW Nominate	86.018	8.221	0.758	10.463**
N 445		R2 0.574	Adjusted R2	0.559	Constant 66.328
105th	Year Elected	-0.363	0.601	-0.052	-0.604
	Northeast	-9.106	11.493	-0.095	-0.792
	South	-6.481	12.980	-0.078	-0.499
	West	-4.504	14.300	-0.049	-0.315
	Diff DW Nom	20.982	32.936	0.052	0.637
	Min. Wage Law	4.933	7.979	0.057	0.618
	Fed Spending	-26.908	26.306	-0.147	-1.023
	Per Cap Inc	-0.002	0.002	-0.206	-1.528
	African Amer.	33.486	52.373	0.058	0.639
	Hispanic	50.546	47.854	0.154	1.056
	Business	2.592	35.767	0.007	0.072
	Labor	-21.708	43.036	-0.058	-0.504
	E-score	0.087	0.133	0.070	0.656
DW Nominate	62.126	9.845	0.707	6.311**	
N 444		R2 0.745	Adjusted R2	0.675	Constant 115.542
106th	Year Elected	-0.455	0.599	-0.065	-0.760
	Northeast	-14.587	11.679	-0.152	-1.249
	South	-5.737	12.677	-0.069	-0.453
	West	-6.353	13.545	-0.068	-0.469
	Diff DW Nom	19.920	32.162	0.050	0.619
	Min. Wage Law	5.768	8.027	0.067	0.719
	Fed Spending	-28.923	25.785	-0.171	-1.122
	Per Cap Inc	-0.002	0.001	-0.152	-1.086
	African Amer.	23.395	52.896	0.040	0.442
	Hispanic	55.133	48.045	0.171	1.148
	Business	45.026	37.499	0.105	1.201
	Labor	-40.839	46.977	-0.113	-0.869
	E-score	-0.127	0.132	-0.120	-0.962
DW Nominate	65.628	10.847	0.755	6.051**	
N 440		R2 0.747	Adjusted R2	0.678	Constant 105.318
107th	Year Elected	-.289	.597	-.042	-.484
	Northeast	-14.457	11.355	-.151	-1.273
	South	-3.024	12.296	-.036	-.246
	West	-4.483	13.779	-.048	-.325
	Diff DW Nom	11.448	32.163	.028	.356
	Min. Wage Law	3.089	8.120	.036	.380
	Fed Spending	-23.772	22.766	-.159	-1.044
	Per Cap Inc	-.001	.001	-.124	-.983
African Amer.	8.513	52.426	.015	.162	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Hispanic	48.572	47.656	.160	1.019
	Business	63.330	31.521	.161	2.009*
	Labor	-29.554	35.888	-.091	-.824
	E-score	-.015	.143	-.013	-.108
	DW Nominate	57.362	11.152	.667	5.144**
N 444		R2 0.753	Adjusted R2 0.685	Constant	82.673
108th	Year Elected	.316	.561	.049	.562
	Northeast	-13.611	11.111	-.142	-1.225
	South	-7.237	12.694	-.087	-.570
	West	-11.153	14.314	-.120	-.779
	Diff DW Nom	-1.412	32.607	-.004	-.043
	Min. Wage Law	-.971	8.097	-.011	-.120
	Fed Spending	-8.549	18.365	-.069	-.465
	Per Cap Inc	-.001	.001	-.100	-.833
	African Amer.	21.354	55.097	.037	.388
	Hispanic	85.873	46.479	.288	1.848
	Business	61.603	28.950	.174	2.128*
	Labor	-4.022	44.998	-.011	-.089
	E-score	-.175	.138	-.155	-1.272
	DW Nominate	70.709	10.855	.832	6.514**
N 440		R2 0.746	Adjusted R2 0.676	Constant	54.036

* p < 0.05, ** p < 0.01

Per capita income as a control for state economic conditions is statistically significant in the 99th and 102nd Congresses, negatively impacting the model. Positive associations continue to exist between percent minority in a population and a legislator's support of economically efficient policies. Business is a statistically significant variable in the 107th and 108th House for all three measures of ideology substitution – ADA, ACU, and DW Nominate – and functions along with the substituted variable in explaining legislative voting. That Business is statistically significant in a model with a highly statistically significant substituted variable supports self-interest claims. Standardized coefficients indicate a relatively weaker per unit effect of self-interest on the dependent variable in comparison to ideology.

Standardized coefficients indicate moderate movement for DW Nominate values in affecting change per unit support for minimum wage legislation. ACU values show higher standardized coefficients on average than DW Nominate scores, and DW Nominate scores show slightly higher values than ADA scores. Relative high p values support the probability that the association was not the result of chance. Measures of conservative ideology (ACU values and higher DW Nominate scores) are clearly important predictors of legislative behavior in this model.

Substituting Legislator Party into the model (Table 4.21) finds that Democrats support increasing the minimum wage while Republicans are opposed. Party control of the House must be defined when analyzing Legislator Party. Referring to party divisions summarized in Table 4.10, Democrats controlled the House during the 99th through 103rd Congresses and Republicans controlled the House during the 104th through 108th Congresses.

Like medical malpractice dependent variable, minimum wage is coded to indicate a positive relationship between the variable and economic efficiency. A vote in opposition to minimum wage increases is an economically efficient act. According to coefficients in the regression output, directional impact of a plus (+) indicates a relationship where the legislator of the majority party is more opposed to increasing the minimum wage and a minus (-) indicates support for increasing the minimum wage increases if the legislator is not a member of the majority party. When Democrats are in the majority coefficients are negative, indicating greater opposition to increasing the minimum wage from Republicans, the party that does not control the House. Republicans are in the majority in the House in the 104th through 108th Congresses and

vote increasingly against increasing the minimum wage regardless of party control, as positive, statistically significant directional impact of Legislator Party indicates. These results are contrary to the expected distinctions in minority-majority status expressed in Hypothesis 10b: *Legislators from the minority party (House) are less likely than majority party legislators to support increasing the federal minimum wage.* Legislator party is statistically significant in every Congress in the study except the 99th and 102nd.

Per capita income and labor each remain statistically significant in the model after substituting in legislator party. Negative correlation indicates representatives who receive higher labor contributions and represent states that have lower per capita incomes are more likely to support increasing the minimum wage. A positive, statistically significant association between a legislator's ideology and median party ideology in the base model remains in the 104th Congress with legislator party included in the model. Divisions in ideology are important in the model and the greater the separation of a legislator's ideology from the ideology of his or her median party the greater is the effect on supporting economically efficient policies.

Table 4.21 Regression Analysis of Base Model and Legislator Party Substitution for 99th to 108th House: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
99th	Year Elected	-0.853	0.607	-0.122	-1.406
	Northeast	-6.059	9.992	-0.066	-0.606
	South	-3.338	11.702	-0.040	-0.285
	West	-0.936	14.399	-0.010	-0.065
	Diff DW Nom	54.450	29.865	0.174	1.823
	Min. Wage Law	11.261	9.641	0.128	1.168
	Fed Spending	-13.363	19.810	-0.070	-0.675
	Per Cap Inc	-0.004	0.002	-0.220	-2.281*
	African Amer.	100.605	68.934	0.144	1.459
	Hispanic	31.047	72.334	0.060	0.429
	Business	17.511	14.022	0.121	1.249
	Labor	-28.673	20.057	-0.173	-1.430
	E-score	0.599	0.117	0.597	5.144**
	Legislator Party	-2.527	6.131	-0.033	-0.412
N 439 R2 0.734		Adjusted R2 0.658		Constant 63.068	
100th	Year Elected	-0.713	0.513	-0.102	-1.389
	Northeast	-7.438	9.902	-0.078	-0.751
	South	-20.165	11.180	-0.250	-1.804
	West	-6.547	11.918	-0.073	-0.549
	Diff DW Nom	-3.689	12.693	-0.024	-0.291
	Min. Wage Law	3.487	7.315	0.041	0.477
	Fed Spending	-11.213	17.530	-0.061	-0.640
	Per Cap Inc	-0.005	0.002	-0.321	-2.799**
	African Amer.	172.565	66.768	0.250	2.585*
	Hispanic	131.151	57.627	0.275	2.276*
	Business	-21.443	18.175	-0.103	-1.180
	Labor	-96.515	23.108	-0.428	-4.177**
	E-score	0.111	0.091	0.114	1.218
	Legislator Party	-36.368	8.102	-0.484	-4.489**
N 441 R2 0.798		Adjusted R2 0.738		Constant 146.377	
101st	Year Elected	-0.180	0.138	-0.040	-1.307
	Northeast	-4.014	3.806	-0.046	-1.055
	South	1.639	3.887	0.022	0.422
	West	1.384	4.386	0.015	0.316
	Diff DW Nom	8.993	6.776	0.041	1.327
	Min. Wage Law	0.164	3.054	0.002	0.054
	Fed Spending	-7.341	6.822	-0.045	-1.076
	Per Cap Inc	-0.002	0.001	-0.158	-3.058**
	African Amer.	37.661	19.179	0.080	1.964
	Hispanic	44.029	15.840	0.113	2.780**
	Business	4.714	3.446	0.044	1.368
	Labor	-51.052	7.443	-0.291	-6.859**
	E-score	0.070	0.060	0.039	1.179

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Legislator Party	-40.260	2.972	-0.546	-13.545**
N 442		R2 0.662	Adjusted R2	0.650	Constant 95.570
102nd	Year Elected	-0.643	0.542	-0.092	-1.185
	Northeast	-1.580	10.455	-0.017	-0.151
	South	0.764	11.491	0.009	0.066
	West	-0.858	12.374	-0.009	-0.069
	Diff DW Nom	38.271	23.027	0.132	1.662
	Min. Wage Law	8.815	7.195	0.102	1.225
	Fed Spending	-9.126	21.511	-0.047	-0.424
	Per Cap Inc	-0.004	0.002	-0.304	-2.586*
	African Amer.	63.278	53.216	0.106	1.189
	Hispanic	1.906	45.762	0.005	0.042
	Business	-10.020	39.195	-0.021	-0.256
	Labor	-42.539	34.955	-0.131	-1.217
	E-score	0.628	0.143	0.602	4.399**
Legislator Party	-14.873	9.513	-0.198	-1.563	
N 441		R2 0.796	Adjusted R2	0.740	Constant 112.242
103rd	Year Elected	-1.317	0.616	-0.198	-2.140*
	Northeast	-23.288	12.586	-0.243	-1.850
	South	-8.735	12.148	-0.105	-0.719
	West	-8.730	15.216	-0.094	-0.574
	Diff DW Nom	64.453	32.604	0.183	1.977
	Min. Wage Law	16.921	8.655	0.204	1.955
	Fed Spending	-23.638	23.264	-0.130	-1.016
	Per Cap Inc	-0.005	0.002	-0.324	-2.506*
	African Amer.	73.372	57.905	0.124	1.267
	Hispanic	49.973	47.220	0.142	1.058
	Business	33.721	45.237	0.070	0.745
	Labor	-91.034	43.798	-0.268	-2.078*
	E-score	0.092	0.128	0.076	0.720
Legislator Party	-36.021	8.289	-0.480	-4.346**	
N 442		R2 0.731	Adjusted R2	0.657	Constant 169.732
104th	Year Elected	0.315	0.206	0.053	1.530
	Northeast	-5.859	5.767	-0.049	-1.016
	South	0.973	6.111	0.009	0.159
	West	12.373	6.518	0.104	1.898
	Diff DW Nom	88.859	11.411	0.309	7.787**
	Min. Wage Law	-4.678	4.248	-0.045	-1.101
	Fed Spending	-8.875	10.954	-0.038	-0.810
	Per Cap Inc	-0.001	0.001	-0.040	-0.699
	African Amer.	60.776	29.165	0.094	2.084*
	Hispanic	-3.633	20.868	-0.008	-0.174
Business	-25.616	19.411	-0.049	-1.320	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Labor	-22.925	21.171	-0.056	-1.083
	E-score	-0.131	0.099	-0.082	-1.323
	Legislator Party	69.027	6.592	0.708	10.472**
N 445		R2 0.574	Adjusted R2 0.559	Constant 32.977	
105th	Year Elected	-1.048	0.652	-0.151	-1.606
	Northeast	-16.051	12.817	-0.168	-1.252
	South	-2.792	14.614	-0.034	-0.191
	West	-3.952	16.171	-0.043	-0.244
	Diff DW Nom	39.369	36.810	0.098	1.070
	Min. Wage Law	8.256	8.997	0.096	0.918
	Fed Spending	-39.672	29.442	-0.216	-1.347
	Per Cap Inc	-0.004	0.002	-0.320	-2.119*
	African Amer.	44.445	59.049	0.077	0.753
	Hispanic	40.280	54.044	0.123	0.745
	Business	24.880	39.838	0.064	0.625
	Labor	-58.266	47.578	-0.156	-1.225
	E-score	0.086	0.150	0.070	0.575
Legislator Party	39.168	8.680	0.524	4.512**	
N 444		R2 0.676	Adjusted R2 0.587	Constant 152.311	
106th	Year Elected	-1.176	0.634	-0.169	-1.856
	Northeast	-22.460	12.751	-0.235	-1.761
	South	-2.992	13.966	-0.036	-0.214
	West	-8.413	14.960	-0.091	-0.562
	Diff DW Nom	39.114	35.157	0.098	1.113
	Min. Wage Law	10.732	8.785	0.125	1.222
	Fed Spending	-36.329	28.366	-0.214	-1.281
	Per Cap Inc	-0.003	0.002	-0.249	-1.625
	African Amer.	35.955	58.320	0.062	0.617
	Hispanic	51.983	53.057	0.161	0.980
	Business	56.221	42.243	0.132	1.331
	Labor	-90.357	49.236	-0.250	-1.835
	E-score	-0.137	0.152	-0.129	-0.897
Legislator Party	43.550	9.490	0.583	4.589**	
N 440		R2 0.692	Adjusted R2 0.608	Constant 132.886	
107th	Year Elected	-0.910	0.621	-0.133	-1.465
	Northeast	-20.714	12.243	-0.216	-1.692
	South	0.262	13.312	0.003	0.020
	West	-5.952	15.012	-0.064	-0.396
	Diff DW Nom	19.759	34.864	0.049	0.567
	Min. Wage Law	7.405	8.710	0.086	0.850
	Fed Spending	-29.152	24.660	-0.195	-1.182
	Per Cap Inc	-0.002	0.001	-0.192	-1.405
	African Amer.	22.229	56.782	0.038	0.391

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Hispanic	45.703	51.828	0.151	0.882
	Business	72.453	34.214	0.185	2.118*
	Labor	-64.808	37.091	-0.199	-1.747
	E-score	0.040	0.160	0.033	0.251
	Legislator Party	36.450	9.530	0.488	3.825**
N 444		R2 0.708	Adjusted R2	0.628	Constant 99.607
108th	Year Elected	-0.303	0.603	-0.047	-0.502
	Northeast	-20.792	12.235	-0.217	-1.699
	South	-4.190	14.138	-0.051	-0.296
	West	-14.116	16.008	-0.152	-0.882
	Diff DW Nom	6.873	36.290	0.017	0.189
	Min. Wage Law	4.239	8.929	0.049	0.475
	Fed Spending	-12.222	20.447	-0.098	-0.598
	Per Cap Inc	-0.002	0.001	-0.183	-1.366
	African Amer.	33.829	61.450	0.059	0.551
	Hispanic	80.113	51.878	0.269	1.544
	Business	69.100	32.296	0.195	2.140*
	Labor	-49.571	48.176	-0.134	-1.029
	E-score	-0.079	0.151	-0.070	-0.523
Legislator Party	45.832	9.328	0.613	4.914**	
N 440		R2 0.684	Adjusted R2	0.598	Constant 68.383

* p < 0.05, ** p < 0.01

Business contributions are statistically significant in the 107th and 108th Congresses and positively correlated with opposition to minimum wage increases. Business is statistically significant in each substitution in the model in those two Congresses, indicating a strong self-interest component based on lobbying efforts. That E-score was statistically significant in the 107th base model but fails the test of statistical significance in legislator party and each of the other substitutions offers support where self interest can trump economic efficiency.

Model Summary of House Analysis

In analyzing a base model and substituting five variables (party unity, ADA, ACU, DW Nominate, and legislator party) into the base model to measure changes on

each of two dependent variables, medical malpractice and minimum wage, the analysis indicates that economic efficiency plays a role in legislative decision making in the House but becomes a less relevant predictor of behavior when considered relative to measures of liberalism and conservatism. Political party plays a large role in legislative behavior, as Republican legislators unite behind policies that expand economic efficiency and Democrat legislators support economically inefficient policies. These results generally hold across each Congress in the analysis for both dependent variables. The 99th Congress with medical malpractice the dependent variable is the only exception. Unlike results for the other Congresses in the model, in the 99th House E-score and conservative ideology were inversely related to support for medical malpractice. With directional impact for self-interest in that Congress also inverse to the relationship between each self-interest variable and medical malpractice in other Congresses in the model, too few observations in compiling the dependent variables and subjectivity associated with coding of that variable magnify the directional effects when making an analysis.

Legislator economic efficiency, as measured by an E-score and measures of liberal-conservative ideology are not mutually exclusive. The model found E-score statistically significant in the base model when it was applied to predict each dependent variable. In each Congress where E-score was significant its directional impact positively correlated with economic efficiency of the legislation regardless of the statistical significance of other variables in that Congress. Legislators in the House who embrace economic efficiency as an ideology embrace economically efficient policies. The per unit effect of E-score was stronger than either self-interest variable in explaining

support for medical malpractice reform, an economically efficient policy, and was less likely to happen by chance. In this model self-interest was a predictor of behavior consistently in the base model and each substitution in the 101st, 107th, and 108th Congresses. Neither variable of legislative self-interest – Business and Labor – affected per unit changes in support for the dependent variable to the extent of measures for ideology and party.

With higher coefficients of determination and greater per unit impact on each dependent variable in the House, ACU functioned as the best predictor of legislative behavior in the model. Results for ADA and DW Nominate confirm liberal-conservative extremes between economically inefficient and economically efficient policies. Party line voting increasingly mirrors these extremes with no distinction noted from changes in party control of the institution.

Senate

The U.S. Senate is a legislative body characterized by a greater level of heterogeneity than found in the U.S. House. Senate members serve a greater number of people, over a longer period of time, and across a more expansive geographical area. Legislative decision-making is affected by these differences. By including the Senate in this analysis of legislative voting the goal is to investigate how closely senators support economically efficient public policymaking.

The Senate analysis includes identical independent and control variables as the House analysis. An additional control variable was added to the model to measure the length of time each senator has served in his or her current term in office. This variable

distinguishes length of service within a six-year term from length of overall service in the legislative body.

In the 99th, 100th, and 101st Congresses for medical malpractice dependent variable Base Model and each substitution were not measurable because of autocollinearity. That is, when running regression analysis the models too closely approximate a perfect linear correlation with the dependent variable, medical malpractice. Lack of variability between independent and control variables in the model and changes in the dependent variable is evidence of a linear relationship as coefficients of determination equal one.

Beginning with the 102nd Congress, Table 4.22 presents the effects of the Senate base model using medical malpractice as the dependent variable. For the 105th Congress the Base Model did not produce statistically significant output and was omitted from tabular summaries. Tables 4.23, 4.24, 4.25, 4.26, and 4.27 provide results of regression analysis when party unity, ADA, ACU, DW Nominate, and legislator party are each substituted into the analysis, respectively. ADA and ACU substitutions did not produce statistically significant results in the 102nd Senate and are omitted from tabular summaries of regression output in Tables 4.24 and 4.25. A discussion of each hypothesis corresponding to the regression run follows each table with results for each table summarized. For each substitution a discussion of changes in results invites comparison between the base model and each substitution. How any changes affect the impact of those independent variables are noted with particular emphasis placed on the effect of economic efficiency.

Tables 4.28, 4.29, 4.30, 4.31, 4.32, and 4.33 summarize regression analysis of independent and control variables in the Senate for the Base Model and party unity, ADA, ACU, DW Nominate, and legislative party substitutions, respectively for minimum wage dependent variable. Autocollinearity was present from regression results in the 99th Senate for the Base Model and each substitution. As a result the 99th Senate is excluded from all tabular presentations.

Each model in the 100th through 108th Congresses produced statistically significant results with the exception of the Base Model in the 104th Senate. Results for models that do not produce statistically significant results are not included in tabular summaries. Absence of statistical significance in the Base Model for the 104th Senate is addressed by analyzing changes in independent and control variables for each substitution according to statistical significance of those independent and control variables attributed to the addition of the substituted variable. A model summary of the Senate analysis explores differences in legislative decision making across House and Senate and how such differences impact economic efficiency.

Medical malpractice

Table 4.22 presents a summary of the base model analysis of medical malpractice dependent in the Senate. The model finds E-score statistically significant in four of the six Congresses where the overall model produced statistically significant output. E-score was positively associated with medical malpractice reform, consistent with Hypothesis 1b: *Legislators with higher E-scores vote in support of medical malpractice reform.*

Table 4.22 Regression Analysis of Base Model for 102nd to 108th Senate: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
102nd	Year Elected	1.326	0.823	0.320	1.611
	Current Term	-0.661	4.221	-0.038	-0.157
	Northeast	-5.223	25.789	-0.072	-0.203
	South	-11.733	18.798	-0.193	-0.624
	West	-25.948	21.477	-0.383	-1.208
	Diff DW Nom	9.929	67.153	0.026	0.148
	Fed Spending	5.247	29.560	0.062	0.178
	Per Cap Inc	-0.003	0.002	-0.404	-1.493
	African Amer.	-3.156	67.817	-0.010	-0.047
	Hispanic	39.121	80.070	0.136	0.489
	Med Mal Crisis	37.918	18.747	0.526	2.023
	Health	142.773	103.260	0.271	1.383
	Lawyer	-296.659	159.845	-0.494	-1.856
	E-score	0.759	0.195	0.729	3.902*
N 102		R2 0.833	Adjusted R2 0.541	Constant 79.423	
103rd	Year Elected	-.210	1.227	-.052	-.171
	Current Term	1.106	5.736	.056	.193
	Northeast	-13.839	37.599	-.192	-.368
	South	12.264	30.003	.201	.409
	West	15.446	33.401	.228	.462
	Diff DW Nom	38.165	91.324	.099	.418
	Fed Spending	-31.975	40.930	-.362	-.781
	Per Cap Inc	-.003	.003	-.347	-1.070
	African Amer.	-26.433	80.022	-.087	-.330
	Hispanic	-20.927	106.597	-.073	-.196
	Med Mal Crisis	16.677	25.087	.231	.665
	Health	-167.690	84.681	-.475	-1.980
	Lawyer	-390.053	163.226	-.746	-2.390*
	E-score	.099	.355	.095	.279
N 102		R2 0.718	Adjusted R2 0.224	Constant 176.078	
104th	Year Elected	.129	.227	.058	.567
	Current Term	-.180	1.323	-.014	-.136
	Northeast	-4.888	6.803	-.093	-.718
	South	-8.579	6.859	-.197	-1.251
	West	-11.129	6.155	-.238	-1.808
	Diff DW Nom	21.290	17.299	.121	1.231
	Fed Spending	7.719	10.841	.097	.712
	Per Cap Inc	.001	.001	.196	1.285
	African Amer.	-12.178	31.063	-.056	-.392
	Hispanic	-2.780	26.378	-.011	-.105
	Med Mal Crisis	8.263	4.406	.193	1.876
	Health	-123.111	40.627	-.310	-3.030**
	Lawyer	41.227	32.069	.127	1.286

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	E-score	-.147	.089	-.168	-1.654
N 103		R2 0.325	Adjusted R2 0.212	Constant 23.489	
106th	Year Elected	1.007	.983	.250	1.024
	Current Term	7.333	5.179	.370	1.416
	Northeast	19.430	34.594	.270	.562
	South	17.565	26.957	.288	.652
	West	-17.823	29.900	-.263	-.596
	Diff DW Nom	79.057	136.397	.211	.580
	Fed Spending	-21.194	49.903	-.257	-.425
	Per Cap Inc	-.002	.003	-.357	-.731
	African Amer.	-84.571	105.432	-.285	-.802
	Hispanic	-4.760	73.805	-.018	-.065
	Med Mal Crisis	3.601	27.610	.050	.130
	Health	3.224	454.544	.003	.007
	Lawyer	-86.228	128.600	-.196	-.671
	E-score	.978	.407	.768	2.403*
N 102		R2 0.766	Adjusted R2 0.357	Constant 17.543	
107th	Year Elected	.347	.480	.070	.724
	Current Term	1.629	2.953	.052	.552
	Northeast	14.531	16.143	.112	.900
	South	24.404	14.967	.229	1.631
	West	7.695	14.330	.066	.537
	Diff DW Nom	3.782	39.321	.009	.096
	Fed Spending	-5.827	21.870	-.038	-.266
	Per Cap Inc	-.003	.002	-.294	-1.914
	African Amer.	-107.413	68.268	-.204	-1.573
	Hispanic	-80.237	60.032	-.139	-1.337
	Med Mal Crisis	13.918	10.452	.134	1.332
	Health	-18.117	116.833	-.014	-.155
	Lawyer	-234.078	67.936	-.320	-3.446**
	E-score	.735	.180	.393	4.078**
N 102		R2 0.427	Adjusted R2 0.327	Constant 113.561	
108th	Year Elected	.164	.437	.035	.375
	Current Term	-2.346	2.651	-.078	-.885
	Northeast	2.804	14.917	.021	.188
	South	10.223	14.698	.096	.696
	West	-4.949	13.702	-.043	-.361
	Diff DW Nom	4.783	34.867	.012	.137
	Fed Spending	10.812	16.568	.079	.653
	Per Cap Inc	-.001	.001	-.123	-1.061
	African Amer.	-159.041	63.838	-.303	-2.491*
	Hispanic	-27.591	50.295	-.051	-.549
	Med Mal Crisis	5.790	9.897	.055	.585
	Health	-149.285	83.626	-.156	-1.785

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
	Lawyer	-96.857	65.674	-.130	-1.475
	E-score	1.244	.178	.640	6.972**
N 100	R2	0.514	Adjusted R2	0.427	Constant 26.456

* p < 0.05, ** p < 0.01

Self-interest variables of Health and Lawyer were statistically significant in the model. Health contributions were statistically significant in the 104th House but were not positively associated with medical malpractice reform as expected in Hypothesis 5b: *Legislators with higher health care political contributions to total contributions vote in support of malpractice reform.* Health was negatively related to medical malpractice reform, predicting that senators that received higher health contributions were less likely to support medical malpractice reform policies. Lawyer was statistically significant in the 103rd and 107th Congresses and was negatively correlated with support for medical malpractice reform, as expected from Hypothesis 6b: *Legislators with higher legal political contributions to total contributions vote in opposition to medical malpractice reform.* Senators receiving higher levels of legal political contributions are less likely to support medical malpractice reform.

In the 104th senate percentage of African Americans within a state is the only control variable statistically significant in the Base Model and its negative correlation with support of medical malpractice reform suggests that senators from states with higher percentages of minorities in the state are less likely to support medical malpractice reform.

The base model did not produce statistically significant relationships for length of term in office, length of time in current term, and differences in ideology between a

legislator and median ideology of his or her party. Thus, offering no support for Hypothesis 8b: *The closer senators are to the end of their current term in office, the more likely they are to support malpractice reform*, Hypothesis 9b: *Legislators from the minority party (Senate) are more likely than majority party legislators to support medical malpractice reform*, and Hypothesis 11b: *The greater the ideological division between the legislator and the median ideology of the legislator's party, the more likely the legislator supports medical malpractice reform*.

Coefficients of determination were relatively low, often in the thirties and forties. Variability in the model explains relatively little of changes in the dependent variable. Another issue is differences in R square values and adjusted R square values that exist within some Congresses in the model (102nd, 103rd, and 106th Congresses). In those Congresses adjusted R square values are much less than R square values and suggest the addition of explanatory variables do nothing to improve the fit of the model beyond random chance in explaining changes in the dependent variable.

Substituting party unity into the analysis (Table 4.23) finds that party unity is statistically significant in each Congress where results are measurable (102nd through 108th House) with an exception in the 104th House. In the 104th House Health continues to be the only variable statistically significant, and its directional impact with support for medical malpractice reform remains negative. The directional impact for party unity is negative (indicating greater Republican support as a result of coding the variable) and consistent with expected association in Hypothesis 7b: *Republican legislators are likely to vote for malpractice reform more often than Democratic legislators*.

Table 4.23 Regression Analysis of Base Model with Party Unity Substitution for 102nd to 108th Senate: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
102nd	Year Elected	1.266	0.617	0.305	2.051
	Current Term	-0.950	3.164	-0.054	-0.300
	Northeast	-3.607	19.329	-0.050	-0.187
	South	-1.343	14.601	-0.022	-0.092
	West	-23.211	16.121	-0.343	-1.440
	Diff DW Nom	24.135	50.583	0.064	0.477
	Fed Spending	6.140	22.147	0.073	0.277
	Per Cap Inc	-0.001	0.002	-0.096	-0.413
	African Amer.	-59.213	54.903	-0.193	-1.079
	Hispanic	26.211	60.175	0.091	0.436
	Med Mal Crisis	21.126	15.366	0.293	1.375
	Health	73.004	81.578	0.139	0.895
	Lawyer	-172.553	128.306	-0.287	-1.345
	E-score	0.218	0.248	0.209	0.876
Party Unity	-0.241	0.090	-0.691	-2.693*	
N 102		R2 0.918	Adjusted R2 0.742	Constant 46.974	
103rd	Year Elected	0.429	0.529	0.107	0.811
	Current Term	6.275	2.568	0.317	2.444*
	Northeast	8.701	16.318	0.121	0.533
	South	13.754	12.690	0.226	1.084
	West	-22.862	15.440	-0.338	-1.481
	Diff DW Nom	27.490	38.660	0.071	0.711
	Fed Spending	0.168	18.082	0.002	0.009
	Per Cap Inc	0.000	0.001	0.055	0.359
	African Amer.	-87.170	35.256	-0.286	-2.473*
	Hispanic	36.405	46.035	0.127	0.791
	Med Mal Crisis	6.661	10.734	0.092	0.621
	Health	13.666	46.412	0.039	0.294
	Lawyer	-54.536	88.023	-0.104	-0.620
	E-score	-0.150	0.156	-0.143	-0.961
Party Unity	-0.344	0.056	-1.002	-6.143**	
N 102		R2 0.956	Adjusted R2 0.861	Constant 23.765	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
104th	Year Elected	0.120	0.229	0.054	0.525
	Current Term	-0.194	1.329	-0.015	-0.146
	Northeast	-4.378	6.897	-0.083	-0.635
	South	-8.616	6.888	-0.198	-1.251
	West	-10.825	6.206	-0.231	-1.744
	Diff DW Nom	22.838	17.606	0.129	1.297
	Fed Spending	7.081	10.950	0.089	0.647
	Per Cap Inc	0.001	0.001	0.176	1.116
	African Amer.	-12.108	31.194	-0.056	-0.388
	Hispanic	-2.618	26.491	-0.010	-0.099
	Med Mal Crisis	8.333	4.427	0.194	1.883
	Health	-116.009	42.862	-0.293	-2.707**
	Lawyer	38.018	32.747	0.117	1.161
	E-score	-0.097	0.128	-0.111	-0.762
	Party Unity	0.020	0.036	0.085	0.541
N 103		R2 0.327	Adjusted R2	0.206	Constant 23.757
105th	Year Elected	1.166	0.682	0.290	1.710
	Current Term	-3.801	4.625	-0.209	-0.822
	Northeast	6.573	26.399	0.091	0.249
	South	15.882	21.835	0.261	0.727
	West	-24.466	22.244	-0.361	-1.100
	Diff DW Nom	30.144	61.915	0.081	0.487
	Fed Spending	11.263	28.882	0.123	0.390
	Per Cap Inc	0.000	0.002	0.058	0.247
	African Amer.	-99.307	67.615	-0.332	-1.469
	Hispanic	30.445	54.065	0.109	0.563
	Med Mal Crisis	2.184	19.803	0.030	0.110
	Health	125.373	208.290	0.126	0.602
	Lawyer	-48.022	91.019	-0.112	-0.528
	E-score	-0.434	0.434	-0.255	-1.000
	Party Unity	-0.354	0.071	-1.021	-4.998**
N 100		R2 0.897	Adjusted R2	0.676	Constant 34.061

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
106th	Year Elected	0.785	0.484	0.195	1.622
	Current Term	6.606	2.541	0.333	2.599*
	Northeast	9.357	17.061	0.130	0.548
	South	6.038	13.396	0.099	0.451
	West	-28.035	14.783	-0.414	-1.896
	Diff DW Nom	-15.476	69.314	-0.041	-0.223
	Fed Spending	7.260	25.068	0.088	0.290
	Per Cap Inc	0.000	0.001	0.028	0.110
	African Amer.	-54.317	51.987	-0.183	-1.045
	Hispanic	15.021	36.362	0.055	0.413
	Med Mal Crisis	6.245	13.536	0.087	0.461
	Health	158.045	224.716	0.168	0.703
	Lawyer	-18.281	64.378	-0.042	-0.284
	E-score	-0.011	0.277	-0.009	-0.040
	Party Unity	-0.322	0.063	-0.981	-5.132**
N 102		R2 0.951	Adjusted R2 0.846	Constant -6.207	
107th	Year Elected	0.362	0.206	0.073	1.755
	Current Term	-0.649	1.274	-0.021	-0.510
	Northeast	2.725	6.957	0.021	0.392
	South	6.780	6.492	0.064	1.044
	West	-5.795	6.192	-0.050	-0.936
	Diff DW Nom	7.435	16.879	0.018	0.440
	Fed Spending	-1.394	9.391	-0.009	-0.148
	Per Cap Inc	-6.184E-05	0.001	-0.005	-0.079
	African Amer.	-73.315	29.359	-0.139	-2.497*
	Hispanic	-16.521	25.989	-0.029	-0.636
	Med Mal Crisis	6.168	4.505	0.059	1.369
	Health	5.334	50.165	0.004	0.106
	Lawyer	-11.488	31.462	-0.016	-0.365
	E-score	-0.071	0.088	-0.038	-0.804
	Party Unity	-0.534	0.028	-0.953	-18.847**
N 102		R2 0.896	Adjusted R2 0.876	Constant 58.575	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
108th	Year Elected	0.591	0.226	0.125	2.612**
	Current Term	-4.217	1.366	-0.140	-3.087**
	Northeast	-7.964	7.688	-0.060	-1.036
	South	4.732	7.551	0.044	0.627
	West	-15.769	7.068	-0.138	-2.231
	Diff DW Nom	11.851	17.896	0.030	0.662
	Fed Spending	1.640	8.523	0.012	0.192
	Per Cap Inc	0.001	0.001	0.044	0.721
	African Amer.	-117.649	32.873	-0.224	-3.579**
	Hispanic	35.644	26.156	0.066	1.363
	Med Mal Crisis	10.682	5.089	0.101	2.099*
	Health	-47.386	43.455	-0.050	-1.090
	Lawyer	-10.988	34.191	-0.015	-0.321
	E-score	0.033	0.123	0.017	0.267
Party Unity	-0.498	0.034	-0.921	-14.808**	
N 100		R2 0.874	Adjusted R2 0.849	Constant 45.038	

* p < 0.05, ** p < 0.01

Party unity substitution produced statistically significant results for length of tenure in office and length of service within his or her current term. These results were not statistically significant in the Base Model. A positive correlation exists between length of time a senator has served in his or her current term in office and support for medical malpractice reform in the 103rd and 106th Senate, but the association is negative in the 108th Senate. A positive association indicates that the further into his or her current term in office the more likely the senator supports economically efficient policies. That the association is negative in the 108th Senate but a longer tenure of overall service is positive suggests differences in support for economic efficiency might result from the point which the senator has reached in his or her career.

Controls for state economic conditions indicate that percent African American in a state is an indication of lower levels of support for medical malpractice reform.

Medical malpractice reform laws within a state are a statistically significant predictor of a senator supporting medical malpractice reform legislation for implementing federal policies. Coefficients of determination were higher after substituting party unity into the model, suggesting greater explanation for variation that exists in the model.

Table 4.24 presents regression results for each Senate where statistically significant results are available after substituting ADA into the model. No statistically significant results were produced in the 102nd Senate. Output for that Congress is not included in Table 4.25. ADA is a statistically significant measure of ideology in each remaining Congress (103rd, 104th, 105th, 106th, 107th, and 108th Senate) and is negatively correlated with medical malpractice reform as anticipated in Hypothesis 2a: *Legislators with higher ADA scores vote in opposition to medical malpractice reform*. Statistically significant values for ADA when the variable is substituted into the model offer a comparison to statistically significant output for E-score in the Senate Base Model. That E-score is not statistically significant when ADA is substituted into the model suggests a greater relative importance of liberal-conservative ideology as a predictor of behavior.

Table 4.24 Regression Analysis of Base Model with ADA Substitution for 103rd to 108th Senate: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
103rd	Year Elected	0.033	0.920	0.008	0.036
	Current Term	5.624	4.430	0.285	1.270
	Northeast	7.543	27.137	0.096	0.278
	South	4.762	21.039	0.077	0.226
	West	-27.072	26.639	-0.399	-1.016
	Diff DW Nom	72.983	65.320	0.190	1.117
	Fed Spending	11.858	31.523	0.133	0.376
	Per Cap Inc	0.001	0.002	0.167	0.628
	African Amer.	-101.125	60.176	-0.333	-1.680
	Hispanic	0.950	74.399	0.003	0.013
	Med Mal Crisis	1.175	18.231	0.015	0.064
	Health	30.526	86.100	0.087	0.355
	Lawyer	-42.044	155.798	-0.081	-0.270
	E-score	-0.115	0.255	-0.110	-0.452
ADA	-0.877	0.270	-0.971	-3.242**	
N 102		R2 0.897	Adjusted R2	0.641	Constant 41.744
104th	Year Elected	0.166	0.236	0.074	0.704
	Current Term	-0.345	1.341	-0.027	-0.257
	Northeast	-4.658	6.916	-0.088	-0.673
	South	-8.489	6.942	-0.195	-1.223
	West	-11.607	6.312	-0.248	-1.839
	Diff DW Nom	20.264	17.365	0.115	1.167
	Fed Spending	5.418	10.970	0.068	0.494
	Per Cap Inc	0.001	0.001	0.151	0.952
	African Amer.	-13.368	31.118	-0.062	-0.430
	Hispanic	-2.338	26.469	-0.009	-0.088
	Med Mal Crisis	8.032	4.414	0.187	1.819
	Health	-121.603	41.182	-0.307	-2.953**
	Lawyer	32.526	33.237	0.100	0.979
	E-score	-0.048	0.127	-0.055	-0.381
ADA	0.076	0.082	0.144	0.928	
N 103		R2 0.337	Adjusted R2	0.216	Constant 23.970

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
105th	Year Elected	0.959	0.883	0.238	1.086
	Current Term	-3.269	6.145	-0.179	-0.532
	Northeast	6.111	35.727	0.085	0.171
	South	12.739	28.514	0.209	0.447
	West	-22.531	29.158	-0.333	-0.773
	Diff DW Nom	75.875	80.775	0.204	0.939
	Fed Spending	14.055	38.176	0.154	0.368
	Per Cap Inc	0.001	0.002	0.147	0.459
	African Amer.	-82.688	88.064	-0.276	-0.939
	Hispanic	36.731	71.183	0.131	0.516
	Med Mal Crisis	4.764	26.252	0.066	0.181
	Health	172.012	272.855	0.172	0.630
	Lawyer	-82.292	118.315	-0.192	-0.696
	E-score	-0.455	0.589	-0.267	-0.772
ADA	-0.789	0.230	-0.971	-3.428**	
N 100		R2 0.824	Adjusted R2	0.448	Constant 52.725
106th	Year Elected	0.659	0.533	0.164	1.236
	Current Term	7.189	2.781	0.363	2.585*
	Northeast	12.019	18.644	0.167	0.645
	South	0.095	14.972	0.002	0.006
	West	-33.818	16.432	-0.499	-2.058
	Diff DW Nom	-15.825	76.132	-0.042	-0.208
	Fed Spending	20.276	28.296	0.246	0.717
	Per Cap Inc	0.001	0.002	0.128	0.452
	African Amer.	-26.440	58.024	-0.089	-0.456
	Hispanic	10.215	39.760	0.038	0.257
	Med Mal Crisis	5.656	14.830	0.078	0.381
	Health	279.062	251.433	0.296	1.110
	Lawyer	-1.286	71.516	-0.003	-0.018
	E-score	0.002	0.306	0.002	0.007
ADA	-0.706	0.155	-1.000	-4.556**	
N 102		R2 0.941	Adjusted R2	0.815	Constant -10.620

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
107th	Year Elected	0.387	0.243	0.078	1.594
	Current Term	0.147	1.498	0.005	0.098
	Northeast	6.071	8.190	0.047	0.741
	South	2.884	7.706	0.027	0.374
	West	-7.913	7.325	-0.068	-1.080
	Diff DW Nom	10.358	19.908	0.025	0.520
	Fed Spending	4.967	11.093	0.032	0.448
	Per Cap Inc	9.013E-05	0.001	0.008	0.097
	African Amer.	-87.970	34.579	-0.167	-2.544*
	Hispanic	-12.371	30.710	-0.021	-0.403
	Med Mal Crisis	9.620	5.298	0.092	1.816
	Health	-6.120	59.143	-0.005	-0.103
	Lawyer	-21.158	37.106	-0.029	-0.570
	E-score	0.002	0.103	0.001	0.017
ADA	-1.163	0.076	-0.913	-15.272**	
N 102		R2 0.855	Adjusted R2 0.825	Constant 98.096	
108th	Year Elected	0.512	0.260	0.108	1.971
	Current Term	-3.348	1.568	-0.111	-2.136
	Northeast	3.559	8.811	0.027	0.404
	South	0.582	8.718	0.005	0.067
	West	-13.352	8.123	-0.117	-1.644
	Diff DW Nom	10.918	20.600	0.028	0.530
	Fed Spending	5.409	9.796	0.039	0.552
	Per Cap Inc	-5.731E-05	0.001	-0.005	-0.070
	African Amer.	-102.431	37.994	-0.195	-2.696**
	Hispanic	27.162	30.048	0.050	0.904
	Med Mal Crisis	9.953	5.856	0.094	1.700
	Health	-86.887	49.661	-0.091	-1.750
	Lawyer	-10.741	39.436	-0.014	-0.272
	E-score	0.065	0.143	0.034	0.455
ADA	-1.171	0.097	-0.887	-12.107**	
N 100		R2 0.833	Adjusted R2 0.800	Constant 118.364	

* p < 0.05, ** p < 0.01

Results for state economic conditions find an inverse relationship between percent African American in a state and a senators' support for medical malpractice reform in the ADA substitution. The greater the percentage of African Americans in a state the less likely a senator is to vote for economically efficient policies. Length of

service in current term in office is statistically significant in the 106th Congress and indicates that senators further into their current term vote in higher numbers for medical malpractice reform.

ACU is a statistically significant predictor of legislative voting when substituted into the model. Senators with higher ACU scores vote in support of medical malpractice reform in greater numbers. This positive association between ACU and an economically efficient policy is consistent with Hypothesis 3a: *Legislators with higher ACU scores vote in support of medical malpractice reform.*

Compared to the base model substituting ACU into the model produces a much higher frequency that a senator's time in office and point within his or her career is much more important to legislative voting records. The longer a senator has served and the longer the time since he or she was elected to the current term in office the greater the support for medical malpractice reform. The lone exception is the 108th Congress where length of service in current term is inversely related to supporting economically efficient policies.

Many of the patterns of statistical significance within the model mirror party unity substitution. This suggests a link to liberal-conservative decision-making as Republicans are unified within their party in support of medical malpractice legislation. E-score is not statistically significant in the model and raises questions about its use when a relatively strong measure of ideology, like ACU, is included in a model of legislative voting.

Table 4.25 Regression Analysis of Base Model with ACU Substitution for 103rd to 108th Senate: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
103rd	Year Elected	0.408	0.542	0.101	0.753
	Current Term	7.651	2.720	0.386	2.813*
	Northeast	7.883	16.712	0.109	0.472
	South	0.615	13.161	0.010	0.047
	West	-32.028	16.535	-0.473	-1.937
	Diff DW Nom	53.911	39.704	0.140	1.358
	Fed Spending	14.661	19.403	0.166	0.756
	Per Cap Inc	0.001	0.001	0.140	0.864
	African Amer.	-87.778	36.207	-0.288	-2.424*
	Hispanic	1.835	46.399	0.006	0.040
	Med Mal Crisis	9.801	10.943	0.136	0.896
	Health	40.132	50.651	0.114	0.792
	Lawyer	19.836	98.714	0.038	0.201
	E-score	-0.051	0.156	-0.049	-0.324
ACU	0.865	0.145	1.087	5.959**	
N 102		R2 0.954	Adjusted R2 0.854	Constant -62.787	
104th	Year Elected	0.071	0.227	0.032	0.314
	Current Term	-0.064	1.311	-0.005	-0.049
	Northeast	-4.365	6.740	-0.083	-0.648
	South	-7.577	6.815	-0.174	-1.112
	West	-10.608	6.099	-0.226	-1.739
	Diff DW Nom	21.675	17.121	0.123	1.266
	Fed Spending	4.973	10.855	0.062	0.458
	Per Cap Inc	0.001	0.001	0.144	0.933
	African Amer.	-12.722	30.743	-0.059	-0.414
	Hispanic	-1.595	26.115	-0.006	-0.061
	Med Mal Crisis	7.873	4.367	0.184	1.803
	Health	-109.260	41.062	-0.276	-2.661**
	Lawyer	32.143	32.205	0.099	0.998
	E-score	-0.001	0.124	-0.001	-0.009
ACU	-0.130	0.079	-0.251	-1.662	
N 103		R2 0.347	Adjusted R2 0.229	Constant 31.042	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
105th	Year Elected	0.959	0.911	0.238	1.052
	Current Term	-3.159	6.346	-0.173	-0.498
	Northeast	-1.382	35.699	-0.019	-0.039
	South	1.083	28.621	0.018	0.038
	West	-18.220	29.721	-0.269	-0.613
	Diff DW Nom	59.385	83.004	0.159	0.715
	Fed Spending	15.536	39.512	0.170	0.393
	Per Cap Inc	0.000	0.002	0.043	0.134
	African Amer.	-48.845	87.196	-0.163	-0.560
	Hispanic	17.322	72.384	0.062	0.239
	Med Mal Crisis	9.225	26.483	0.128	0.348
	Health	175.764	281.221	0.176	0.625
	Lawyer	-80.184	121.904	-0.187	-0.658
	E-score	-0.306	0.586	-0.179	-0.522
	ACU	0.773	0.237	0.884	3.266**
N 100		R2 0.814	Adjusted R2 0.414	Constant -4.234	
106th	Year Elected	0.665	0.529	0.165	1.259
	Current Term	7.169	2.757	0.362	2.600*
	Northeast	19.133	18.411	0.265	1.039
	South	1.916	14.743	0.031	0.130
	West	-28.613	16.084	-0.423	-1.779
	Diff DW Nom	-27.105	76.158	-0.072	-0.356
	Fed Spending	15.930	27.753	0.193	0.574
	Per Cap Inc	0.000	0.002	0.058	0.212
	African Amer.	-22.608	57.700	-0.076	-0.392
	Hispanic	-0.273	39.292	-0.001	-0.007
	Med Mal Crisis	3.772	14.695	0.052	0.257
	Health	254.040	247.958	0.270	1.025
	Lawyer	-16.122	70.112	-0.037	-0.230
	E-score	0.066	0.293	0.052	0.225
	ACU	0.723	0.157	0.951	4.609**
N 102		R2 0.942	Adjusted R2 0.818	Constant -66.620	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
107th	Year Elected	0.580	0.254	0.116	2.280*
	Current Term	-0.279	1.568	-0.009	-0.178
	Northeast	8.258	8.552	0.063	0.966
	South	2.295	8.066	0.022	0.285
	West	-5.483	7.636	-0.047	-0.718
	Diff DW Nom	19.016	20.830	0.046	0.913
	Fed Spending	-3.842	11.571	-0.025	-0.332
	Per Cap Inc	0.000	0.001	-0.016	-0.197
	African Amer.	-77.004	36.179	-0.146	-2.128*
	Hispanic	-21.677	32.020	-0.037	-0.677
	Med Mal Crisis	9.799	5.537	0.094	1.770
	Health	-9.967	61.814	-0.008	-0.161
	Lawyer	-29.783	38.647	-0.041	-0.771
	E-score	0.006	0.108	0.003	0.051
ACU	1.187	0.083	0.911	14.381**	
N 102		R2 0.842	Adjusted R2	0.812	Constant -8.270
Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
108th	Year Elected	0.568	0.259	0.120	2.190*
	Current Term	-4.290	1.567	-0.142	-2.738**
	Northeast	-0.453	8.778	-0.003	-0.052
	South	2.720	8.667	0.025	0.314
	West	-13.867	8.093	-0.121	-1.714
	Diff DW Nom	28.113	20.598	0.072	1.365
	Fed Spending	11.834	9.746	0.086	1.214
	Per Cap Inc	0.001	0.001	0.079	1.121
	African Amer.	-125.372	37.652	-0.239	-3.330**
	Hispanic	36.083	30.042	0.067	1.201
	Med Mal Crisis	13.741	5.858	0.130	2.346
	Health	-105.138	49.322	-0.110	-2.132
	Lawyer	-13.670	39.228	-0.018	-0.348
	E-score	0.158	0.138	0.081	1.150
ACU	1.267	0.104	0.866	12.184**	
N 100		R2 0.834	Adjusted R2	0.802	Constant -50.727

* p < 0.05, ** p < 0.01

Substituting DW Nominate into the model produces statistically significant results for that variable in each Congress where variability exists in the model (102nd

through 108th Senate) with the only exception being the 102nd Senate, where DW Nominate is not statistically significant. In each Congress but the 105th, the statistically significant results are positively correlated with the dependent variable, as anticipated from Hypothesis 4a: *Legislators with higher DW Nominate scores vote in support of medical malpractice reform.* In the 104th Congress a directional change to a negative correlation indicates that those senators with higher DW Nominate scores do not support medical malpractice reform. Lower DW Nominate scores indicate senators with more liberal legislative positions support medical malpractice reform. That this directional change occurs in the 104th Congress, when higher Health contributions are a statistically significant indicator of opposition to medical malpractice reform, the model suggests an effect between self interest and ideology is in play.

Length of time in current term positively impacts senatorial support for medical malpractice reform, as a trend exists in DW Nominate substitution where those senators serving a longer tenure and who are further into their current term in office support medical malpractice reform in greater numbers.

Senators from Western states vote in opposition to medical malpractice reform, while those in states with established medical malpractice laws support policies expanding those laws at the federal level. Higher levels of minorities within a states' population predict senators will not support medical malpractice reform.

Table 4.26 Regression Analysis of Base Model with DW Nominate Substitution for 102nd to 108th Senate: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
102nd	Year Elected	1.601	0.677	0.386	2.364*
	Current Term	-1.751	3.450	-0.100	-0.507
	Northeast	-0.416	20.982	-0.006	-0.020
	South	-11.079	15.220	-0.182	-0.728
	West	-29.726	17.464	-0.439	-1.702
	Diff DW Nom	28.022	54.935	0.074	0.510
	Fed Spending	12.271	24.126	0.146	0.509
	Per Cap Inc	-0.001	0.002	-0.083	-0.321
	African Amer.	-34.307	56.569	-0.112	-0.606
	Hispanic	33.794	64.858	0.117	0.521
	Med Mal Crisis	26.033	16.044	0.361	1.623
	Health	107.883	84.974	0.205	1.270
	Lawyer	-236.993	132.007	-0.395	-1.795
	E-score	0.275	0.264	0.264	1.043
DW Nominate	54.454	23.860	0.655	2.282	
N 102		R2 0.904	Adjusted R2 0.699	Constant 38.480	
103rd	Year Elected	0.892	0.683	0.222	1.306
	Current Term	8.746	3.410	0.442	2.565*
	Northeast	16.327	20.683	0.226	0.789
	South	-1.428	15.962	-0.023	-0.089
	West	-41.644	21.258	-0.615	-1.959
	Diff DW Nom	42.331	47.782	0.110	0.886
	Fed Spending	24.141	24.496	0.273	0.985
	Per Cap Inc	0.001	0.002	0.186	0.914
	African Amer.	-74.017	43.060	-0.243	-1.719
	Hispanic	19.142	56.407	0.067	0.339
	Med Mal Crisis	9.403	13.214	0.130	0.712
	Health	68.513	66.871	0.194	1.025
	Lawyer	23.902	122.467	0.046	0.195
	E-score	-0.091	0.190	-0.087	-0.477**
DW Nominate	97.358	20.647	1.191	4.715	
N 102		R2 0.932	Adjusted R2 0.788	Constant -50.767	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
104th	Year Elected	0.043	0.226	0.020	0.192
	Current Term	-0.096	1.298	-0.007	-0.074
	Northeast	-3.447	6.706	-0.065	-0.514
	South	-6.468	6.800	-0.149	-0.951
	West	-9.697	6.073	-0.207	-1.597
	Diff DW Nom	25.019	17.054	0.142	1.467
	Fed Spending	4.674	10.728	0.059	0.436
	Per Cap Inc	0.001	0.001	0.122	0.793
	African Amer.	-13.393	30.462	-0.062	-0.440
	Hispanic	-1.359	25.872	-0.005	-0.053
	Med Mal Crisis	8.258	4.320	0.193	1.912
	Health	-108.712	40.424	-0.274	-2.689**
	Lawyer	28.919	31.989	0.089	0.904
	E-score	0.038	0.124	0.044	0.309
	DW Nominate	-15.999	7.647	-0.321	-2.092*
N 103		R2 0.359	Adjusted R2 0.243	Constant 25.214	
105th	Year Elected	1.504	0.846	0.374	1.778
	Current Term	-6.455	5.918	-0.354	-1.091
	Northeast	17.058	33.341	0.237	0.512
	South	8.879	25.411	0.146	0.349
	West	-35.938	27.337	-0.531	-1.315
	Diff DW Nom	39.806	72.858	0.107	0.546
	Fed Spending	24.093	35.079	0.264	0.687
	Per Cap Inc	0.001	0.002	0.209	0.715
	African Amer.	-94.269	80.024	-0.315	-1.178
	Hispanic	38.954	64.246	0.139	0.606
	Med Mal Crisis	-4.109	24.570	-0.057	-0.167
	Health	194.891	246.790	0.195	0.790
	Lawyer	-72.927	106.905	-0.170	-0.682
	E-score	-0.553	0.537	-0.324	-1.029
	DW Nominate	88.298	22.072	1.119	4.000**
N 100		R2 0.857	Adjusted R2 0.550	Constant 3.997	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
106th	Year Elected	0.899	0.583	0.223	1.542
	Current Term	9.208	3.102	0.465	2.968*
	Northeast	21.521	20.484	0.299	1.051
	South	-6.902	17.101	-0.113	-0.404
	West	-40.798	18.617	-0.602	-2.191
	Diff DW Nom	-43.027	86.373	-0.115	-0.498
	Fed Spending	25.203	31.758	0.306	0.794
	Per Cap Inc	0.001	0.002	0.223	0.688
	African Amer.	-10.748	65.109	-0.036	-0.165
	Hispanic	19.435	44.109	0.072	0.441
	Med Mal Crisis	2.415	16.346	0.033	0.148
	Health	251.740	276.217	0.267	0.911
	Lawyer	-34.579	77.222	-0.079	-0.448
	E-score	-0.119	0.366	-0.094	-0.326
DW Nominate	88.838	22.327	1.147	3.979**	
N 102 R2 0.928 Adjusted R2 0.775 Constant -61.188					
Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
107th	Year Elected	0.485	0.288	0.097	1.683
	Current Term	-0.679	1.781	-0.022	-0.381
	Northeast	3.646	9.718	0.028	0.375
	South	-4.084	9.280	-0.038	-0.440
	West	-10.965	8.728	-0.094	-1.256
	Diff DW Nom	15.104	23.586	0.037	0.640
	Fed Spending	-1.031	13.114	-0.007	-0.079
	Per Cap Inc	-0.001	0.001	-0.049	-0.523
	African Amer.	-71.858	41.023	-0.136	-1.752
	Hispanic	-30.870	36.214	-0.053	-0.852
	Med Mal Crisis	9.484	6.275	0.091	1.511
	Health	-40.906	70.049	-0.032	-0.584
	Lawyer	-38.494	43.863	-0.053	-0.878
	E-score	0.092	0.121	0.049	0.764
DW Nominate	93.971	7.839	0.853	11.988**	
N 102 R2 0.797 Adjusted R2 0.758 Constant 66.322					

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
108th	Year Elected	0.622	0.283	0.131	2.202*
	Current Term	-4.843	1.709	-0.160	-2.834**
	Northeast	-9.639	9.599	-0.073	-1.004
	South	-14.949	9.679	-0.140	-1.544
	West	-24.016	8.932	-0.210	-2.689
	Diff DW Nom	27.440	22.371	0.070	1.227
	Fed Spending	12.440	10.583	0.090	1.175
	Per Cap Inc	0.001	0.001	0.053	0.699
	African Amer.	-99.430	41.154	-0.190	-2.416
	Hispanic	42.501	32.787	0.078	1.296
	Med Mal Crisis	16.601	6.402	0.157	2.593**
	Health	-122.151	53.473	-0.128	-2.284
	Lawyer	-15.044	42.639	-0.020	-0.353
	E-score	0.063	0.159	0.033	0.398
DW Nominate	101.312	9.480	0.896	10.686**	
N 100		R2 0.804	Adjusted R2 0.766	Constant 35.504	

* p < 0.05, ** p < 0.01

E-score, a component of ideology, is statistically significant in most Congresses in the Base Model but is not when a relatively strong ideology variable – DW Nominate – is added. This suggests that the effect of liberal-conservative ideology is strong not only in nominal terms through ADA and ACU measures but also with weighted measures that capture a time element to ideology.

Legislator Party was substituted into the model to measure if an effect exists on legislative voting surrounding political party control of the Senate. When testing Hypothesis 10a: *Legislators from the minority party (Senate) are more likely than majority party legislators to support medical malpractice reform*, legislator party is statistically significant in each Congress where variability exists in the model (102nd through 108th Congress) with the exception of the 104th Congress.

Table 4.27 Regression Analysis of Base Model with Legislator Party Substitution for 102nd to 108th Senate: Medical Malpractice

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
102nd	Year Elected	1.248	0.617	0.301	2.024
	Current Term	-0.763	3.158	-0.044	-0.242
	Northeast	-6.852	19.300	-0.095	-0.355
	South	0.219	14.741	0.004	0.015
	West	-21.412	16.152	-0.316	-1.326
	Diff DW Nom	11.117	50.232	0.029	0.221
	Fed Spending	4.718	22.112	0.056	0.213
	Per Cap Inc	-0.001	0.002	-0.127	-0.561
	African Amer.	-53.898	54.092	-0.175	-0.996
	Hispanic	24.901	60.122	0.086	0.414
	Med Mal Crisis	21.925	15.221	0.304	1.440
	Health	63.272	82.654	0.120	0.766
	Lawyer	-136.262	133.492	-0.227	-1.021
	E-score	0.238	0.242	0.229	0.985
	Legislator Party	-40.525	15.000	-0.676	-2.702*
N 102		R2 0.918	Adjusted R2 0.743	Constant 71.277	
103rd	Year Elected	0.394	0.511	0.098	0.770
	Current Term	5.680	2.457	0.287	2.311
	Northeast	5.923	15.714	0.082	0.377
	South	16.654	12.313	0.273	1.353
	West	-17.510	14.629	-0.259	-1.197
	Diff DW Nom	16.494	37.573	0.043	0.439
	Fed Spending	-7.299	17.211	-0.083	-0.424
	Per Cap Inc	0.000	0.001	-0.020	-0.138
	African Amer.	-85.157	34.057	-0.280	-2.500*
	Hispanic	42.297	44.788	0.148	0.944
	Med Mal Crisis	8.409	10.360	0.117	0.812
	Health	-5.040	43.066	-0.014	-0.117
	Lawyer	-88.644	81.900	-0.170	-1.082
	E-score	-0.152	0.151	-0.146	-1.008
	Legislator Party	-56.087	8.797	-0.935	-6.376**
N 102		R2 0.959	Adjusted R2 0.870	Constant 77.859	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
104th	Year Elected	0.129	0.229	0.058	0.563
	Current Term	-0.181	1.332	-0.014	-0.136
	Northeast	-4.884	6.938	-0.093	-0.704
	South	-8.580	6.904	-0.197	-1.243
	West	-11.128	6.209	-0.238	-1.792
	Diff DW Nom	21.301	17.740	0.121	1.201
	Fed Spending	7.715	10.958	0.097	0.704
	Per Cap Inc	0.001	0.001	0.196	1.240
	African Amer.	-12.180	31.254	-0.056	-0.390
	Hispanic	-2.779	26.538	-0.011	-0.105
	Med Mal Crisis	8.264	4.435	0.193	1.863
	Health	-123.066	43.106	-0.310	-2.855**
	Lawyer	41.209	32.737	0.127	1.259
	E-score	-0.146	0.126	-0.168	-1.164
Legislator Party	-0.021	6.349	-0.001	-0.003	
N 103 R2 0.325 Adjusted R2 0.203 Constant 23.501					
Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
105th	Year Elected	1.110	0.649	0.276	1.710
	Current Term	-2.745	4.322	-0.151	-0.635
	Northeast	1.238	24.659	0.017	0.050
	South	17.870	21.017	0.293	0.850
	West	-21.219	21.140	-0.313	-1.004
	Diff DW Nom	14.777	59.652	0.040	0.248
	Fed Spending	5.290	27.431	0.058	0.193
	Per Cap Inc	2.045E-05	0.002	0.003	0.014
	African Amer.	-105.965	65.213	-0.354	-1.625
	Hispanic	27.609	51.722	0.099	0.534
	Med Mal Crisis	5.357	18.634	0.074	0.288
	Health	57.006	199.658	0.057	0.286
	Lawyer	-26.912	87.714	-0.063	-0.307
	E-score	-0.334	0.406	-0.196	-0.823
Legislator Party	60.384	11.451	1.007	5.274**	
N 100 R2 0.905 Adjusted R2 0.703 Constant 15.083					

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
106th	Year Elected	0.872	0.491	0.217	1.776
	Current Term	6.468	2.588	0.327	2.499
	Northeast	8.249	17.390	0.114	0.474
	South	8.725	13.555	0.143	0.644
	West	-27.156	15.022	-0.401	-1.808
	Diff DW Nom	-18.996	70.752	-0.051	-0.268
	Fed Spending	5.808	25.455	0.071	0.228
	Per Cap Inc	-1.601E-05	0.001	-0.003	-0.011
	African Amer.	-65.574	52.700	-0.221	-1.244
	Hispanic	16.995	37.050	0.063	0.459
	Med Mal Crisis	6.981	13.782	0.097	0.507
	Health	134.724	228.124	0.143	0.591
	Lawyer	-15.819	65.631	-0.036	-0.241
	E-score	0.037	0.276	0.029	0.133
Legislator Party	57.026	11.363	0.951	5.019**	
N 102		R2 0.949	Adjusted R2 0.840	Constant -32.183	
Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
107th	Year Elected	0.287	0.207	0.058	1.385
	Current Term	-1.007	1.283	-0.032	-0.785
	Northeast	-0.418	7.017	-0.003	-0.060
	South	9.540	6.512	0.090	1.465
	West	-3.515	6.217	-0.030	-0.565
	Diff DW Nom	8.633	16.982	0.021	0.508
	Fed Spending	-4.307	9.445	-0.028	-0.456
	Per Cap Inc	0.000	0.001	-0.028	-0.408
	African Amer.	-64.400	29.570	-0.122	-2.178*
	Hispanic	-26.161	26.085	-0.045	-1.003
	Med Mal Crisis	4.661	4.541	0.045	1.026
	Health	25.180	50.506	0.020	0.499
	Lawyer	-26.862	31.358	-0.037	-0.857
	E-score	0.044	0.088	-0.024	-0.500
Legislator Party	-92.442	4.941	-0.926	-18.708**	
N 102		R2 0.894	Adjusted R2 0.874	Constant 116.442	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
108th	Year Elected	0.555	0.223	0.117	2.487*
	Current Term	-4.163	1.349	-0.138	-3.087**
	Northeast	-11.085	7.616	-0.084	-1.456
	South	5.603	7.455	0.052	0.752
	West	-15.359	6.978	-0.134	-2.201*
	Diff DW Nom	12.326	17.677	0.032	0.697
	Fed Spending	0.608	8.424	0.004	0.072
	Per Cap Inc	0.000	0.001	0.036	0.607
	African Amer.	-113.205	32.495	-0.216	-3.484**
	Hispanic	28.482	25.759	0.053	1.106
	Med Mal Crisis	9.280	5.021	0.088	1.848
	Health	-21.885	43.216	-0.023	-0.506
	Lawyer	-11.962	33.756	-0.016	-0.354
	E-score	0.078	0.119	0.040	0.652
Legislator Party	90.156	5.988	0.899	15.057**	
N 100		R2 0.877	Adjusted R2 0.853	Constant 1.144	

* p < 0.05, ** p < 0.01

Directional impact of the variable must be considered with party control of the Senate within each Congress. Referring to party divisions summarized in Table 4.1, Democrats controlled the Senate during in the 102nd and 103rd Congresses and Republicans controlled the Senate from the 104th through the 106th, and in the 108th Congress. Control varied in the 107th Congress. Considering directional movements of the variable, Legislator Party, finds that when Democrats are in the majority standardized coefficients are negative, indicating greater support for medical malpractice reform from Republicans, the party that does not control the Senate. Positive, statistically significant, directional impact of the variable in the 105th through 108th Congresses indicates that Republicans vote increasingly for medical malpractice reform regardless of party control.

Health is statistically significant and is negatively related to support for medical malpractice reform. Higher health contributions reduce support and are the only statistically significant in the 104th Congress for Legislator Party substitution as well as the Base Model and each of the other substitutions, with the exception of DW Nominate substitution. That Health is statistically significant in the Congress that produced sweeping Republican control of both House and Senate shows a strong self-interest component affecting legislative voting when ideology and party control are not statistically significant in the model.

Percent African American within a state consistently predicts reduced support for medical malpractice reform by senators from those states. In most Congresses coefficients of determination indicate that legislator party substitution explains the most variability in the model in comparison to the base model and each other substitution.

Minimum wage

Regression analysis for independent and control variables for the Base Model in the Senate are summarized in Table 4.28 for minimum wage as the dependent variable. E-score is statistically significant in the 100th, 101st, and 108th Congresses and is a positive predictor of opposition to increasing the minimum wage. These results are consistent with expected results from Hypothesis 1b: *Legislators with higher E-scores vote in opposition to increasing the minimum wage.*

Table 4.28 Regression Analysis of Base Model for 100th to 108th Senate: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
100th	Year Elected	-0.162	0.567	-0.026	-0.285
	Current Term	0.214	2.512	0.008	0.085
	Northeast	0.908	14.864	0.008	0.061
	South	-20.504	14.693	-0.208	-1.395
	West	-8.080	13.787	-0.078	-0.586
	Diff DW Nom	-47.136	39.807	-0.116	-1.184
	Fed Spending	35.490	19.283	0.237	1.840
	Per Cap Inc	0.002	0.002	0.132	0.924
	African Amer.	69.515	81.593	0.114	0.852
	Hispanic	-167.264	59.866	-0.336	-2.794**
	Minimum Wage	-14.644	10.793	-0.163	-1.357
	Business	10.912	14.036	0.086	0.777
	Labor	-16.326	15.515	-0.105	-1.052
	E-score	1.001	0.164	0.657	6.114**
N 101 R2 0.630 Adjusted R2 0.524 Constant -53.058					
101st	Year Elected	0.736	0.701	0.155	1.049
	Current Term	-0.954	2.890	-0.045	-0.330
	Northeast	-4.365	16.452	-0.044	-0.265
	South	18.409	16.025	0.251	1.149
	West	5.814	17.328	0.071	0.336
	Diff DW Nom	79.812	40.997	0.258	1.947
	Fed Spending	14.623	25.670	0.108	0.570
	Per Cap Inc	0.003	0.002	0.270	1.386
	African Amer.	-47.180	75.199	-0.132	-0.627
	Hispanic	-11.310	65.213	-0.021	-0.173
	Minimum Wage	-12.181	11.037	-0.170	-1.104
	Business	-31.507	15.388	-0.302	-2.047*
	Labor	-80.069	18.726	-0.599	-4.276**
	E-score	0.573	0.233	0.387	2.461*
N 101 R2 0.525 Adjusted R2 0.346 Constant -65.189					

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
102nd	Year Elected	1.095	1.091	0.189	1.003
	Current Term	0.155	5.166	0.006	0.030
	Northeast	5.714	27.190	0.057	0.210
	South	-2.621	22.093	-0.031	-0.119
	West	-3.904	25.380	-0.041	-0.154
	Diff DW Nom	-5.612	87.698	-0.011	-0.064
	Fed Spending	19.196	35.636	0.163	0.539
	Per Cap Inc	-0.001	0.003	-0.106	-0.443
	African Amer.	-72.702	88.723	-0.169	-0.819
	Hispanic	-171.664	98.579	-0.426	-1.741
	Minimum Wage	-55.289	18.410	-0.664	-3.003*
	Business	-43.494	92.445	-0.096	-0.470
	Labor	-397.108	219.548	-0.361	-1.809
	E-score	0.469	0.276	0.322	1.696
N 102		R2 0.879	Adjusted R2 0.667	Constant 65.155	
103rd	Year Elected	0.239	1.270	0.043	0.188
	Current Term	5.121	9.367	0.185	0.547
	Northeast	-15.713	30.452	-0.156	-0.516
	South	-5.622	26.015	-0.066	-0.216
	West	23.832	32.616	0.252	0.731
	Diff DW Nom	104.364	114.534	0.194	0.911
	Fed Spending	37.183	50.344	0.301	0.739
	Per Cap Inc	0.003	0.004	0.263	0.666
	African Amer.	-43.735	96.835	-0.103	-0.452
	Hispanic	-253.029	116.493	-0.631	-2.172
	Minimum Wage	-61.812	17.602	-0.743	-3.512**
	Business	-169.516	107.053	-0.340	-1.583
	Labor	-323.734	398.686	-0.307	-0.812
	E-score	0.329	0.398	0.225	0.827
N 102		R2 0.824	Adjusted R2 0.515	Constant -40.875	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
105th	Year Elected	-0.733	1.508	-0.130	-0.486
	Current Term	-1.999	8.127	-0.078	-0.246
	Northeast	-27.479	32.050	-0.273	-0.857
	South	3.784	35.435	0.044	0.107
	West	38.566	36.448	0.407	1.058
	Diff DW Nom	181.560	141.044	0.349	1.287
	Fed Spending	-28.992	64.415	-0.227	-0.450
	Per Cap Inc	0.000	0.004	0.040	0.101
	African Amer.	-141.639	152.110	-0.339	-0.931
	Hispanic	-162.013	116.008	-0.414	-1.397
	Minimum Wage	-73.969	24.567	-0.889	-3.011*
	Business	-141.102	111.501	-0.331	-1.265
	Labor	198.439	428.297	0.208	0.463
	E-score	0.518	0.936	0.217	0.553
N 100 R2 0.766 Adjusted R2 0.357 Constant 123.620					
106th	Year Elected	0.123	1.051	0.022	0.117
	Current Term	-2.293	7.263	-0.083	-0.316
	Northeast	-9.786	29.635	-0.097	-0.330
	South	18.059	27.326	0.212	0.661
	West	25.770	31.732	0.272	0.812
	Diff DW Nom	49.385	108.012	0.094	0.457
	Fed Spending	-22.326	47.015	-0.194	-0.475
	Per Cap Inc	3.983E-05	0.003	0.005	0.016
	African Amer.	-60.020	92.334	-0.145	-0.650
	Hispanic	-127.368	92.550	-0.335	-1.376
	Minimum Wage	-48.458	20.976	-0.582	-2.310*
	Business	-75.197	82.004	-0.217	-0.917
	Labor	136.225	240.455	0.149	0.567
	E-score	0.950	0.448	0.533	2.119
N 102 R2 0.839 Adjusted R2 0.557 Constant 45.318					

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
107th	Year Elected	0.330	1.086	0.059	0.304
	Current Term	3.222	4.552	0.132	0.708
	Northeast	-22.900	28.151	-0.227	-0.813
	South	-4.358	24.299	-0.051	-0.179
	West	13.599	28.602	0.144	0.475
	Diff DW Nom	81.658	106.632	0.156	0.766
	Fed Spending	33.739	34.288	0.306	0.984
	Per Cap Inc	0.002	0.002	0.326	1.068
	African Amer.	-105.479	95.001	-0.255	-1.110
	Hispanic	-230.576	85.202	-0.626	-2.706*
	Minimum Wage	-81.089	19.739	-0.974	-4.108**
	Business	-116.250	72.773	-0.329	-1.597
	Labor	-190.477	307.438	-0.147	-0.620
	E-score	0.386	0.337	0.279	1.144
N 102		R2 0.836	Adjusted R2 0.550	Constant -35.667	
108th	Year Elected	1.564	1.106	0.278	1.415
	Current Term	10.701	5.999	0.420	1.784
	Northeast	1.264	23.243	0.013	0.054
	South	37.881	25.906	0.445	1.462
	West	27.807	30.645	0.294	0.907
	Diff DW Nom	-45.607	82.961	-0.087	-0.550
	Fed Spending	8.642	26.442	0.087	0.327
	Per Cap Inc	0.000	0.002	-0.029	-0.123
	African Amer.	-52.311	94.422	-0.127	-0.554
	Hispanic	-129.469	71.618	-0.350	-1.808
	Minimum Wage	-34.528	17.737	-0.415	-1.947
	Business	-112.304	66.913	-0.311	-1.678
	Labor	-143.254	192.799	-0.140	-0.743
	E-score	1.264	0.432	0.875	2.926*
N 100		R2 0.894	Adjusted R2 0.709	Constant -110.966	

* p < 0.05, ** p < 0.01

In testing self-interest variables – Business and Labor – both are statistically significant in the 101st Congress and each is negatively correlated with opposition to minimum wage increases. With the minimum wage dependent variable coded to reflect higher levels of economic efficiency, a vote in support of economic efficiency is a vote against increasing the minimum wage, and a vote that is economically inefficient is a

vote in support of increasing the minimum wage. An anticipated correlation between higher business contributions and opposition to minimum wage legislation was expressed in Hypothesis 5b: *Legislators with higher business political contributions to total contributions vote in opposition to increasing the minimum wage.* Senators receiving greater business contributions were found to support increasing the minimum wage.

The relationship between Labor and support for minimum wage increases is expressed in Hypothesis 6b: *Legislators with higher labor political contributions to total contributions vote in support of increasing the minimum wage.* Directional movement between higher labor contributions and support for increasing the minimum wage was as hypothesized.

Controls for Hispanic were statistically significant in the 100th and 107th Congresses. Higher levels of Hispanics in a state's population are positively associated with a senator voting to increase the federal minimum wage. This directional impact differs from most Congresses in the House for either dependent variable, where the association between higher levels of minorities within the population was positively associated with support for economically efficient legislation. From the 102nd to 106th Congresses, inclusive, senators from states with minimum wage laws were found to support federal minimum wage legislation. No other independent or control variable was statistically significant during those Congresses. While support for minimum wage legislation is economically inefficient, support for federal minimum wage legislation when a state has a minimum wage law indicates a senator is weighing the relative

economic inefficiency of such vote to economic realities associated with capital flows to states with lower minimum wage laws.

No other variables were statistically significant in the base model. Without statistical significance for current term, length of service and ideological differences between legislator and median party, Hypothesis 8b: *The closer senators are to the end of their current term in office, the less likely they are to support increasing the minimum wage*, Hypothesis 9b: *The longer a legislator has served, the less likely he or she will support increasing the minimum wage*, and Hypothesis 11b: *The greater the division between the ideology of the legislator and the median ideology of the legislator's party, the less likely the legislator supports increasing the federal minimum wage*, respectively, are not supported.

Coefficients of determination for the base model in the Senate are generally higher overall when applied to the minimum wage rather than medical malpractice. Like the analysis of the other models in the House and the medical malpractice model in the Senate, coefficients of determination are weaker in the base model relative to the substituted variables. This model is no exception. A weaker coefficient of determination implies the model does not explain variance as well as those models with higher coefficients of determination.

When party unity is substituted into the base model, Party unity is statistically significant in each Congress in the model and predicts that Republican senators are more likely to oppose increasing the minimum wage, an economically inefficient position. This is consistent with the association expected in Hypothesis 7b: *Republican legislators are less likely to vote for increasing the minimum wage more often than Democrats*. The

negative sign of the standardized coefficient is based on coding in order to discern

Republican from Democrat.

Table 4.29 Regression Analysis of Base Model and Party Unity Substitution for 100th to 108th Senate: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
100th	Year Elected	-0.277	0.510	-0.045	-0.544
	Current Term	-1.530	2.305	-0.058	-0.664
	Northeast	-3.292	13.386	-0.029	-0.246
	South	-18.337	13.195	-0.186	-1.390
	West	-3.167	12.444	-0.031	-0.255
	Diff DW Nom	-71.007	36.325	-0.175	-1.955
	Fed Spending	35.134	17.300	0.234	2.031*
	Per Cap Inc	0.001	0.002	0.084	0.650
	African Amer.	71.481	73.200	0.117	0.977
	Hispanic	-150.482	53.909	-0.302	-2.791
	Minimum Wage	-11.467	9.723	-0.127	-1.179
	Business	10.754	12.592	0.085	0.854
	Labor	5.544	15.194	0.036	0.365
	E-score	0.393	0.224	0.258	1.751
Party Unity	-0.293	0.082	-0.524	-3.589**	
N 101		R2 0.708	Adjusted R2 0.617	Constant -6.581	
101st	Year Elected	-0.103	0.433	-0.022	-0.238
	Current Term	0.746	1.746	0.035	0.427
	Northeast	-9.651	9.888	-0.098	-0.976
	South	9.545	9.672	0.130	0.987
	West	5.984	10.393	0.073	0.576
	Diff DW Nom	3.869	26.284	0.013	0.147
	Fed Spending	-6.109	15.603	-0.045	-0.392
	Per Cap Inc	0.002	0.002	0.124	1.047
	African Amer.	30.510	46.092	0.085	0.662
	Hispanic	-4.276	39.122	-0.008	-0.109
	Minimum Wage	-8.619	6.634	-0.120	-1.299
	Business	-9.387	9.618	-0.090	-0.976
	Labor	-11.635	14.007	-0.087	-0.831
	E-score	0.236	0.146	0.159	1.620
Party Unity	-0.355	0.043	-0.782	-8.177**	
N 101		R2 0.834	Adjusted R2 0.765	Constant -0.925	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
102nd	Year Elected	0.619	0.666	0.107	0.930
	Current Term	-0.084	3.102	-0.003	-0.027
	Northeast	-4.217	16.519	-0.042	-0.255
	South	5.788	13.436	0.068	0.431
	West	2.963	15.336	0.031	0.193
	Diff DW Nom	-17.294	52.728	-0.033	-0.328
	Fed Spending	6.052	21.655	0.051	0.279
	Per Cap Inc	0.000	0.002	0.030	0.200
	African Amer.	-51.876	53.525	-0.121	-0.969
	Hispanic	-85.870	63.133	-0.213	-1.360
	Minimum Wage	-26.501	13.291	-0.318	-1.994
	Business	1.597	56.684	0.004	0.028
	Labor	-180.628	143.006	-0.164	-1.263
	E-score	-0.085	0.218	-0.058	-0.388
Party Unity	-0.361	0.093	-0.740	-3.899**	
N 102		R2 0.962	Adjusted R2 0.880	Constant 43.852	
103rd	Year Elected	0.065	0.611	0.012	0.107
	Current Term	1.658	4.547	0.060	0.365
	Northeast	-8.396	14.693	-0.083	-0.571
	South	7.923	12.758	0.093	0.621
	West	13.058	15.800	0.138	0.826
	Diff DW Nom	-14.123	59.446	-0.026	-0.238
	Fed Spending	7.977	24.810	0.065	0.321
	Per Cap Inc	0.002	0.002	0.183	0.963
	African Amer.	-10.159	46.948	-0.024	-0.216
	Hispanic	-67.511	66.140	-0.168	-1.021
	Minimum Wage	-23.397	11.172	-0.281	-2.094
	Business	-75.986	54.407	-0.152	-1.397
	Labor	-176.304	193.539	-0.167	-0.911
	E-score	-0.007	0.201	-0.005	-0.034
Party Unity	-0.339	0.064	-0.707	-5.261**	
N 102		R2 0.964	Adjusted R2 0.888	Constant 10.776	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
104th	Year Elected	0.266	0.551	0.047	0.484
	Current Term	2.116	3.715	0.087	0.570
	Northeast	-3.759	15.226	-0.037	-0.247
	South	11.995	17.766	0.141	0.675
	West	13.192	18.523	0.139	0.712
	Diff DW Nom	-43.512	62.653	-0.082	-0.694
	Fed Spending	-7.905	23.864	-0.061	-0.331
	Per Cap Inc	0.001	0.002	0.056	0.342
	African Amer.	-39.464	55.807	-0.094	-0.707
	Hispanic	-48.478	65.934	-0.122	-0.735
	Minimum Wage	-25.492	14.732	-0.306	-1.730
	Business	-32.558	56.737	-0.080	-0.574
	Labor	-36.055	135.754	-0.040	-0.266
	E-score	0.121	0.419	0.057	0.289
	Party Unity	-0.350	0.082	-0.745	-4.261**
N 103		R2 0.958	Adjusted R2 0.869	Constant 36.233	
105th	Year Elected	-0.028	0.661	-0.005	-0.043
	Current Term	-1.845	3.503	-0.072	-0.527
	Northeast	-2.706	14.418	-0.027	-0.188
	South	6.839	15.283	0.080	0.448
	West	9.550	16.437	0.101	0.581
	Diff DW Nom	-38.771	71.012	-0.074	-0.546
	Fed Spending	-21.140	27.797	-0.166	-0.761
	Per Cap Inc	-0.001	0.002	-0.064	-0.374
	African Amer.	-40.215	67.709	-0.096	-0.594
	Hispanic	-24.019	55.034	-0.061	-0.436
	Minimum Wage	-20.942	13.789	-0.252	-1.519
	Business	-23.581	51.895	-0.055	-0.454
	Labor	160.025	184.730	0.168	0.866
	E-score	0.123	0.409	0.052	0.302
	Party Unity	-0.401	0.067	-0.827	-6.005**
N 100		R2 0.962	Adjusted R2 0.880	Constant 100.356	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
106th	Year Elected	-0.033	0.546	-0.006	-0.060
	Current Term	-0.845	3.782	-0.031	-0.223
	Northeast	-18.413	15.489	-0.183	-1.189
	South	6.389	14.394	0.075	0.444
	West	8.916	16.847	0.094	0.529
	Diff DW Nom	-25.556	58.231	-0.049	-0.439
	Fed Spending	1.565	24.914	0.014	0.063
	Per Cap Inc	0.001	0.001	0.112	0.677
	African Amer.	-17.266	48.761	-0.042	-0.354
	Hispanic	-32.683	51.990	-0.086	-0.629
	Minimum Wage	-19.150	12.506	-0.230	-1.531
	Business	16.089	46.680	0.046	0.345
	Labor	-90.771	133.600	-0.099	-0.679
	E-score	-0.397	0.366	-0.223	-1.085
	Party Unity	-0.437	0.092	-0.951	-4.764**
N 102		R2 0.962	Adjusted R2 0.881	Constant 58.383	
107th	Year Elected	0.097	0.547	0.017	0.177
	Current Term	1.898	2.297	0.078	0.826
	Northeast	-9.995	14.346	-0.099	-0.697
	South	10.546	12.541	0.124	0.841
	West	13.709	14.336	0.145	0.956
	Diff DW Nom	-19.184	57.148	-0.037	-0.336
	Fed Spending	-5.617	18.913	-0.051	-0.297
	Per Cap Inc	0.001	0.001	0.128	0.813
	African Amer.	-34.985	49.673	-0.084	-0.704
	Hispanic	-51.783	55.772	-0.141	-0.928
	Minimum Wage	-27.896	14.553	-0.335	-1.917
	Business	-38.611	39.662	-0.109	-0.973
	Labor	-40.422	157.010	-0.031	-0.257
	E-score	-0.101	0.195	-0.073	-0.517
	Party Unity	-0.386	0.077	-0.830	-4.984**
N 102		R2 0.964	Adjusted R2 0.887	Constant 42.033	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
108th	Year Elected	0.671	0.684	0.119	0.981
	Current Term	5.955	3.701	0.234	1.609
	Northeast	-10.778	13.924	-0.107	-0.774
	South	25.756	15.453	0.302	1.667
	West	24.605	17.951	0.260	1.371
	Diff DW Nom	-51.317	48.568	-0.098	-1.057
	Fed Spending	-8.727	16.058	-0.088	-0.543
	Per Cap Inc	9.996E-05	0.001	0.014	0.098
	African Amer.	-16.296	55.967	-0.040	-0.291
	Hispanic	-59.372	45.351	-0.161	-1.309
	Minimum Wage	-23.289	10.745	-0.280	-2.167
	Business	-59.569	41.270	-0.165	-1.443
	Labor	-61.711	114.610	-0.060	-0.538
	E-score	0.361	0.337	0.250	1.069
Party Unity	-0.284	0.070	-0.626	-4.045**	
N 100		R2 0.968	Adjusted R2 0.900	Constant -0.943	

* p < 0.05, ** p < 0.01

E-score is no longer statistically significant when party unity is substituted and statistically significant controls also disappear for state minimum wage laws. Senators from states with a minimum wage higher than the current federal minimum wage were more likely to support passage of federal legislation in the base model. With party unity added to the model the effect of party is obvious as Republicans are unified around this legislation. Standardized coefficients are relatively strong for party unity in all Congresses in the model, but have somewhat weaker impacts on average than standardized coefficients for ADA and ACU.

A statistically significant relationship exists in the 99th Congress between federal spending ratios in a state and support for a minimum wage increase. Senators from states with higher levels of federal spending going into their coffers measured in relation to tax revenue remitted to the federal government are more likely to oppose increasing the

minimum wage. Coefficients of determination indicate a relatively good fit for the model in explaining variance along the regression line.

Substituting ADA into the model (Table 4.30) finds a strong basis for liberal-conservative ideology exists. In testing Hypothesis 2b: *Legislators with higher ADA scores vote in support of increasing the federal minimum wage*, ADA is statistically significant at $p < 0.01$ in each Congress and a positive predictor of support for increasing the minimum wage as expected. Perhaps more importantly, standardized coefficients show the per unit effect of applying the ADA independent variable to the dependent variable is relatively stronger for ADA than other variables in the model, including ACU. Impact of the variable is important because not only is the variable statistically significant and as a result less likely to be the result of chance, but it is also responsible for greater movement in the dependent variable on a per unit basis. ADA is the only statistically significant variable in the model for the 101st through 108th Congresses.

In the 100th Congress controls for state economic factors are statistically significant. Higher percentages of Hispanics in a population are positively related to support for a minimum wage increase. This effect has not changed from the base model.

Table 4.30 Regression Analysis of Base Model and ADA Substitution for 99th to 108th Senate: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
100th	Year Elected	-0.080	0.501	-0.013	-0.160
	Current Term	-0.842	2.285	-0.032	-0.369
	Northeast	4.390	13.522	0.038	0.325
	South	-24.900	13.206	-0.253	-1.885
	West	-9.828	12.360	-0.095	-0.795
	Diff DW Nom	-49.571	36.635	-0.118	-1.353
	Fed Spending	43.899	17.152	0.293	2.559*
	Per Cap Inc	0.002	0.002	0.120	0.946
	African Amer.	44.405	73.137	0.073	0.607
	Hispanic	-172.515	52.935	-0.348	-3.259**
	Minimum Wage	-4.788	9.901	-0.053	-0.484
	Business	8.698	12.417	0.068	0.700
	Labor	-0.812	14.486	-0.005	-0.056
	E-score	0.490	0.202	0.317	2.424*
ADA	-0.719	0.181	-0.525	-3.966**	
N 101		R2 0.722	Adjusted R2 0.633	Constant 2.324	
101st	Year Elected	0.474	0.476	0.100	0.996
	Current Term	1.048	1.976	0.049	0.531
	Northeast	-9.149	11.142	-0.092	-0.821
	South	7.179	10.959	0.098	0.655
	West	-2.880	11.783	-0.035	-0.244
	Diff DW Nom	-1.864	30.265	-0.006	-0.062
	Fed Spending	-6.790	17.640	-0.050	-0.385
	Per Cap Inc	0.002	0.002	0.129	0.968
	African Amer.	-54.660	50.836	-0.153	-1.075
	Hispanic	-12.979	44.075	-0.025	-0.294
	Minimum Wage	4.004	7.840	0.056	0.511
	Business	-7.172	11.015	-0.069	-0.651
	Labor	-16.591	15.802	-0.124	-1.050
	E-score	0.260	0.164	0.176	1.586
ADA	-0.904	0.135	-0.806	-6.708**	
N 101		R2 0.789	Adjusted R2 0.701	Constant 33.214	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
102nd	Year Elected	0.180	0.779	0.031	0.231
	Current Term	1.018	3.457	0.042	0.294
	Northeast	-3.296	18.344	-0.033	-0.180
	South	1.135	14.784	0.013	0.077
	West	-14.597	17.239	-0.154	-0.847
	Diff DW Nom	-22.026	58.722	-0.042	-0.375
	Fed Spending	9.595	23.952	0.081	0.401
	Per Cap Inc	0.001	0.002	0.068	0.405
	African Amer.	-67.576	59.216	-0.157	-1.141
	Hispanic	-44.809	76.110	-0.111	-0.589
	Minimum Wage	1.847	21.176	0.022	0.087
	Business	-16.839	62.202	-0.037	-0.271
	Labor	-182.129	160.217	-0.165	-1.137
	E-score	-0.316	0.300	-0.217	-1.053
ADA	-1.245	0.376	-1.121	-3.312**	
N 102 R2 0.953 Adjusted R2 0.852 Constant 98.161					
103rd	Year Elected	-0.164	0.942	-0.028	-0.174
	Current Term	-6.619	8.354	-0.243	-0.792
	Northeast	-20.982	20.912	-0.194	-1.003
	South	-3.838	15.845	-0.045	-0.242
	West	7.594	20.548	0.081	0.370
	Diff DW Nom	-27.520	77.304	-0.052	-0.356
	Fed Spending	-6.630	35.752	-0.054	-0.185
	Per Cap Inc	0.000	0.004	-0.009	-0.030
	African Amer.	9.841	60.435	0.023	0.163
	Hispanic	-29.767	90.810	-0.076	-0.328
	Minimum Wage	3.478	19.790	0.042	0.176
	Business	22.458	100.232	0.046	0.224
	Labor	95.124	324.125	0.091	0.293
	E-score	0.075	0.267	0.052	0.281
ADA	-1.190	0.305	-0.954	-3.899**	
N 102 R2 0.949 Adjusted R2 0.823 Constant 132.102					

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
104th	Year Elected	1.020	0.506	0.181	2.015
	Current Term	6.094	3.317	0.249	1.837
	Northeast	7.399	12.745	0.073	0.581
	South	3.331	14.927	0.039	0.223
	West	10.651	15.324	0.112	0.695
	Diff DW Nom	-37.923	52.128	-0.071	-0.728
	Fed Spending	-19.179	20.450	-0.149	-0.938
	Per Cap Inc	0.000	0.001	-0.013	-0.094
	African Amer.	-68.732	45.818	-0.163	-1.500
	Hispanic	-43.378	54.905	-0.109	-0.790
	Minimum Wage	-10.067	13.357	-0.121	-0.754
	Business	-10.040	47.670	-0.025	-0.211
	Labor	54.543	112.404	0.060	0.485
	E-score	-0.223	0.384	-0.105	-0.581
ADA	-1.224	0.226	-1.106	-5.417**	
N 103 R2 0.971 Adjusted R2 0.909 Constant 102.990					
105th	Year Elected	-0.460	0.495	-0.082	-0.929
	Current Term	-0.828	2.663	-0.032	-0.311
	Northeast	2.400	11.098	0.024	0.216
	South	2.671	11.595	0.031	0.230
	West	8.350	12.478	0.088	0.669
	Diff DW Nom	-13.588	51.886	-0.026	-0.262
	Fed Spending	-20.657	21.101	-0.162	-0.979
	Per Cap Inc	0.000	0.001	0.012	0.093
	African Amer.	-18.050	51.987	-0.043	-0.347
	Hispanic	15.351	43.650	0.039	0.352
	Minimum Wage	-9.307	11.241	-0.112	-0.828
	Business	-40.907	38.461	-0.096	-1.064
	Labor	195.701	140.141	0.205	1.396
	E-score	0.146	0.310	0.061	0.471
ADA	-1.099	0.134	-0.968	-8.229**	
N 100 R2 0.978 Adjusted R2 0.931 Constant 131.602					

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
106th	Year Elected	-0.478	0.375	-0.085	-1.275
	Current Term	-0.531	2.545	-0.019	-0.209
	Northeast	-13.088	10.350	-0.130	-1.265
	South	4.106	9.708	0.048	0.423
	West	8.269	11.306	0.087	0.731
	Diff DW Nom	-2.014	38.283	-0.004	-0.053
	Fed Spending	2.535	16.723	0.022	0.152
	Per Cap Inc	0.001	0.001	0.110	0.987
	African Amer.	3.145	33.257	0.008	0.095
	Hispanic	-19.656	35.222	-0.052	-0.558
	Minimum Wage	-16.242	8.441	-0.195	-1.924
	Business	19.795	31.185	0.057	0.635
	Labor	-59.456	87.707	-0.065	-0.678
	E-score	-0.513	0.247	-0.288	-2.080
ADA	-1.034	0.135	-1.043	-7.662**	
N 102		R2 0.983	Adjusted R2 0.946	Constant 115.967	
107th	Year Elected	-0.086	0.577	-0.015	-0.150
	Current Term	1.835	2.406	0.075	0.763
	Northeast	-5.874	15.204	-0.058	-0.386
	South	5.825	12.928	0.068	0.451
	West	8.867	15.036	0.094	0.590
	Diff DW Nom	-12.576	59.417	-0.024	-0.212
	Fed Spending	-2.606	19.578	-0.024	-0.133
	Per Cap Inc	0.001	0.001	0.092	0.550
	African Amer.	-6.904	54.066	-0.017	-0.128
	Hispanic	-38.792	60.524	-0.105	-0.641
	Minimum Wage	-23.100	16.109	-0.278	-1.434
	Business	-43.198	41.216	-0.122	-1.048
	Labor	13.089	166.976	0.010	0.078
	E-score	-0.073	0.202	-0.052	-0.359
ADA	-0.920	0.196	-0.865	-4.699**	
N 102		R2 0.961	Adjusted R2 0.876	Constant 91.310	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
108th	Year Elected	0.463	0.646	0.082	0.716
	Current Term	5.070	3.475	0.199	1.459
	Northeast	-13.087	12.962	-0.130	-1.010
	South	16.514	14.784	0.194	1.117
	West	18.616	16.692	0.197	1.115
	Diff DW Nom	-33.287	44.933	-0.064	-0.741
	Fed Spending	-1.502	14.471	-0.015	-0.104
	Per Cap Inc	0.000	0.001	0.054	0.421
	African Amer.	-9.937	51.902	-0.024	-0.191
	Hispanic	-67.830	41.056	-0.183	-1.652
	Minimum Wage	-22.912	9.929	-0.275	-2.308*
	Business	-46.076	39.037	-0.128	-1.180
	Labor	-61.915	105.777	-0.061	-0.585
	E-score	0.273	0.321	0.189	0.850
ADA	-0.694	0.154	-0.652	-4.514**	
N 100		R2 0.973	Adjusted R2 0.915	Constant 35.244	

* p < 0.05, ** p < 0.01

E-score remains statistically significant in the 100th Congress after substituting ADA into the base model, but it fails tests of statistical significance in each of the other Congresses. The directional impact between higher E-scores and opposition to minimum wage increases is positive. E-score barely fails a test of statistical significance in the 106th Congress, but its directional impact is negative for that Congress. That the statistical significance of E-score diminishes in the model when ADA is added suggests a stronger relative position for liberal-conservative ideology when measured against economic efficiency.

As Table 4.31 indicates ACU when substituted into the model is statistically significant and positively correlated with opposition to minimum wage increases in each Congress. In testing the effect of ACU the positive relationship between ACU scores and opposition to policies that increase the federal minimum wage is consistent with

Hypothesis 3b: *Legislators with higher ACU scores vote in opposition to increasing the federal minimum wage.* ACU is a strong predictor of opposition to increasing the federal minimum wage, and as a measure of liberal-conservative ideology the variable compares closely with ADA as an indicator of legislative decision-making. In the Senate model the variable is statistically significant at the $p < 0.01$ level in each Congress except the 102nd where the level of significance is $p < 0.05$. ACU produces a relatively strong per unit impact on changes in the dependent variable, but compared to the ADA model, the per-unit impact for ACU is slightly weaker.

E-score and percent Hispanic remain statistically significant in the 100th Congress after substituting ACU into the model. Higher E-scores predict less support for increasing the minimum wage while higher percentages of Hispanics are associated with greater support for minimum wage increases. Senators from the South are more likely to support increasing the federal minimum wage, while those from states that receive more federal spending from the federal government in relation to tax revenue generated by that state are less likely to support increasing the minimum wage. The statistical significance of E-score is consistent with the hypothesized effect of the variable on the model, but produces relatively less per-unit impact when compared to ACU. That E-score fails tests of statistical significance in each of the other Congresses (102nd through 108th) in the ACU substitution is an indication of the importance of liberal-conservative ideology in legislative decision-making.

Table 4.31 Regression Analysis of Base Model and ACU Substitution for 100th to 108th Senate: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
100th	Year Elected	-0.226	0.501	-0.037	-0.451
	Current Term	0.488	2.220	0.019	0.220
	Northeast	-0.599	13.136	-0.005	-0.046
	South	-27.718	13.114	-0.282	-2.114*
	West	-8.224	12.179	-0.079	-0.675
	Diff DW Nom	-53.907	35.207	-0.133	-1.531
	Fed Spending	37.655	17.043	0.251	2.209*
	Per Cap Inc	0.002	0.002	0.118	0.931
	African Amer.	22.627	73.098	0.037	0.310
	Hispanic	-202.011	53.648	-0.406	-3.765**
	Minimum Wage	-9.460	9.629	-0.105	-0.982
	Business	6.174	12.460	0.049	0.496
	Labor	-6.707	13.931	-0.043	-0.481
	E-score	0.431	0.207	0.283	2.080*
ACU	0.689	0.179	0.526	3.847**	
N 101		R2 0.717	Adjusted R2 0.629	Constant -43.034	
101st	Year Elected	0.200	0.419	0.042	0.478
	Current Term	0.395	1.714	0.019	0.230
	Northeast	0.576	9.734	0.006	0.059
	South	5.683	9.585	0.077	0.593
	West	7.782	10.237	0.094	0.760
	Diff DW Nom	-38.070	28.010	-0.123	-1.359
	Fed Spending	-15.228	15.574	-0.112	-0.978
	Per Cap Inc	0.001	0.002	0.062	0.526
	African Amer.	7.318	44.887	0.020	0.163
	Hispanic	-7.875	38.516	-0.015	-0.204
	Minimum Wage	-2.242	6.626	-0.031	-0.338
	Business	-0.478	9.815	-0.005	-0.049
	Labor	-1.856	14.477	-0.014	-0.128
	E-score	0.215	0.144	0.145	1.496
ACU	1.047	0.125	0.891	8.371**	
N 101		R2 0.839	Adjusted R2 0.772	Constant -31.036	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
102nd	Year Elected	0.149	0.816	0.026	0.183
	Current Term	2.682	3.676	0.110	0.730
	Northeast	-0.938	18.986	-0.009	-0.049
	South	-0.214	15.347	-0.003	-0.014
	West	-3.939	17.608	-0.042	-0.224
	Diff DW Nom	-65.537	63.837	-0.124	-1.027
	Fed Spending	15.945	24.746	0.135	0.644
	Per Cap Inc	0.001	0.002	0.102	0.570
	African Amer.	-37.152	62.612	-0.086	-0.593
	Hispanic	-46.699	79.378	-0.116	-0.588
	Minimum Wage	-2.136	21.373	-0.026	-0.100
	Business	-30.985	64.264	-0.069	-0.482
	Labor	-248.461	159.681	-0.226	-1.556
	E-score	-0.080	0.261	-0.055	-0.306
	ACU	1.067	0.344	0.924	3.102**
N 102		R2 0.949	Adjusted R2 0.840	Constant -37.907	
103rd	Year Elected	-0.070	.542	-0.012	-0.130
	Current Term	1.388	4.025	0.050	0.345
	Northeast	-7.873	12.997	-0.078	-0.606
	South	-0.091	11.086	-0.001	-0.008
	West	8.019	14.092	0.085	0.569
	Diff DW Nom	-11.309	52.196	-0.021	-0.217
	Fed Spending	12.330	21.764	0.100	0.567
	Per Cap Inc	0.002	.002	0.188	1.121
	African Amer.	4.957	41.891	0.012	0.118
	Hispanic	-67.159	58.075	-0.168	-1.156
	Minimum Wage	-12.158	11.040	-0.146	-1.101
	Business	-33.923	50.590	-0.068	-0.671
	Labor	-165.964	171.280	-0.157	-0.969
	E-score	0.063	.174	0.043	0.362
	ACU	0.918	.150	0.825	6.112**
N 102		R2 0.972	Adjusted R2 0.913	Constant -50.078	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
104th	Year Elected	-0.108	0.431	-0.019	-0.251
	Current Term	0.128	2.916	0.005	0.044
	Northeast	0.255	12.203	0.003	0.021
	South	-1.288	14.532	-0.015	-0.089
	West	10.712	14.776	0.113	0.725
	Diff DW Nom	-21.805	50.392	-0.041	-0.433
	Fed Spending	-3.763	18.843	-0.029	-0.200
	Per Cap Inc	0.000	0.001	0.026	0.199
	African Amer.	11.149	46.925	0.026	0.238
	Hispanic	-18.979	54.118	-0.048	-0.351
	Minimum Wage	-11.221	12.753	-0.135	-0.880
	Business	-10.471	45.944	-0.026	-0.228
	Labor	-52.005	109.139	-0.057	-0.477
	E-score	-0.031	0.345	-0.015	-0.091
	ACU	0.956	0.169	0.912	5.665**
N 103		R2 0.973	Adjusted R2 0.916	Constant 4.535	
105th	Year Elected	-0.393	0.430	-0.070	-0.914
	Current Term	-0.981	2.309	-0.038	-0.425
	Northeast	-1.186	9.500	-0.012	-0.125
	South	-10.743	10.171	-0.126	-1.056
	West	13.347	10.674	0.141	1.250
	Diff DW Nom	-38.502	46.125	-0.074	-0.835
	Fed Spending	-13.521	18.355	-0.106	-0.737
	Per Cap Inc	0.000	0.001	-0.050	-0.451
	African Amer.	38.843	47.087	0.093	0.825
	Hispanic	-4.937	36.765	-0.013	-0.134
	Minimum Wage	-5.301	9.986	-0.064	-0.531
	Business	-30.625	33.674	-0.072	-0.909
	Labor	149.574	121.678	0.157	1.229
	E-score	0.212	0.268	0.089	0.793
	ACU	1.166	0.121	0.951	9.607**
N 100		R2 0.984	Adjusted R2 0.948	Constant 34.148	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
106th	Year Elected	-0.467	0.370	-0.083	-1.262
	Current Term	-0.422	2.518	-0.015	-0.168
	Northeast	-7.875	10.228	-0.078	-0.770
	South	4.263	9.595	0.050	0.444
	West	11.482	11.103	0.121	1.034
	Diff DW Nom	-27.356	38.559	-0.052	-0.709
	Fed Spending	1.793	16.517	0.016	0.109
	Per Cap Inc	0.001	0.001	0.086	0.780
	African Amer.	11.573	33.169	0.028	0.349
	Hispanic	-26.477	34.480	-0.070	-0.768
	Minimum Wage	-12.544	8.591	-0.151	-1.460
	Business	11.504	30.422	0.033	0.378
	Labor	-96.861	88.239	-0.106	-1.098
	E-score	-0.440	0.237	-0.247	-1.859
ACU	1.103	0.142	1.034	7.759**	
N 102		R2 0.983	Adjusted R2 0.947	Constant 14.563	
107th	Year Elected	0.091	0.527	0.016	0.172
	Current Term	1.184	2.235	0.048	0.530
	Northeast	-1.211	14.230	-0.012	-0.085
	South	7.918	11.980	0.093	0.661
	West	9.114	13.854	0.096	0.658
	Diff DW Nom	-22.029	55.246	-0.042	-0.399
	Fed Spending	-15.475	19.071	-0.141	-0.811
	Per Cap Inc	0.000	0.001	0.047	0.303
	African Amer.	0.527	50.219	0.001	0.010
	Hispanic	-11.769	58.777	-0.032	-0.200
	Minimum Wage	-13.765	16.047	-0.165	-0.858
	Business	-31.374	38.758	-0.089	-0.809
	Labor	49.434	155.573	0.038	0.318
	E-score	-0.088	0.187	-0.063	-0.470
ACU	1.062	0.203	0.991	5.218**	
N 102		R2 0.967	Adjusted R2 0.895	Constant 4.129	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
108th	Year Elected	0.578	0.526	0.103	1.099
	Current Term	4.115	2.932	0.161	1.403
	Northeast	-0.455	10.450	-0.005	-0.044
	South	24.485	11.876	0.287	2.062
	West	23.407	13.794	0.247	1.697
	Diff DW Nom	-72.341	37.576	-0.139	-1.925
	Fed Spending	-10.935	12.368	-0.110	-0.884
	Per Cap Inc	0.001	0.001	0.085	0.788
	African Amer.	-19.405	42.823	-0.047	-0.453
	Hispanic	-45.532	35.383	-0.123	-1.287
	Minimum Wage	-17.340	8.521	-0.208	-2.035
	Business	-77.135	30.695	-0.214	-2.513*
	Labor	-5.394	89.944	-0.005	-0.060
	E-score	0.417	0.244	0.288	1.704
ACU	0.889	0.156	0.739	5.711**	
N 100		R2 0.981	Adjusted R2 0.941	Constant -52.112	

* p < 0.05, ** p < 0.01

Substituting ACU into the analysis produces a model that explains more variation than base model variables alone. For each Congress coefficients of determination increased when adding ACU. With values for coefficients of determination exceeding 90 percent for ACU and ADA in the 104th, 105th, 106th, and 108th Congresses, the risk of autocollinearity exists from including either of these independent variables in the model. With higher coefficients of determination for ACU and ADA in later Congresses an indication of a potential linear relationship between each of the two variables and support for a minimum wage increase, the lack of variability for each variable is consistent with a polarizing liberal-conservative philosophy.

Substituting DW Nominate into the model as a measure of ideology across time, a relative importance of liberal-conservative ideology continues to exist. As Table 4.32 indicates, DW Nominate is statistically significant and positively correlated with opposition to increasing the minimum wage in each Congress in the model with measurable results (100th through 108th Congresses). The directional impact of the variable indicates that senators who are more conservative vote in opposition to increasing the minimum wage in greater numbers. This positive relationship between higher DW Nominate scores and opposition to minimum wage policies was anticipated in Hypothesis 4b: *Legislators with higher DW Nominate scores vote in opposition to increasing the minimum wage*. Relatively strong standardized coefficients in the 105th, 106th, and 107th Congresses indicate the per-unit effect of DW Nominate from its application to the model produces relatively greater change in the dependent variable.

Differences in the senator's ideology in relation to the median ideology for the senate are statistically significant in the model. The variable is not statistically significant in the base model or any of the other substitutions. The negative correlation between differences in DW Nominate and median party and opposition to increasing the minimum wage suggests that the more the senator diverges from median ideological positions of his or her political party the less likely the senator will support an economically efficient position.

Table 4.32 Regression Analysis of Base Model and DW Nominate Substitution for 100th to 108th Senate: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
100th	Year Elected	-0.193	0.504	-0.031	-0.383
	Current Term	-1.047	2.304	-0.040	-0.454
	Northeast	-3.656	13.693	-0.032	-0.267
	South	-25.585	13.310	-0.260	-1.922
	West	-10.244	12.443	-0.099	-0.823
	Diff DW Nom	-75.229	37.316	-0.180	-2.016*
	Fed Spending	45.667	17.328	0.305	2.635**
	Per Cap Inc	0.002	0.002	0.148	1.163
	African Amer.	49.751	73.466	0.082	0.677
	Hispanic	-181.974	53.400	-0.367	-3.408**
	Minimum Wage	-6.648	9.869	-0.073	-0.674
	Business	9.622	12.483	0.076	0.771
	Labor	0.036	14.646	0.000	0.002
	E-score	0.403	0.221	0.261	1.828
	DW Nominate	73.577	19.021	0.557	3.868**
N 101		R2 0.719	Adjusted R2 0.629	Constant -27.526	
101st	Year Elected	-0.299	0.386	-0.063	-0.776
	Current Term	0.856	1.540	0.040	0.556
	Northeast	-0.737	8.713	-0.007	-0.085
	South	-4.613	8.798	-0.063	-0.524
	West	1.970	9.177	0.024	0.215
	Diff DW Nom	-57.910	25.841	-0.187	-2.241*
	Fed Spending	-8.789	13.790	-0.065	-0.637
	Per Cap Inc	0.001	0.001	0.069	0.654
	African Amer.	52.231	41.059	0.146	1.272
	Hispanic	-14.191	34.506	-0.027	-0.411
	Minimum Wage	-4.404	5.893	-0.061	-0.747
	Business	-4.840	8.584	-0.046	-0.564
	Labor	7.612	13.346	0.057	0.570
	E-score	0.133	0.131	0.089	1.011
	DW Nominate	101.600	10.361	0.995	9.806**
N 101		R2 0.871	Adjusted R2 0.817	Constant 27.349	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
102nd	Year Elected	0.795	0.603	0.137	1.319
	Current Term	-0.511	2.839	-0.021	-0.180
	Northeast	-1.924	15.021	-0.019	-0.128
	South	-6.463	12.155	-0.076	-0.532
	West	-8.868	13.974	-0.094	-0.635
	Diff DW Nom	-29.781	48.437	-0.056	-0.615
	Fed Spending	15.426	19.575	0.131	0.788
	Per Cap Inc	0.001	0.002	0.126	0.889
	African Amer.	-4.187	51.095	-0.010	-0.082
	Hispanic	-55.193	60.168	-0.137	-0.917
	Minimum Wage	-12.784	13.944	-0.154	-0.917
	Business	10.371	52.174	0.023	0.199
	Labor	-168.771	131.080	-0.153	-1.288
	E-score	-0.180	0.211	-0.123	-0.851
DW Nominate	113.118	25.575	0.973	4.423**	
N 102 R2 0.968 Adjusted R2 0.900 Constant 11.716					
Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t – scores
103rd	Year Elected	0.275	0.683	0.049	0.403
	Current Term	1.257	5.108	0.045	0.246
	Northeast	-1.483	16.670	-0.015	-0.089
	South	-4.561	13.990	-0.054	-0.326
	West	0.444	18.276	0.005	0.024
	Diff DW Nom	-32.784	68.575	-0.061	-0.478
	Fed Spending	12.164	27.623	0.098	0.440
	Per Cap Inc	0.002	0.002	0.149	0.698
	African Amer.	29.718	54.516	0.070	0.545
	Hispanic	-44.670	77.612	-0.111	-0.576
	Minimum Wage	-10.822	14.675	-0.130	-0.737
	Business	-44.229	63.817	-0.089	-0.693
	Labor	-93.909	220.249	-0.089	-0.426
	E-score	0.059	0.222	0.040	0.266
DW Nominate	98.767	21.724	0.864	4.547**	
N 102 R2 0.955 Adjusted R2 0.860 Constant 0.174					

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
104th	Year Elected	0.381	0.528	0.068	0.721
	Current Term	3.206	3.582	0.131	0.895
	Northeast	-0.239	14.435	-0.002	-0.017
	South	-2.966	17.304	-0.035	-0.171
	West	7.777	17.422	0.082	0.446
	Diff DW Nom	-58.620	59.558	-0.110	-0.984
	Fed Spending	1.290	22.097	0.010	0.058
	Per Cap Inc	0.002	0.002	0.155	1.004
	African Amer.	12.280	55.905	0.029	0.220
	Hispanic	-30.301	63.556	-0.076	-0.477
	Minimum Wage	-13.715	14.989	-0.165	-0.915
	Business	-43.830	53.704	-0.107	-0.816
	Labor	-64.685	129.608	-0.071	-0.499
	E-score	-0.059	0.421	-0.028	-0.141
	DW Nominate	109.837	24.007	0.978	4.575**
N 103		R2 0.962	Adjusted R2 0.882	Constant 9.450	
105th	Year Elected	-0.176	0.564	-0.031	-0.312
	Current Term	-3.532	3.018	-0.139	-1.171
	Northeast	6.062	12.761	0.060	0.475
	South	-10.362	13.272	-0.122	-0.781
	West	-3.291	14.709	-0.035	-0.224
	Diff DW Nom	-92.835	64.777	-0.178	-1.433
	Fed Spending	-30.120	23.858	-0.236	-1.262
	Per Cap Inc	-0.001	0.001	-0.103	-0.704
	African Amer.	-20.816	58.808	-0.050	-0.354
	Hispanic	30.791	50.700	0.079	0.607
	Minimum Wage	-7.153	13.030	-0.086	-0.549
	Business	-52.013	43.129	-0.122	-1.206
	Labor	372.135	160.472	0.390	2.319*
	E-score	0.431	0.347	0.181	1.242
	DW Nominate	114.942	16.045	1.042	7.164**
N 100		R2 0.972	Adjusted R2 0.912	Constant 123.041	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
106th	Year Elected	-0.092	0.515	-0.016	-0.179
	Current Term	2.729	3.682	0.099	0.741
	Northeast	-7.874	14.491	-0.078	-0.543
	South	-13.744	14.718	-0.161	-0.934
	West	-15.489	17.461	-0.164	-0.887
	Diff DW Nom	-73.894	57.980	-0.141	-1.274
	Fed Spending	19.542	24.380	0.170	0.802
	Per Cap Inc	0.002	0.001	0.286	1.744
	African Amer.	49.592	49.909	0.120	0.994
	Hispanic	39.065	55.613	0.103	0.702
	Minimum Wage	1.274	14.090	0.015	0.090
	Business	12.733	43.576	0.037	0.292
	Labor	-126.792	128.173	-0.139	-0.989
	E-score	-0.818	0.407	-0.460	-2.008
	DW Nominate	154.848	30.092	1.429	5.146**
N 102		R2 0.966	Adjusted R2 0.894	Constant 13.002	
107th	Year Elected	-0.232	0.421	-0.041	-0.551
	Current Term	1.780	1.743	0.073	1.021
	Northeast	-3.760	11.053	-0.037	-0.340
	South	-0.526	9.256	-0.006	-0.057
	West	7.818	10.908	0.083	0.717
	Diff DW Nom	-46.347	44.534	-0.088	-1.041
	Fed Spending	-7.677	14.335	-0.070	-0.536
	Per Cap Inc	0.001	0.001	0.198	1.682
	African Amer.	4.149	39.418	0.010	0.105
	Hispanic	-6.739	45.679	-0.018	-0.148
	Minimum Wage	-15.664	12.038	-0.188	-1.301
	Business	-80.112	28.157	-0.227	-2.845*
	Labor	28.637	121.084	0.022	0.237
	E-score	-0.215	0.155	-0.155	-1.389
	DW Nominate	118.188	17.002	1.111	6.952**
N 102		R2 0.979	Adjusted R2 0.935	Constant 49.129	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
108th	Year Elected	0.717	0.773	0.127	0.928
	Current Term	3.511	4.505	0.138	0.779
	Northeast	2.212	15.366	0.022	0.144
	South	13.553	18.588	0.159	0.729
	West	14.867	20.618	0.157	0.721
	Diff DW Nom	-78.637	55.708	-0.151	-1.412
	Fed Spending	-6.272	18.032	-0.063	-0.348
	Per Cap Inc	0.001	0.001	0.087	0.542
	African Amer.	5.076	64.701	0.012	0.078
	Hispanic	-26.962	56.301	-0.073	-0.479
	Minimum Wage	-11.463	13.582	-0.138	-0.844
	Business	-77.203	45.442	-0.214	-1.699
	Labor	-19.626	132.630	-0.019	-0.148
	E-score	0.399	0.384	0.276	1.039
DW Nominate	83.937	24.957	0.803	3.363**	
N 100		R2 0.960	Adjusted R2 0.873	Constant -13.496	

* p < 0.05, ** p < 0.01

Both measures of self-interest – Business and Labor – were statistically significant in the model in the 107th and 105th Congresses, respectively. Neither variable was statistically significant in the base model in those Congresses. Senators receiving higher business contributions were more likely to support increasing the minimum wage, while senators receiving higher labor contributions were more likely to oppose increasing the minimum wage. Ironically, the directional impact of each variable was opposite the anticipated correlation as hypothesized in the base model. That DW Nominate is statistically significant in each Congress suggests an ideology component over time could be affecting anticipated self-interest movements.

Substituting legislator party into the base model for minimum wage (Table 4.33) finds relatively few statistically significant relationships change as a result of the substitution. Senators receiving higher labor contributions and representing states with

higher percentages of Hispanics in the population are statistically significant variables in the model and positively correlated to greater support for increasing the minimum wage. Legislators with higher E-scores are more likely to oppose minimum wage increases. Each of these associations and directional impacts hold for both the base model and legislator party substitution.

Legislator party is statistically significant in each Congress with the exception of the 101st Congress. In testing Hypothesis 10b: *Legislators from the minority party (Senate) are less likely than majority party legislators to support increasing the federal minimum wage*, the model finds no statistical difference in minority or majority party status in predicting support. Generally, Republicans oppose increasing the minimum wage and Democrats support increasing the minimum wage regardless of party control of the institution. In the 107th Congress this association was not possible to measure with party control of the Senate varying throughout the Congress.

State minimum wage laws remained statistically significant in the 102nd, 103rd, and 107th Congresses after substituting legislator party into the model. Senators representing states with minimum wage laws higher than proposed federal minimum wage legislation support increasing the federal minimum wage. This association exists with both Democratic control and varying control of the Senate and is consistent with base model analysis.

Table 4.33 Regression Analysis of Base Model and Legislator Party Substitution for 100th to 108th Senate: Minimum Wage

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
100th	Year Elected	-0.352	0.529	-0.057	-0.666
	Current Term	-1.148	2.372	-0.044	-0.484
	Northeast	-6.690	14.005	-0.058	-0.478
	South	-19.140	13.624	-0.194	-1.405
	West	-3.863	12.854	-0.037	-0.301
	Diff DW Nom	-61.786	37.211	-0.152	-1.660
	Fed Spending	35.219	17.871	0.235	1.971
	Per Cap Inc	0.002	0.002	0.092	0.693
	African Amer.	75.044	75.638	0.123	0.992
	Hispanic	-148.794	55.819	-0.299	-2.666**
	Minimum Wage	-14.778	10.003	-0.164	-1.477
	Business	11.017	13.008	0.087	0.847
	Labor	1.447	15.544	0.009	0.093
	E-score	0.490	0.228	0.322	2.153*
Legislator Party	-39.466	13.117	-0.433	-3.009**	
N 101		R2 0.689	Adjusted R2 0.591	Constant 5.814	
101st	Year Elected	0.721	0.710	0.152	1.015
	Current Term	-0.752	2.971	-0.035	-0.253
	Northeast	-4.182	16.652	-0.042	-0.251
	South	17.162	16.538	0.234	1.038
	West	6.397	17.598	0.078	0.363
	Diff DW Nom	78.681	41.584	0.255	1.892
	Fed Spending	12.887	26.365	0.095	0.489
	Per Cap Inc	0.003	0.003	0.248	1.209
	African Amer.	-41.524	77.507	-0.116	-0.536
	Hispanic	-13.121	66.148	-0.025	-0.198
	Minimum Wage	-11.304	11.400	-0.158	-0.992
	Business	-29.008	16.885	-0.278	-1.718
	Labor	-79.311	19.049	-0.594	-4.164**
	E-score	0.560	0.238	0.378	2.351*
Legislator Party	3.668	9.593	0.051	0.382	
N 101		R2 0.527	Adjusted R2 0.330	Constant -61.562	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
102nd	Year Elected	0.800	0.704	0.138	1.136
	Current Term	-0.786	3.320	-0.032	-0.237
	Northeast	-4.430	17.652	-0.044	-0.251
	South	6.112	14.366	0.072	0.425
	West	4.786	16.443	0.051	0.291
	Diff DW Nom	-16.036	56.255	-0.030	-0.285
	Fed Spending	7.275	23.075	0.062	0.315
	Per Cap Inc	0.000	0.002	0.010	0.065
	African Amer.	-58.496	56.976	-0.136	-1.027
	Hispanic	-103.041	66.065	-0.256	-1.560
	Minimum Wage	-34.995	13.116	-0.420	-2.668*
	Business	3.083	60.667	0.007	0.051
	Labor	-185.474	152.852	-0.168	-1.213
	E-score	-0.021	0.225	-0.014	-0.092
	Legislator Party	-53.409	15.109	-0.637	-3.535**
N 102		R2 0.956	Adjusted R2 0.863	Constant 75.899	
103rd	Year Elected	0.113	0.653	0.020	0.173
	Current Term	2.107	4.850	0.076	0.435
	Northeast	-9.093	15.696	-0.090	-0.579
	South	9.393	13.714	0.110	0.685
	West	15.519	16.835	0.164	0.922
	Diff DW Nom	-9.301	63.338	-0.017	-0.147
	Fed Spending	8.066	26.542	0.065	0.304
	Per Cap Inc	0.002	0.002	0.175	0.861
	African Amer.	-20.910	49.943	-0.049	-0.419
	Hispanic	-81.025	69.605	-0.202	-1.164
	Minimum Wage	-29.239	11.275	-0.351	-2.593*
	Business	-85.229	57.667	-0.171	-1.478
	Labor	-192.835	206.488	-0.183	-0.934
	E-score	0.003	0.215	0.002	0.012
	Legislator Party	-54.128	11.203	-0.645	-4.832**
N 102		R2 0.959	Adjusted R2 0.872	Constant 40.097	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
104th	Year Elected	0.318	0.563	0.057	0.565
	Current Term	2.406	3.793	0.098	0.634
	Northeast	-4.541	15.484	-0.045	-0.293
	South	14.944	18.041	0.175	0.828
	West	16.119	18.955	0.170	0.850
	Diff DW Nom	-47.397	63.687	-0.089	-0.744
	Fed Spending	-6.133	24.143	-0.047	-0.254
	Per Cap Inc	0.001	0.002	0.068	0.409
	African Amer.	-53.235	56.270	-0.126	-0.946
	Hispanic	-62.522	66.305	-0.157	-0.943
	Minimum Wage	-30.385	14.635	-0.365	-2.076
	Business	-37.624	57.584	-0.092	-0.653
	Labor	-27.056	137.766	-0.030	-0.196
	E-score	0.214	0.413	0.100	0.518
	Legislator Party	56.737	13.621	0.676	4.166**
N 103		R2 0.957	Adjusted R2 0.865	Constant -0.883	
105th	Year Elected	0.071	0.753	0.013	0.094
	Current Term	-2.268	3.971	-0.089	-0.571
	Northeast	-5.503	16.231	-0.055	-0.339
	South	11.246	17.375	0.132	0.647
	West	13.163	18.480	0.139	0.712
	Diff DW Nom	-26.071	79.847	-0.050	-0.327
	Fed Spending	-22.382	31.500	-0.175	-0.711
	Per Cap Inc	-0.001	0.002	-0.054	-0.283
	African Amer.	-67.504	75.705	-0.161	-0.892
	Hispanic	-42.505	61.251	-0.109	-0.694
	Minimum Wage	-29.165	14.826	-0.350	-1.967
	Business	-31.163	58.515	-0.073	-0.533
	Labor	145.502	209.523	0.153	0.694
	E-score	0.136	0.463	0.057	0.294
	Legislator Party	62.777	12.193	0.748	5.149**
N 100		R2 0.951	Adjusted R2 0.846	Constant 71.984	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
106th	Year Elected	0.149	0.623	0.027	0.240
	Current Term	-1.133	4.320	-0.041	-0.262
	Northeast	-17.409	17.691	-0.173	-0.984
	South	9.394	16.363	0.110	0.574
	West	11.269	19.182	0.119	0.587
	Diff DW Nom	-33.550	67.423	-0.064	-0.498
	Fed Spending	0.237	28.474	0.002	0.008
	Per Cap Inc	0.001	0.001	0.081	0.432
	African Amer.	-27.237	55.413	-0.066	-0.492
	Hispanic	-41.570	59.030	-0.109	-0.704
	Minimum Wage	-22.515	14.063	-0.270	-1.601
	Business	17.510	53.989	0.051	0.324
	Labor	-62.942	151.275	-0.069	-0.416
	E-score	-0.258	0.404	-0.145	-0.637
Legislator Party	72.648	18.324	0.866	3.965**	
N 102		R2 0.950	Adjusted R2 0.844	Constant 18.868	
107th	Year Elected	0.155	0.593	0.028	0.262
	Current Term	2.454	2.485	0.100	0.988
	Northeast	-15.275	15.429	-0.152	-0.990
	South	10.541	13.650	0.124	0.772
	West	16.715	15.596	0.177	1.072
	Diff DW Nom	-5.184	61.251	-0.010	-0.085
	Fed Spending	-1.647	20.288	-0.015	-0.081
	Per Cap Inc	0.001	0.001	0.163	0.956
	African Amer.	-59.265	52.774	-0.143	-1.123
	Hispanic	-79.282	57.453	-0.215	-1.380
	Minimum Wage	-35.576	14.812	-0.427	-2.402*
	Business	-45.793	42.663	-0.130	-1.073
	Labor	-74.275	169.477	-0.057	-0.438
	E-score	-0.061	0.209	-0.044	-0.291
Legislator Party	-61.377	13.738	-0.732	-4.468**	
N 102		R2 0.958	Adjusted R2 0.866	Constant 61.781	

Congress	Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
108th	Year Elected	0.915	0.633	0.163	1.445
	Current Term	4.636	3.621	0.182	1.281
	Northeast	-0.199	12.944	-0.002	-0.015
	South	31.443	14.498	0.369	2.169
	West	23.987	17.083	0.253	1.404
	Diff DW Nom	-72.548	46.600	-0.139	-1.557
	Fed Spending	-10.653	15.378	-0.107	-0.693
	Per Cap Inc	-5.029E-05	0.001	-0.007	-0.052
	African Amer.	-47.978	52.574	-0.116	-0.913
	Hispanic	-57.679	43.169	-0.156	-1.336
	Minimum Wage	-20.773	10.371	-0.250	-2.003
	Business	-69.419	38.540	-0.192	-1.801
	Labor	-26.441	110.658	-0.026	-0.239
	E-score	0.584	0.287	0.404	2.034
	Legislator Party	50.218	11.578	0.599	4.337**
N 100		R2 0.971	Adjusted R2 0.910	Constant -36.199	

* p < 0.05, ** p < 0.01

Coefficients of determination across the legislator party substitution indicate that adding the variable to the model increased the explanatory effect of the variables in the model on changes in the dependent variable, minimum wage, in most Congresses. In the 101st Congress adding legislator party decreased the explanatory effect of the model over base variables.

Model Summary of Senate Analysis

An analysis of the Senate finds ideology and political party as strong predictors of legislative behavior. Consistently throughout the model and across both dependent variables, a positive association exists between both conservatism and Republican support for economically efficient outcomes. These trends exist across all measures of ideology – ADA, ACU, and DW Nominate – and are not sensitive to party control of the

Senate. Evidence of increasing polarization between parties occurs in later Congresses as less variability surrounds conservative or liberal ideology and economic efficiency. With legislative ideology moving toward the extremes, E-score measures of a senator's voting patterns appear relatively less important as a predictor of behavior.

Within the Senate analysis distinctions exist between results produced when analyzing each dependent variable that must be noted. In the medical malpractice dependent variable E-score has a stronger impact in the base model but less impact after variable substitution into the model. Self-interest is a much more effective predictor of behavior in the House than in the Senate. This fact could be the result of the relative strength of liberal-conservative ideology and party in the Senate or indicate the effectiveness of lobbying efforts with the small House districts. State economic conditions and a senator's tenure in his or her career are important control variables in the medical malpractice model but are much less effective in the minimum wage model.

The highly correlated effect of the substituted variables – party unity, ADA, ACU, DW Nominate, and legislator party – is evident in the minimum wage model. When substituted into the model each measure of ideology or party consistently produces strong results for that variable. That the substituted variable was often the only variable statistically significant in the minimum wage model indicates not only the importance of ideology and party in predicting behavior, but also the relative effect of each variable measured against self-interest and E-score.

Analyzing effects of base and substituted models for both dependent variables in the Senate found important similarities and differences with results from the same models in an analysis of the House. E-score is a relatively stronger predictor of behavior

in the House relative to the Senate across each dependent variable. That the House is a more homogenous institution and characterized to a larger extent through ideological extremes does not appear to affect a legislator's support of economic efficiency principles.

ACU is a relatively stronger predictor of behavior in the House, and ADA is a stronger predictor of behavior in the Senate. The strength of the variable is measured through standardized coefficients showing per unit effects associated with application of the variable on the model. Differences in a legislator's ideology and the median ideology of the party exist between House and Senate. In the house larger differences between a legislator's ideology and median party ideology are associated with greater support for economically efficient policies. In the Senate the relationship is reversed as senators who diverge from median ideology of their party are less likely to support economically efficient policies. This relationship suggests that the effect of party is not static across institutions. Legislative decision making supporting economically efficient policies in the House is consistent with the greater effect of E-score in that chamber as a predictor of behavior.

Hypothesis Testing Summary

In answering the research question of the extent that E-score represents a component of ideology beyond mere liberalism and conservatism that can be used as a predictor of legislative voting, hypotheses were developed to measure the impact of ideology, self-interest, and party in a multivariate model.

Hypotheses for both dependent variables – medical malpractice and minimum wage – were tested for the House and Senate and reported above. Confirmations of each hypothesis are summarized for House and Senate in Table 4.34.

Table 4.34 Summary and Confirmation of Hypothesis Tested for Medical Malpractice and Minimum Wage Dependent Variables in House and Senate

Medical Malpractice Hypothesis	Confirmation	
	House	Senate
H 1a: Legislators with higher E-scores vote in support of medical malpractice reform.	Yes	Yes
H 2a: Legislators with higher ADA scores vote in opposition to medical malpractice reform.	Yes	Yes
H 3a: Legislators with higher ACU scores vote in support of medical malpractice reform.	Yes	Yes
H 4a: Legislators with higher DW Nominate scores vote in support of medical malpractice reform.	Yes	No
H 5a: Legislators with higher health care political contributions to total contributions vote in support of malpractice reform.	Yes	No
H 6a: Legislators with higher legal political contributions to total contributions vote in opposition to medical malpractice reform.	Yes	Yes
H 7a: Republican legislators are likely to vote for malpractice reform more often than Democratic legislators.	Yes	Yes
H 8a: The closer senators are to the end of their current term in office, the more likely they are to support malpractice reform.	---	No
H 9a: The longer a legislator has served, the more likely he or she supports medical malpractice reform.	No	No
H 10a: Legislators from the minority party (House) are more likely than majority party legislators to support medical malpractice reform	No	No
H 11a: The greater the ideological division between the legislator and the median ideology of the legislator's party, the more likely the legislator supports medical malpractice reform.	Yes	No

Minimum Wage		
Hypothesis	House	Senate
H 1b: Legislators with higher E-scores vote in opposition to increasing the minimum wage.	Yes	Yes
H 2b: Legislators with higher ADA scores vote in support of increasing the federal minimum wage.	Yes	Yes
H 3b: Legislators with higher ACU scores vote in opposition to increasing the federal minimum wage.	Yes	Yes
H 4b: Legislators with higher DW Nominate scores vote in opposition to increasing the minimum wage.	Yes	Yes
H 5b: Legislators with higher business political contributions to total contributions vote in opposition to increasing the minimum wage.	Yes	No
H 6b: Legislators with higher labor political contributions to total contributions vote in support of increasing the minimum wage.	Yes	Yes
H 7b: Republican legislators are less likely to vote for increasing the minimum wage more often than Democrats.	Yes	Yes
H 8b: The closer senators are to the end of their current term in office the more likely they are to support malpractice reform.	- - -	No
H 9b: The longer a legislator has served, the less likely he or she will support increasing the minimum wage.	No	No
H 10b: Legislators from the minority party (House) are less likely than majority party legislators to support increasing the federal minimum wage.	No	No
H 11b: The greater the division between the ideology of the legislator and the median ideology of the legislator's party, the less likely the legislator supports increasing the federal minimum wage.	Yes	No

In the House ideology, self-interest, and party are clear predictors of behavior in this model. As a component of ideology E-score was found to be a predictor of legislative voting positively correlated with support for economically efficient public policies. Measuring ideology across a liberal-conservative spectrum as a predictor of legislative voting is clearly confirmed in this model. Analysis using two distinct policy areas as dependent variables identifies conservatives as supporting economically efficient principles in higher numbers than liberals. Republicans support economically efficient policies regardless of party control of the institution. The ideology of the

representative is a stronger predictor of economically efficient behavior than median party ideology. As legislators diverge from median party ideology in casting roll call votes those legislators support economically efficient legislation in increasing numbers.

House member decision-making is also shaped by political contributions that impact the self-interest of legislators. Political contributions are confirmed as an effective means of shaping a legislator's voting preferences in support or opposition to a policy. Minority or majority status of the legislator's party is not a factor in the model.

In the Senate ideology remains a strong predictor of behavior but the impact of its effect changes. E-score and liberal-conservative ideology – ADA and ACU – are strong predictors of behavior in the Senate model. For medical malpractice dependent variable a liberal-conservative spectrum does not function as well in predicting directional impact of ideology on behavior over time. DW Nominat as a weighted measure for capturing changes in ideology over time does not produce a consistent directional impact to confirm Hypothesis 4a. The hypothesis is confirmed in the minimum wage model, suggesting that the utility of the DW Nominat variable in predicting ideology may be situational to the policy.

Differences in economic efficiency from ideological divisions between a senator and his or her median party ideology are confirmed in this model. Regardless of party control, Republicans support economically efficient legislation in the Senate, while Democrats do not. Length of time in office and time in current term are not factors in support of economically efficient legislation in the Senate model.

Self-interests affect legislative decision-making but are inconsistent in an analysis of the Senate. Neither self-interest hypothesis is confirmed in medical

malpractice dependent variable. Only labor contributions are effective in predicting behavior for minimum wage dependent variable.

Considering the effects of change in party control on legislative behavior is important to this analysis of economic efficiency. Statistically significant differences were not found between minority-majority party control of Congress or ideological differences between legislator ideology and median party ideology when analyzing each Congress separately.

Time Series Analysis

Interrupted time series was used in measuring the impact of changes in political party control of the political institution (House and Senate) on support for medical malpractice reform and legislation for increasing the federal minimum wage within the Congresses of the study. The intent of using interrupted time series in the model is to evaluate the impact of changes in political party control on legislative decision-making, and if such decision-making impacts economic efficiency. In addition to an analysis of each dependent variable, separate analyses were regressed on time and two dummy variables for each ideology independent variable (ADA, ACU, E-score, and DW Nominate).

The model initially identified three data points for making this analysis: the 1986 congressional election with the Democratic Party regaining control of the Senate, the 1994 election with Republicans sweeping both houses of Congress, and the 2000 election with closely divided, Republican controlled Congress and a Republican president. In order to measure changes at each data point several votes are needed before

and after the event. Too few votes were available for analyzing legislative decision-making from changes in party control before and after events in 1986 and 2000. The Republican sweep of both the Senate and the House in 1994 (104th Congress) was adopted as the basis for making interrupted time series analysis.

The model is based on Kellough (1990, p. 84) and is presented by the following equation:

$$Y_t = b_0 + b_1X_{1t} + b_2X_{2t} + e$$

The key additions in an interrupted time series design are two dummy counting variables. One dummy variable X_{1t} is coded zero for observations before changes in institutional control in the 104th Congress (e.g., a Democratic majority in the Senate is replaced by a Republican majority) and one for observations thereafter. It is used as an indicator of whether a change in behavior occurred in and around the event in question. The second dummy variable X_{2t} is coded zero for observations prior to the change in party control and one for the first year after the change in party control, two for the next, three for the next, and so forth. This variable is called a post counter. It is used in determining whether any change in pattern detected is long term or short term in duration.

The dependent variable Y_t represents mean scores for medical malpractice reform or in opposition to increasing the minimum wage. The latter is measured in terms of opposition to the legislation rather than in support of the legislation to standardize both dependent variables to positively reflect economic efficiency. Each Congress represents the time variable for years.

Analysis

For each dependent variable – medical malpractice and minimum wage – in the House and Senate mean scores were gathered representing dependent variable legislation from that Congress or, if no dependent variable legislation was considered in that Congress, from a scoring model representing all dependent variable legislation over the study. Scores were separated into mean scores for Republicans and mean scores for Democrats to analyze the magnitude of differences between each political party.

The model was tested for House and Senate in exploring if statistically significant changes were observed as a result of time or if changes in party control beginning with the 104th Congress produced changes in behavior. Time and measures of changes in party control (DUM1 and DUM2) were regressed against each dependent variable – mean medical malpractice scores and mean minimum wage scores – and also against each measure of ideology (E-score, ACU, ADA, and DW Nominate) for Republicans and Democrats collectively and Republicans and Democrats separately for each Congress (99th through 108th) in the study.

House

Mean scores for medical malpractice and minimum wage were analyzed as dependent variables in the interrupted time series model. A measure of time (HOUSE) and each counting variable (DUM1 and DUM2) were regressed against mean scores for each dependent variable. No statistically significant combinations existed between the effects of time before and after changes in party control and changes in either dependent variable, mean medical malpractice scores and mean minimum wage scores.

HOUSE, DUM1, and DUM2 were regressed against mean values for each ideology variable (E-score, ADA, ACU, and DW Nominate) in testing for the effect of time on changes in ideology. No statistically significant relationships were found in the ADA, ACU, and E-score analyses. Table 4.35 shows DW Nominate scores for all House members initially increased with the impact of changes in party control and continued increasing after the initial impact. The effect of time measured by HOUSE indicates a very small decline in DW Nominate scores over time, but the variable is not statistically significant. When Republican and Democrat DW Nominate scores are considered separately, no statistically significant relationships are found. This suggests that the overall effect of time and party control in the House does not affect Republicans and Democrats singularly, but rather has a collective impact on ideology. This is what one would expect given the fact that DW Nominate adjusts for ideological change over time.

Table 4.35 Interrupted Time Series Analysis of Time and Changes in Party Control on Mean DW Nominate Scores for Republicans and Democrats in the House

HOUSE				
Mean DW Nominate (Republicans and Democrats)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
HOUSE	-0.003	0.002	-0.140	-1.044
DUM1	0.089	0.010	0.833	8.675**
DUM2	0.010	0.004	0.327	2.754*
R squared 0.987	Adjusted R squared 0.980	Constant -0.044		
Mean DW Nominate (Republicans)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
HOUSE	0.017	0.012	0.586	1.362
DUM1	0.048	0.051	0.288	0.933
DUM2	0.004	0.018	0.089	0.232
R squared 0.865	Adjusted R squared 0.798	Constant 0.255		

Mean DW Nominate (Democrats)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
HOUSE	-0.012	0.009	-0.692	-1.400
DUM1	-0.050	0.035	-0.501	-1.413
DUM2	0.008	0.012	0.280	0.638
R squared 0.823	Adjusted R squared 0.734	Constant -0.256		

* p < 0.05, ** p < 0.01

Senate

Regressing time and changes in party control on mean medical malpractice scores for Senate Republicans and Democrats combined (Table 4.36) finds no evidence of change from the passage of time alone ($p = 1.00$), but statistically significant changes occur when scores for medical malpractice are considered for Republicans and Democrats separately.

Table 4.36 Interrupted Time Series Analysis of Time and Changes in Party Control on Mean Medical Malpractice Scores for Republicans and Democrats in the Senate

SENATE				
Mean Medical Malpractice (Republicans and Democrats)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
SENATE	-1.432E-15	0.890	0.000	0.000
DUM1	-0.500	3.669	-0.075	-0.136
DUM2	1.500	1.258	0.815	1.192
R squared 0.568	Adjusted R squared 0.352	Constant 42.000		
Mean Medical Malpractice (Republicans)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
SENATE	6.263E-15	2.466	0.000	0.000
DUM1	-36.800	10.167	-1.369	-3.620*
DUM2	12.000	3.487	1.610	3.441*
R squared 0.798	Adjusted R squared 0.697	Constant 78.00		

Mean Medical Malpractice (Democrats)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
SENATE	-2.326E-15	2.001	0.000	0.000
DUM1	34.500	8.251	1.297	4.181**
DUM2	-12.300	2.830	-1.668	-4.346**
R squared 0.864		Adjusted R squared 0.796		Constant 23.000

* p < 0.05, ** p < 0.01

For Republicans there is a change around the 104th Congress indicating less Republican support for medical malpractice reform, but over the long term support increases over time. When measuring mean medical malpractice votes cast by Democrats, an initial change occurs with the change in party control. Democrats initially experience greater support for medical malpractice reform, which decreases over time. Time change itself is not statistically significant in the medical malpractice model for Republicans or Democrats and offers no support that time is responsible for changes.

That Republican support initially drops and Democrat support initially increases reflects the pull of party on a senator's ideology as party control changes. Republicans are influenced by Democrat control of the Senate to the extent that their behavior changes when Democrats are relegated to minority party status. Democrat senators experienced the opposite effect, as ascension to majority party status is associated with increased support for medical malpractice reform.

In each scenario behavior reverts to long-term trends associated with support for medical malpractice reform by each party. Republican senators support increases over time after the initial decline and Democrat support declines after the initial increase. These movements in support are an indication that party and shifts in party control

influence senators and play a role in changes in the Senate, but senators gradually adjust to those changes over time.

Testing if adherence to party principles is a factor in changes in support or if ideology is responsible for changes in legislative behavior, an interrupted time series analysis measuring time and party control was run against each ideology variable. None of the ACU and E-score equations showed statistically significant variables.

For ADA (Table 4.37) the passage of time is related to increasing Senate scores over time. A change occurred around the Republican takeover with the 104th Congress where scores declined. A gradual long-term decline continued but the results were not statistically significant. ADA scores for Republican senators experience an abrupt decline around the 104th Congress. Republican ADA scores trend upward over time before the impact of changes in party control and after the initial decline, but the results are not statistically significant. ADA scores for Democrats are impacted by change in time and experience increases over the time period of the study. ADA scores for Democrats are not impacted by changes in party control, nor are their movements after the initial change in party control.

Table 4.37 Interrupted Time Series Analysis of Time and Changes in Party Control on Mean ADA Scores for Republicans and Democrats in the Senate

SENATE				
Mean ADA (Republicans and Democrats)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
SENATE	2.400	0.898	1.756	2.672*
DUM1	-12.600	3.703	-1.605	-3.403*
DUM2	-0.400	1.270	-0.184	-0.315
R squared 0.686	Adjusted R squared 0.529	Constant 42.000		

Mean ADA (Republicans)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
SENATE	0.400	0.986	0.234	0.406
DUM1	-13.700	4.064	-1.396	-3.371*
DUM2	1.300	1.394	0.477	0.933
R squared 0.758 Adjusted R squared 0.637 Constant 18.800				
Mean ADA (Democrats)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
SENATE	2.100	0.832	0.876	2.525*
DUM1	6.400	3.429	0.465	1.866
DUM2	-1.500	1.176	-0.393	-1.275
R squared 0.912 Adjusted R squared 0.869 Constant 67.700				

* p < 0.05, ** p < 0.01

Mean DW Nominate scores are impacted by time when Republican and Democrat combined Senate scores are included in the analysis. (See Table 4.38.) Given the method of calculation of the variable, a change in time for DW Nominate scores is expected, and an increase around the 104th Congress is not surprising with Republicans ascending to majority status and generally having higher DW Nominate scores representing a more conservative ideology. That DW Nominate scores experience decreases over the time period of the study is surprising.

Separating Republican and Democrat DW Nominate scores finds Republican scores increasing over time and Democrat scores decreasing. Initial changes in DW Nominate scores for each party were impacted by change in control of the senate to the Republicans with Republicans initially showing stronger conservatism through higher DW Nominate scores and Democrats initially showing stronger liberalism through declining DW Nominate scores. After the initial impact on DW Nominate scores for each party, continued effects were not observed in the model.

Table 4.38 Interrupted Time Series Analysis of Time and Changes in Party Control on Mean DW Nominate Scores for Republicans and Democrats in the Senate

SENATE				
Mean DW Nominate (Republicans and Democrats)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
SENATE	-0.014	0.005	-1.023	-2.475*
DUM1	0.101	0.022	1.329	4.482**
DUM2	0.011	0.008	0.509	1.387
R squared 0.876	Adjusted R squared 0.814	Constant 0.001		
Mean DW Nominate (Republicans)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
SENATE	0.012	0.003	0.669	4.410**
DUM1	0.032	0.011	0.300	2.756*
DUM2	0.002	0.004	0.053	0.396
R squared 0.983	Adjusted R squared 0.975	Constant 0.266		
Mean DW Nominate (Democrats)				
Independent and Control Variables	Coefficient Estimates	Standard Errors	Standardized Coefficients	t - scores
SENATE	-0.011	0.002	-0.975	-5.261**
DUM1	-0.025	0.009	-0.393	-2.954*
DUM2	0.007	0.003	0.388	2.356
R squared 0.975	Adjusted R squared 0.963	Constant -0.301		

* $p < 0.05$, ** $p < 0.01$

With ADA and DW Nominate measuring different components of liberal-conservative ideology differences in results for the two variables were expected. Impact of change in time affects each measure of ideology, as a trend generally indicates gradual movement toward more liberal positions for Democrats and more conservative positions for Republicans. These effects were observed within ADA and DW Nominate analysis and analysis of medical malpractice dependent variable. Impact of change in party control frequently produced abrupt changes away from ideology principles, but such changes were not generally sustained.

The fact that E-scores were not impacted by a change in party control of either house suggests that legislators who support economically efficient policies are less affected by institutional effects within government. E-scores capture a component of ideology but in comparison with liberal-conservative measures are less aligned with party and therefore less affected by changes in party. As confirmed from the results, changes in E-score should not be a function of the legislative environment, but rather reflect support for policies that expand social benefit relative to cost.

Chapter Five concludes the study and considers the effectiveness of E-score as a predictor of legislative behavior with policy applications beyond liberal-conservative ideology measures.

CHAPTER FIVE

OVERALL CONCLUSIONS AND POLICY IMPLICATIONS

The impetus for this research emanates from a need to better identify and measure policy implications of legislative voting. The focus of the research considered economic efficiency through an E-score as a variable that depicts social benefit maximization from legislative policy decisions. Traditional measures of ideology and self-interest identify characteristics of a legislator, but do not include the policy implications of legislation that he or she supports. This study considered two dependent variable policy areas: medical malpractice tort reform and federal minimum wage legislation. Each policy area was analyzed for members of the House of Representatives and Senate for the 99th through 108th Congress. Measures of legislative voting were analyzed not only as static measures that identified a legislator within each Congress, but also through the effect of changes in political and institutional variables over a period of years on legislative decision-making.

In analyzing economic efficiency as a policy tool, this dissertation posed one primary research question: Does economic efficiency through an E-score function better than a traditional spectrum of liberal-conservative ideology in explaining the ideological position of a representative (House and / or Senate member), congressional activity, and public policy formulation? Strict use of liberal-conservative interest group ratings omits important strands of ideology and ideological change (Grafton & Permaloff, 2005a, p.

409). Ideology represents more than just relative liberalism and conservatism.

Explaining behavior within these extremes fails to identify not only other facets of ideology, but also the importance of using ideology in analyzing economic consequences of political behavior.

The study found that E-score is a useful tool in predicting behavior but liberal-conservative ideology and alignment with party are overall much stronger factors in legislative voting decisions. Liberal-conservative ideology and party each consistently produced stronger correlation coefficients and were statistically significant at higher levels of confidence in the model. Values are part of decision-making and economic efficiency is a value in that higher economic output begets higher standards of living, and greater social benefits. The study attempted to show that economic efficiency measured through an E-score more accurately captures why legislators support some bills and oppose others in an attempt to produce a public policy that increases net benefits to a constituency.

The study included E-score in the vote models along with liberal-conservative measures of ideology, party, or self-interest variables. E-score is viewed here as a component of ideology, but how well ideology predicts behavior is a matter of perspective. E-score was often statistically significant in base model analysis that included self-interest and control variables but frequently failed tests of statistical significance when included with separate rotations of ideology and party variables. Higher coefficients of determination confirmed that liberal-conservative ideology and party variables explain more variance in the model than base model analysis alone. That party and ideology are strong predictors of behavior is not surprising (Kernell &

Jacobson, 2006, p. 462; Reichley, 1992, p. 414; Mullins, 1972, p. 509). The impact of their inclusion in vote models raises questions whether E-score adds a different perspective to values guiding legislative decisions beyond traditionally accepted measures of behavior.

This chapter analyzes how the study answered the research question and justifies the E-score as a measure of ideology different from a liberal-conservative perspective. The inclusion of economic efficiency as a basis of policy analysis and usefulness of the E-score as a measure of economic efficiency are evaluated. Problems encountered with developing the E-score are discussed. Applications for E-score in public-private settings are explored. The chapter concludes with recommendations for using E-score in legislative vote models.

Public Policy Development and Economic Efficiency

A public policy is a chance to improve the world. Legislative decision-making involves setting goals for reaching policy outputs and outcomes. With specified goals, development of criteria and measures is possible. With legislative resources often scarce, policy outcomes that focus on providing the greatest social benefit measured against social cost is the heart of policy analysis debate. While Lasswell's decisional processes expand democracy by increasing participation and benefit the public (Parsons, 1995, pp. 18-19), legislators also have an obligation to themselves and to their constituency to produce public policies that are not only necessary but also maximize social benefit outcomes within limited constraints.

For a public policy to produce outcomes that maximize net social benefits, values are part of the decision making process and political and administrative feasibility are included along with public perception of a problem and the necessary policy for correcting a problem. In the political arena values are often measured along a liberal-conservative spectrum but these designations describe characteristics of a legislator and not the outcome associated by his or her vote of support for or opposition to a public policy.

E-score as an Ideological Tool

This study argued that E-score is a measure of ideology that can be used to supplement traditional liberal-conservative tools, such as ADA, ACU, or DW Nominate scores. By focusing on a measure of economic efficiency to describe behavior through outcomes of voting decisions, using those decisions to predict support for policies that expand net benefits is possible. The study attempted to develop an E-score for measuring economic efficiency associated with legislative decision making and applied that score to public policy initiatives to test its effectiveness. Including liberal-conservative ideology variables, self-interest, and party variables in a multivariate analysis allowed for testing the effect of E-score in a model and measuring directional impact of its application.

The study found that traditional measures of ideology – ADA, ACU, and DW Nominate – are highly correlated with each other but not with E-score. A positive correlation existed with E-score and ACU and DW Nominate and a negative correlation with E-score and ADA. These associations were relatively consistent throughout the

model. Party unity and legislator party scores were also highly correlated with ideology variables. Republicans were typically conservative and Democrats liberal. Extremes between ACU and ADA scores depict these relative differences in ideology as Republicans generally have higher ACU scores and Democrats higher ADA scores.

Movements between Congresses for ADA, ACU, and DW Nominate scores experience relatively less variance than E-score. Less variance is an indication that liberal-conservative positions of legislators experience less change from Congress to Congress, while E-score values swing with much more variation. The purpose of incorporating more moderate values for E-score into a vote model was to alleviate extreme positions identified in using ADA, ACU, and DW Nominate scores to predict behavior. As a measure of economic efficiency, E-scores were not expected to measure extreme positions for ideology between each political party but rather capture a different component of ideology for Republicans and Democrats alike that is less extreme and more reliable.

Building an E-score Model

Traditional measures of liberal-conservative ideology have long histories in legislative vote models (Grafton & Permaloff, 2005b, p. 173; Levitt, 1996, Nelson & Silberberg, 1987; Kalt & Zupan, 1984, p.281; Friedrich, 1965). Vote selection criteria are well established for identifying votes that depict liberal and conservative ideologies across interest groups. ADA and ACU interest groups select issue areas where roll call votes are cast and support or opposition to the policy is measured in developing a score for each legislator. Legislators casting roll call votes in support of those policies with

which the interest group aligns were assigned higher scores from 0-100 and legislators casting roll call votes in opposition to those policies that the interest group supports were assigned lower scores from 0-100. DW Nominate scores represent liberal-conservative ideology but are built upon a model that captures changes in ideology over time as more and more votes are cast. With all three measures highly correlated, that DW Nominate scores include additional roll call votes that are different than roll call votes selected in ADA and ACU models supports each measure of liberal-conservative ideology as a readily available and accepted tool for describing legislative behavior.

Measures of economic efficiency are not readily available and building a model required guidelines for standardizing vote selection. In developing legislative E-scores in this model criteria developed by Kennedy (2005, p. 60) and Stigler (1971) were used as a basis for vote selection and evaluation. Public policies for inclusion into an E-score were identified by those policies that either expand efficient policy output or did not produce injurious policies that involve greater social costs relative to social benefits. Public policy formulation that expands output and opportunities available to all must satisfy Pareto optimal conditions for inclusion into an E-score. With the intent of economic efficiency an expansion of output, which leads to greater social welfare, public policies must not hurt others in satisfying these principles. The criteria developed by Kennedy (2005) and Stigler (1971) for building an E-score and applied to analysis reported here consider the following economically inefficient: excise or direct monetary subsidies; regulations that limit competition; policies affecting consumption of goods that are either a substitute or complement; wage and price controls.

Using these categories a roll call vote in support or opposition to the selected legislation was evaluated. All legislation selected was identifiable as either enhancing economic efficiency or signaling a reduction in economic efficiency. Roll call votes were tabulated for each legislator voting. Roll call votes in support of economically efficient legislation were recorded as an economic efficiency-enhancing vote by that legislator; roll call votes in opposition to economically efficient legislation were recorded as an economically inefficient vote by that legislator. Roll call votes in support of economically inefficient legislation were recorded as an economically inefficient vote by that legislator; roll call votes by each legislator in opposition to economically inefficient legislation were recorded as economic efficiency enhancing.

Legislation selected had to be unambiguous relative to the intent of the roll call vote. For example, when a final roll call vote on legislation contained multiple components the vote was not included because support or opposition to specific components in the legislation might not reflect support or opposition to the bill. The criteria considered not only the title of the legislation, but also the intent of the legislation. Understanding the intent of the legislation was crucial to deciding if a vote in support of the policy position was economically efficient or inefficient. For legislation where intent was unclear or multiple issue areas of the legislation created a bill with some components that were economically efficiency enhancing and some that were not, the legislation was omitted from inclusion into the E-score model.

Comparing E-score to liberal-conservative model development

In order to better understand steps surrounding vote identification and selection in the E-score model a comparison to ADA and ACU model development is necessary. Differences exist in legislation used in developing an E-score model from that legislation used for liberal-conservative measures of ideology. The criteria for selection of votes are more restrictive for E-score model relative to liberal-conservative models. The number of bills debated and roll call votes cast are comparatively fewer when using more restrictive criteria for selection. Appropriate roll call votes for inclusion in the model in each Congress may be limited. Fewer numbers of votes that are considered in building a model increases the probability of any one vote skewing the results for computing the E-score. Liberal-conservative models consider a broader array of legislation where liberal and conservative principles can be defined. Selected legislation is not restricted to economic output and is more plentiful in each Congress.

Perhaps the biggest difference between building liberal-conservative models and an E-score model involves the subjectivity in choosing legislation that meets criteria developed by Stigler (1971) and Kennedy (2005). Legislation considered for vote models can be interpreted differently. With the goal of economic efficiency creating public policies that enhance net social benefits, to the extent that the outcome of the policy is interpreted to produce these results subjectively associated with anticipated outcomes varies. For example, public policies that promote free trade are within the criteria adopted by Stigler (1971) and Kennedy (2005), but free trade involves removing supports for local firms. Free trade is a culmination of economic theory principles that espouse the virtues of an absence of regulation (Stigler, 1971) but without local supports

domestic firms may suffer in the short term. How one interprets these effects is subjective and greater subjectivity in selection of votes decreases the accuracy of a vote model to predict changes in behavior. Table 5.1 summarizes comparisons between developing and using liberal-conservative ideology models and an E-score model with relative advantages of each provided.

Table 5.1 Summary of Advantages in E-score Vote Model Relative to Liberal-Conservative Vote Models

Advantages of Liberal-Conservative Models	Advantages of E-score Model
Use well established	Economic efficiency measures outcomes as opposed to legislator characteristics
Vote models function well	Economic efficiency is a long standing and an important component of policy analysis
Score calculations done by others and easily attainable	Ability to analyze economic consequences of political behavior
Vote selection may be less subjective than E-score; E-score must often deal with conflicting interpretation of economically efficient policies	Less highly correlated with political party
Number of roll call votes needed for model development is much lower	Less highly correlated with liberal-conservative measures and liberal-conservative measures are highly correlated with each other
Measures experience less variation between congresses	Added to voting models containing liberal-conservative measures, the resulting models have added explanatory power

Economic Efficiency and Vote Models

With liberal-conservative ideology consistently having a stronger impact on predicting behavior than E-score in this study, the role of economic efficiency in other vote models must be addressed. That E-score functioned well in base model analyses measured against each dependent variable in this study but less frequently met tests of

statistical significance when liberal-conservative ideology and party variables were introduced in House and Senate does not preclude E-score from a role in other vote models. Base model results produced by E-score consistently were equal to or exceeded the impact of self-interest variables in the study. With self-interest a strong component of human behavior (Sears & Funk, 1990; Sen, 1990, p. 29; Buchanan & Tullock, 1962; Downs, 1957, pp. 6-7) the statistical significance of E-score in the model and expected directional impact of its application are arguments for its inclusion in the model to predict legislative behavior.

Grafton and Permaloff (2005a, pp. 408-409) cite research that finds few references between ideology and public policy formulation. Including a measure of ideology, such as economic efficiency, to bridge the gap between liberal-conservative positions and why legislators support public policies offers an opportunity to expand the use of ideology in analyzing the need for public policies and the expectation from policy implementation. E-score is a tool for analyzing public policies that is arguably an extension of policy analysis theory for recognizing different paradigms of ideology and identifying weaknesses in those models (Danziger, 1995, pp. 443-444). Analytical perspectives offered from measuring which policies are expected to produce greater social benefit relative to social cost and assigning a score that immediately identifies each legislator's voting record offers comparisons among legislators, parties, and ideologies not possible from a liberal-conservative spectrum alone.

E-score as a Predictor of Behavior in House and Senate

The study found economic efficiency to vary relative to its impact in House and Senate. In the Senate the impact of party and liberal-conservative ideology appeared to have stronger predictive qualities than E-score. In the Senate base models for each dependent variable E-score functioned well with self-interest but lost all statistical significance in the medical malpractice model and most statistical significance across Congresses in the minimum wage model, when analyzed with party and ideology variables rotated into the model. This suggests that type of policy and self-interest that are related to economic conditions may affect support for economic efficiency and impact E-scores.

In the Senate E-score appears to function better in absolute terms but does not produce statistically significant results when measured relative to party control or ideology over time. Through interrupted time series analysis measuring changes in party control from Democrat to Republican after the 1994 congressional election, the study analyzed if E-score varied with liberal-conservative ideology or predicted a different direction for legislative behavior. E-scores were not statistically significant in either chamber for either dependent variable.

E-score was less reliable in analyzing impact of changes in party control in the House. With DW Nominat scores the only variable producing statistically significant results in the House over time an argument that liberal-conservative ideology produces stronger, more reliable predictive ability strengthens.

Vandoren's (1990) argument that pooling of data through time series analysis is necessary for understanding how congressional behavior is a function of policy

dimensions appears to hold for these findings. The virtues of E-score were expected to reflect statistically significant associations with a legislators' support for economically efficient legislation. Instead, changes in party control initially disturb liberal-conservative perspectives, but legislators over time are generally less affected by majority-minority status and revert to traditional liberal-conservative ideology, which is closely aligned with party.

Mean ADA and ACU scores fluctuated between each measure of ideology more often in the Senate and varied within the period of the study (see Figures 4.1 and 4.2). The effect of liberal-conservative ideology appears to show a different perspective when considered in the Senate relative to the House. E-scores experience a pattern in the Senate also dissimilar to the House. House E-scores increased across the study and Senate E-score experienced more variance.

Usefulness of E-score

This study finds that E-score is a predictor of legislative behavior in both the House and Senate, but its impact on vote models is relatively less robust than the impact of liberal-conservative ideology and party variables. That E-score is statistically significant in the model and predicts behavior with a consistent directional impact is an argument for thinking of E-score not only as a variable that captures policy dimensions of legislative ideology, but also as a tool for expanding policy discussion. Kennedy (2005) built the E-score model and analyzed its application over two Congresses. The impact of the model and political application of the measure was extended in this study. Kennedy's (2005) model focused on a legislator's preference for economic efficiency

(pp. 45-56) but was not intended to produce results for measuring the extent that economic efficiency is a component of ideology with applications beyond a liberal-conservative spectrum when analyzed in a multivariate equation with self-interest and party variables controlled by economic and geographic conditions over time.

Rhetoric is important in policy discussions at various levels – between legislators and constituents and media and the public – that a tool for assessing if a vote in support or opposition to a policy produces a result that can be measured by its social effects is important in capturing legislative voting impact. Introducing a measure of economic efficiency to disparate groups encourages dialogue and makes comparisons between policy positions quantifiable and expands legislative transparency.

E-scores could assist in most components of policy analysis. Tying increased dialogue to economic differences in policy positions and measuring legislative behavior through an E-score produces a more open political process where cost-benefit comparisons are made not among liberal-conservative ideologies of legislators, but rather through the production of each legislator in managing public resources and maximizing net social benefits. Cost-benefit comparisons are conducted at many levels of government, the private sector, and in government-business partnerships. To the extent that a legislative E-score has application linking these relationships opens opportunity to use E-score in multiple settings.

E-score and Public Policy

The Kennedy (2005) study was a primary instrument for this study on economic efficiency and the use of E-score as a predictor of behavior, and is a basis for developing

E-score applications useful in studies of political behavior. A key component of the Kennedy model was a derivation of an E-score from standards explaining economically efficient and inefficient public policies. Why legislators support economically efficient policies and why shirking exists when public interests are not consistent with legislative ideology were examined in the Kennedy analysis. The analysis found E-score comparable with other vote models and provided an effective interest group rating alternative.

Kennedy's model made important distinctions between interest group ratings of ideology and E-score that were examined in this dissertation, forming a basis for comparison of E-score to traditional ideology and developing applications for its use in the policy process. Kennedy's analysis of perceived subjectivity of interest groups in selectively choosing votes for analysis of their respective ideological positions raises questions of subjectivity associated with vote selection in not only an E-score model, but also any model where the meaning and intent of a vote is analyzed.

An important difference in traditional interest group rating and E-score that Kennedy (2005) raises is not subjectivity in identifying and selecting scores for analysis, but rather how economic efficiency is a objective criterion and traditional measures of ideology are subjective criteria (p. 35). As a measurable component, E-score represents an unconditionally different aspect to ideology that has a multitude of public policy uses. Comparisons to traditional measures of ideology – ADA, ACU, and DW Nominate – are warranted in order to establish if E-score is a statistically significant contributor to vote models and to evaluate impact of its contribution relative to traditional measures. E-score can coexist with traditional measures of ideology in that ideology is complex and

should not be considered only in a single dimension. Policy processes offer opportunity to apply the standards that economic efficiency represents to improving policy understanding and discussion.

Economic Efficiency and Discourse

Opening paths encouraging dialogue in the political process leads to an expansion of democracy that Lasswell envisioned (as cited in Parsons, 1995, pp. 340-342). Political actors, policy entrepreneurs, leaders of private and public firms, and constituents, to name a few, all benefit from increased discourse that identifies current economic and political issues that need policy consideration. Sabatier (1991) found that demand for increased discourse is a natural extension of feedback from socioeconomic factors within the political science discipline, where links between public policy objectives are increasingly tied to levels of income, education and unemployment levels. Recognizing greater emphasis between social, economic, and political problems within a society and governmental policy decisions, measuring policy effects in economic terms is important in understanding positive and negative impact of policy decisions. Economic efficiency occupies a key role in measuring these policy effects and, through an E-score, identifying trends in policy support or opposition.

Flow of ideas in the political process is important for understanding conditions for political change. Persuasive discourse offers the principles for enlarging the role of political discussion where ideas and political persuasion occupy more prominent roles (White, 1994, p. 508). Examining the process could include ways of promoting equity but an increased role of management and scarcity of resources invites measuring cause

and effect through benefits relative to costs. Incremental adjustments are the norm in policy change (Linblom, 1959), but promoting new approaches to solving problems entails looking to the process of change and how incremental changes not only produce better policies for addressing policy issues, but also for maximizing the benefits of those policies to constituents and overall to the public.

The role that economic efficiency plays in opening dialogue in the policy process provides a bridge between process and interests. While an E-score as a measure of legislative economic efficiency is not concerned with method or procedure, what processes or changes are needed to reach an objective and what outcome is desired naturally fits with the logic of an E-score. Party and liberal-conservative ideology are both strong influences on vote models in predicting legislative behavior, but E-score has a role in separating policy debate into development of policy preferences and bringing together policymakers, analysts, and voters in devising measurable standards for generating policy outputs in reaching desired policy outcomes.

Application to Policy Analysis

E-score has applications beyond expansion of dialogue in the political process. Using economic efficiency as a measure of benefit-cost analysis has the potential to extend beyond mere evaluative application. Sabatier (1991) finds that the policy process opens opportunities for linking political behavior to clear normative standards for good policy. Applying standards to desired policy outcomes involves linking client specifics with an objective. Economic efficiency is a logical standard that is a positive measure

for developing policy strategies, where a Pareto optimal distribution of resources benefits an intended party without unintentionally, negatively impacting another party.

Policy solutions are not linear and are often a result of conflicting players inundating decision makers with requests that test rationality. Shifting political issues place demands on legislators that are difficult to measure with liberal-conservative ideology alone. Kingdon's policy soup analogy (Parsons, 1995, pp. 192-194) is appropriate in describing the environment in which legislators must process information in weighing rational self interests associated with reelections (Downs, 1957) to an ideological base. E-score provides an objective measure for political contributors, fellow members of Congress, and constituents to evaluate relatively each legislator on the merits of support for economically efficient policies.

While legislators are rational their legislative decisions are too often a matter of interpretation along liberal-conservative principles. An objective, numeric measure of each legislator produces a standard by which policy formulation can proceed. Hecló's finding of a loosely organized policy process defined through ideas and policy experts (as cited in White, 1994, p. 515) is an argument for a standard from which policy makers develop problem solving goals and ideas are promoted and shaped.

The difficulty in identifying and selecting roll call votes used in developing an E-score is a weakness of the measure. E-scores are based on a narrow set of criteria and roll call votes may or may not be available for each Congress on legislation that meets the criteria. Liberal-conservative measures are readily available and accessible, while E-scores must be explicitly defined and votes gathered. Votes are subjective to the extent that an economically efficient or inefficient policy is a matter of interpretation. E-score

is intended as a measure of social benefit maximization, but benefit-cost ratios may be incorrectly interpreted to support narrow benefits to a few. Ironically, interpretation of economically efficient or inefficient policies is defined along a liberal-conservative spectrum and party alliance.

An argument for the usefulness of an E-score lends itself to framing of political issues. Preferences are constantly interpreted and ideas and coalitions change within Congresses and between Congresses. Schattschneider provides a compelling argument for management of scope and extent of conflict, where pressure groups, parties and institutions all seek to frame an issue around a cause (as cited in Parsons, 1995, p.126). E-score offers a measure with which these disparate groups can formulate an argument in support of their cause.

With framing setting the direction of the agenda, understanding which policies are economically efficient and which are not is important but impractical to a casual observer. A measure of economic efficiency standardizes arguments in support or opposition to a policy on expected outcomes to a society and alleviates barriers to understanding and judging good and bad public policies. Table 5.3 summarizes an application of E-score in legislative vote models and in public and private sector setting outside of the U.S. Congress.

Table 5.2 Application Summary of E-score Model in Public Policy Development and Analysis

<p>Used in legislative vote models</p> <ol style="list-style-type: none"> 1. Supplement measures of liberal-conservative ideology with a different dimension of ideology 2. Establish objective criterion for measuring behavior 3. Establish congressional baseline for comparing anticipated policy outcomes and effectiveness 4. Feedback mechanism for legislator commitment to public resource management
<p>Used as a measure of economic efficiency</p> <ol style="list-style-type: none"> 1. Facilitate public policy discourse 2. Extend policy analysis objectives through the use of an economic efficiency measure in expanding public policy net social benefits 3. Introduce a standardized measure for analyzing public resource commitments 4. Measure decision making at state and local government levels 5. Comparison of public policy solutions to private sector needs

Conclusion

E-score is a statistically significant predictor of behavior in a multivariate analysis of medical malpractice reform and minimum wage legislation. The variable proved valuable in explaining behavior when evaluated with self-interest in a vote model. E-score was less effective in predicting behavior when tested with liberal-conservative ideology positions and party added to the analysis. The relative inability of E-score to predict behavior under these conditions suggests that legislative behavior is driven by a close alignment of liberal-conservative ideology and party principles. Self-interest variables function very well with E-score, but their effect is relatively weak compared to liberal-conservative ideology and party and their directional impact less reliable.

Applications of an objective, standardized measure of behavior are potentially numerous in each level of government and public-private relationships. With the policy process too often disjointed incrementalism, Baybrooke and Lindblom's (as cited in Parsons, 1995, pp. 286-287) approach to the role of policy analysis offers a logical place for E-score in improving the policy formulation process. The use of an E-score is a practical application to long-term planning strategies through assignment of a number that is a reflection of policy outcomes. A quick glance tells stakeholders how a decision maker votes in support of policy and is a tool for gauging the effectiveness of a decision maker to produce desirable outcomes.

With economic efficiency the maximization of net social benefits of a public policy, linking outcomes and legislative performance is necessary for improving policy formulation at all levels of government where accountability issues increasingly act as a tool for maximizing legislative resources. Cost, both expected and unexpected, associated with public policy development and formulation force decision makers to increasingly weigh policy options according to costs and benefits of those outcomes.

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APPENDICES

APPENDIX A

Medical Malpractice Legislation Selected As Dependent Variable

Table A1. *House Action to Amend HR 3174*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Military Medical Malpractice Allow active duty armed services members to sue the government for medical and dental malpractice at government facilities.</p> <p>A nay vote is economic efficiency enhancing.</p>	10/7/1985	R 104 – 71 D 213 – 19 Adopted 317-90

Table A2. *House Action to Amend HR 162*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>High-Risk Occupational Disease Notification/ Liability Amendment to extend protection from medical malpractice lawsuits to individuals and physicians in high-risk occupations.</p> <p>A yea vote is economic efficiency enhancing.</p>	10/15/1987	R 158 – 11 D 58 – 156 Adopted 216-197

Table A3. *House Action to Amend HR 956*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Product Liability / Medical Malpractice Cap Amendment to cap non-economic pain and suffering damages in all health care liability cases at \$250,000</p> <p>A yea vote is economic efficiency enhancing.</p>	3/9/1995	R 204 – 21 D 43 – 149 I 0 – 1 Adopted 247-171

Table A4. *House Action on HR 956*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Product Liability</p> <p>Cap punitive damages in all civil cases and limit those damages to cases where the plaintiff establishes the defendant intended to cause harm; prohibit product liability for products manufactured and sold more than 15 years ago; revise doctrine of joint and several liability in civil cases; bar compensatory damages if alcohol or drug use is determined to be the primary cause of injury; exempt from punitive damages the makers of drugs or medical devices approved by the Food and Drug Administration; and cap jury awards at \$250,000 for non-economic factors in medical malpractice cases.</p> <p>A yea vote is economic efficiency enhancing.</p>	3/10/1995	<p>R 220 - 6 D 45 - 154 I 0 - 1</p> <p>Adopted 265-161.</p>

Table A5. *House Action on HR 4600*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Medical Malpractice Awards/ Passage</p> <p>Passage of bill capping punitive damages that a plaintiff can receive in a medical malpractice case to the greater of \$250,000 or double economic damages, with limits on attorneys' contingency fees. Malpractice suits must be filed within three years of injury or one year of its discovery, whichever is earlier, and no punitive damages can be assessed against drug and medical device manufacturers if their products are approved by the Food and Drug Administration or generally considered to be safe.</p> <p>A yea vote is economic efficiency enhancing</p>	9/26/2002	<p>R 203 - 15 D 14 - 187 I 0 - 1</p> <p>Adopted 217-203</p>

Table A6. *Senate Motion to Table Amendment to HR 956*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Product Liability Overhaul/ \$500,000 Non-Economic Award Motion to table an amendment limiting non-economic damages for pain and suffering in medical malpractice suits to \$500,000.</p> <p>A nay vote is economic efficiency enhancing.</p>	5/02/1995	<p>R 13 – 41 D 43 – 3</p> <p>Motion carried 56–44.</p>

Table A7. *Senate Motion to Table Amendment to HR 956*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Product Liability Overhaul/ Obstetric Services Motion to table an amendment requiring “clear and convincing” evidence in medical malpractice cases involving labor or delivery of a baby if the physician had not provided prenatal care.</p> <p>A nay vote is economic efficiency enhancing.</p>	5/02/1995	<p>R 10 – 44 D 29 – 17</p> <p>Motion rejected 39 – 61.</p>

Table A8. *Senate Vote to Invoke Cloture on HR 956*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Product Liability Overhaul/ Cloture Motion to invoke cloture on an amendment limiting non-economic damages for pain and suffering in medical malpractice suits to \$500,000.</p> <p>A yea vote for cloture is economic efficiency enhancing.</p>	5/04/1995	<p>R 45 – 9 D 2 – 43</p> <p>Motion failed to garner 60 votes required to invoke cloture and was rejected 47 – 52.</p>

Table A9. *Senate Motion to Table Amendment to S 1052*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Patient's Rights/Malpractice Liability Motion to table an amendment exempting health care professionals who provide pro bono medical services to uninsured, indigent individuals from any malpractice liability.</p> <p>A nay vote is economic efficiency enhancing.</p>	6/29/2001	R 2 - 45 D 49 - 1 I 1 - 0 Motion carried 52-46.

Table A10. *Senate Vote to Invoke Cloture on S 1052*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Medical Malpractice/Cloture Motion invoking cloture on consideration of a bill capping damage awards in medical malpractice lawsuits against obstetricians and gynecologists.</p> <p>A yea vote for cloture is economic efficiency enhancing.</p>	2/24/2004	R 47 - 3 D 1 - 41 I 0 - 1 Motion failed to garner 60 votes required to invoke cloture and was rejected 48 - 45.

APPENDIX B

Minimum Wage Legislation Selected as Dependent Variable

Table B1. *House Action on HR 2*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Minimum Wage Increase / Passage</p> <p>Passage of legislation to increase the federal minimum wage from \$3.35 an hour to \$4.55 an hour over three years and provide a two-month training wage of 85 percent of the minimum for employees who have never held a job.</p> <p>A nay vote is economic efficiency enhancing.</p>	3/23/1989	<p>R 23 - 147 D 225 - 24</p> <p>Adopted 248 - 171.</p>

Table B2. *House Action to Override Veto of HR 2*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Minimum Wage Increase / Veto Override</p> <p>Veto override of HR 2, a bill raising the federal minimum wage from \$3.35 an hour to \$4.55 an hour over three years and providing a 60 day training wage equal to 85 percent of the minimum for workers who have not worked a total of 60 days.</p> <p>A nay vote is economic efficiency enhancing.</p>	6/14/1989	<p>R 21 - 150 D 226 - 28</p> <p>Attempt failed to garner two-thirds majority necessary to override presidential veto and was rejected 247-178.</p>

Table B3. *House Action on HR 2710*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Minimum Wage Increase / Passage</p> <p>Passage of a bill to increase the federal minimum wage from \$3.35 an hour to \$4.25 an hour over two years and provide a temporary training wage of 85 percent of the minimum for employees aged 16 to 19 years old.</p> <p>A nay vote is economic efficiency enhancing.</p>	11/01/1989	<p>R 135 - 35 D 247 - 2</p> <p>Adopted 382 - 37</p>

Table B4. *House Action to Amend HR 1227*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Employee Commuting / Minimum Wage Increase</p> <p>Amendment to increase the federal minimum wage by 90 cents per hour over two years, thereby raising the minimum wage from \$4.25 to \$4.75 on July 1, 1996, and to \$5.15 per hour on July 1, 1997.</p> <p>A nay vote is economic efficiency enhancing.</p>	5/23/1996	<p>R 77 - 156 D 188 - 6 I 1 - 0</p> <p>Adopted 266 - 162</p>

Table B5. *House Action to Amend HR 3846*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Minimum Wage / Two - Year Increase</p> <p>Amendment to increase the minimum wage by \$1 over two years.</p> <p>A nay vote is economic efficiency enhancing.</p>	3/09/2000	<p>R 42 - 173 D 203 - 5 I 1 - 1</p> <p>Adopted 246 - 179</p>

Table B6. *House Action on HR 3846*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Minimum Wage / Continued Consideration Continue consideration of minimum wage bill despite point of order that bill constitutes an unfunded mandate.</p> <p>A nay vote is economic efficiency enhancing.</p>	3/09/2000	<p>R 70 - 139 D 199 - 5 I 1 - 1</p> <p>Adopted 270 - 145</p>

Table B7. *Senate Vote to Invoke Cloture on S 837*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Minimum Wage Restoration / Cloture Motion to invoke cloture on consideration of a bill raising the federal minimum wage to \$4.55 an hour over three years.</p> <p>A nay vote is economic efficiency enhancing.</p>	9/23/1988	<p>R 8 - 32 D 48 - 3</p> <p>Motion failed to garner 60 votes required to invoke cloture and was rejected 56 – 35.</p>

Table B8. *Senate Motion to Amend S 4*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Minimum Wage Increase / Graham Amendment Motion to raise minimum wage from \$3.35 an hour to \$4.55 an hour by September 30, 1991, and to provide a training wage equal to 85 percent of the minimum for new employees who have not worked a total of 60 days and at least 30 consecutive days with one employer. No more than 25 percent of an employer’s workers could be on the training wage at the time, and the training wage provision would expire in September 1992.</p> <p>A nay vote is economic efficiency enhancing.</p>	4/11/1989	<p>R 8 - 37 D 53 - 2</p> <p>Adopted 61 - 39</p>

Table B9. *Senate Action on HR 2*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Minimum Wage Increase / Passage</p> <p>Passage of the bill to increase the minimum wage from \$3.35 an hour to \$4.55 an hour over three years and provide a training wage of 85 percent of the minimum for workers with minimal work experience.</p> <p>A nay vote is economic efficiency enhancing.</p>	4/12/1989	<p>R 10 - 35 D 52 - 2</p> <p>Adopted 62 - 37</p>

Table B10. *Senate Action on HR 2710*

Bill Title and Synopsis	Date of Vote	Vote (Yeas-Nays)
<p>Minimum Wage Increase / Passage</p> <p>Passage of a bill for increasing the minimum wage from \$3.35 an hour to \$4.25 an hour over two years and providing for a temporary training wage of 85 percent of the minimum wage for employees aged 16 to 19 years.</p> <p>A nay vote is economic efficiency enhancing.</p>	11/08/1989	<p>R 36 - 8 D 53 - 0</p> <p>Adopted 89 - 8</p>

APPENDIX C

Roll Call Votes Selected by House and Senate in Compiling an E-score for Legislators

Table C1. *House Votes in 99th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Textile Import Quotas (rule)	HR 1562	Limit textile / shoe imports	Nay
Textile Import Quotas	HR 1562	Passage imposing quotas (1986)	Nay
Omnibus Trade Bill	HR 4800	Strike sections increasing duties	Yea
South Africa Sanctions	HR 4868	Imposing economic sanctions	Nay
Textile Import Quotas	HR 1562	Passage imposing quotas (1985)	Nay
Omnibus Trade Bill (Roth amend)	HR 4800	Strike easing restrictions exports	Yea
Omnibus Trade Bill (passage)	HR 4800	Increased trade restrictions	Nay

Table C2. *Senate Votes in 99th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Textile Import Quotas	HR 1562	Import quotas	Nay
Textile Import Quotas (Thurmond amend)	HR 1562	Table adding quotas	Yea
South Africa Sanctions	S2701	Table striking a ban on imports	Nay
South Africa Sanctions (passage)	HR 4868	Sanctions banning imports	Nay
South Africa Sanctions (passage over veto)	HR 4868	Passage imposing sanctions	Nay

Table C3. *House Votes in 100th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Textile / Apparel Trade Act (rule)	HR 1154	Limit textile / apparel imports	Nay
Textile / Apparel Trade Act (passage)	HR 1154	Limit textile / apparel imports	Nay
Transportation Appropriations / Airlines	HR 4794	Eliminate subsidy small community	Yea
Textile / Apparel Trade Act (veto override)	HR 1154	Passage over veto limiting exports	Nay

Table C4. *Senate Votes in 100th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Omnibus Trade Bill / Non-agricultural	S 1420	Foreign subsidies	Yea
Omnibus Trade Bill / Newsprint Tariff	S 1420	Table amendment exempting tariff	Yea
Omnibus Trade Bill (veto override)	HR 3	Rejected: unfair trade / import damage	Nay
Retail Competition	S 430	Vertical price fixing illegal	Yea
Textile Import Quotas / Footwear	S 2662	Table amendment striking footwear quota	Nay
Textile Import Quotas / Profitability	S 2662	Table amendment suspending quotas	Nay

Table C5. *House Votes in 101st Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Dairy Price Supports	HR 3950	Increase price support	Nay
Textile Trade Act (rule)	HR 4328	Limit growth of textile imports	Nay
Textile Trade (veto override)	HR 4328	Rejected: Limit growth of textile imports	Nay
Textile Trade (concur in Senate)	HR 4328	Limit textile imports; establish quotas	Nay
Hungary Most Favored Nation (rule)	HR 1594	Adoption rule extend MFN 3 years	Yea
Hungary Most Favored Nation (passage)	HR 1594	Extend MFN 3 years	Yea
Hungary Most Favored Nation (passage)	HR 1594	Suspend rule extend MFN 5 years	Yea
Export Administration Act / Telecommunications	HR 4653	Strike provisions easing export restrictions	Nay

Table C6. *Senate Votes in 101st Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Gas Price Decontrol (passage)	HR 1722	Eliminate price and non-price controls natural gas	Yea
Gas Price Decontrol / Price Escalator	HR 1722	Table price escalator natural gas clauses	Yea
Honey Price Supports	S 2830	Price support for next 4 years	Nay
Miscellaneous Tariffs	HR 1594	Suspend duty ulcer treating drug	Yea
Sugar Price Supports	S 2830	Table extending sugar price supports	Yea
Textile Trade Act / Consumer Costs	HR 4328	Table reporting increased consumer costs	Nay
Textile Trade Act / GATT	HR 4328	Table amendment supporting GATT	Nay
Textile Trade Act (passage)	HR 4328	Limit textile imports	Nay

Table C7. *House Votes in 102nd Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Miscellaneous Tariff (rule)	HR 4318	Increase tariff on minivans	Nay
Miscellaneous Tariff (passage)	HR 4318	Increase tariff on minivans	Nay
Cable TV Regulation / Conference Report	S 12	Cap cable rates / FCC set rates	Nay
Cable TV Regulation (passage)	S 12	Stronger FCC setting rates	Nay
Cable TV Regulation (veto override)	S 12	FCC sets cable rates	Nay
Striker Replacement (passage)	HR 5	Prohibit employers hiring replacements	Nay

Table C8. *Senate Votes in 102nd Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Central American Free Market Policies	S 100	U.S. assistance to promote free trade	Yea
Cable TV Regulation / Conference Report	S 12	Cap cable rates, increase FCC role	Nay
Cable TV Regulation (passage)	S 12	Cable regulation	Nay
Cable TV Regulation (veto override)	S 12	Passed increased FCC authority	Nay
National Energy Policy (cloture)	S 1220	Limit debate on CAFÉ standards	Yea

Table C9. *House Votes in 103rd Congress*

Legislation	Bill Number	Narrative	Economic efficiency
1872 Mining Law (passage)	HR 322	Increase environmental regulations / royalty	Nay
NAFTA Implementation (rule)	HR 3450	Waive points of order and approve	Yea
NAFTA Implementation (passage)	HR 3450	Approve NAFTA	Yea
Interstate Commerce Commission	HR 2750	Eliminate ICC	Yea
GATT Implementation (rule)	HR 5110	Rule for House floor vote to implement	Yea
GATT Fast Track Extension (passage)	HR 1876	Negotiate strengthening GATT	Yea
GATT (passage)	HR 5110	Implement GATT, reduce tariffs	Yea
China MFN Executive Order	HR 4590	Amendment codifying granting MFN	Yea
China MFN	HR 4590	Amendment denying MFN	Nay
Amtrak Appropriations	HR 2750	Cut funding to Amtrak	Yea

Table C10. *Senate Votes in 103rd Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Transportation Appropriations / ICC	HR 2750	Table eliminating ICC funding	Nay
GATT / Budget Waiver	HR 5110	Negotiate to implement GATT	Yea
GATT Fast Track Extension (passage)	HR 1876	GATT accord under fast track	Yea
GATT (passage)	HR 5110	Implement GATT, reducing tariffs	Yea
Agriculture Market Promotion	HR 2493	Table amendment eliminating funding	Nay

Table C11. *House Votes in 104th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Regulatory Moratorium / Small Business	HR 450	Extend moratorium on small business regulations	Yea
Regulatory Moratorium / Telemarketing	HR 450	Exempt from moratorium telemarketing	Nay
Regulatory Moratorium / Competitiveness	HR 450	Exempt regulations benefiting U.S. firms	Nay
Telecommunications (rule)	HR 1555	Remove telecommunication regulations	Yea
Telecommunications / Conference Report	S 652	Promote competition and deregulation	Yea
Telecommunications (passage)	HR 1555	Promote competition and deregulation	Yea

Table C12. *Senate Votes in 104th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Telecommunications / Barriers to Entry	S 652	Strike authority pre-empting local regulations	Nay
Telecommunications / Conference Report	S 652	Promote competition and deregulate	Yea
Telecommunications (passage)	S 652	Promote competition and deregulate	Yea
Regulatory Overhaul	S 343	Amendment increasing cost-benefit analysis threshold	Nay
Repeal Alaska Oil Import Ban (passage)	S 395	Lift ban on export crude oil	Yea
Independent Regulatory Agency	S 1	Table consideration of bills administered by independent regulatory agency	Yea

Table C13. *House Votes in 105th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Steel Imports (passage)	In HR	Increase in steel imports is problem	Nay
Sub-Saharan Africa Trade (rule)	HR 1432	New trade policies with these countries	Yea
Sub-Saharan Africa Trade (passage)	HR 1432	Duty free trade policies	Yea
Amtrak subsidies / Labor Protection	HR 2247	Limit labor protection; increase contracting	Yea
Caribbean / Central American Trade	HR 2644	Suspend rules pass duty-free trade	Yea
Normal Trade Relations China	HJ Res 121	Denying normal trade relations (MFN)	Nay
Fast-Track Authority (passage)	HR 2621	Expedited implementation trade	Yea

Table C14. *Senate Votes in 105th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Tobacco Restrictions	S 1415	Increase tobacco regulations	Nay
Tobacco Restrictions (cloture)	S 1415	Cloture on bill increasing restrictions	Nay
Tobacco Restrictions / Remove Provision	S 1415	Table striking provisions increasing tobacco taxes	Nay
Ethanol Tax Break	S 1173	Remove extending ethanol tax break	Nay
Economic Sanctions	S 2159	Table requiring 45 days notice implement sanctions; future sanctions end 2 years	Nay

Table C15. *House Votes in 106th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Sub-Saharan Africa Trade	HR 434	Grant duty free status	Yea
Steel Imports (passage)	HR 975	Impose quotas, tariff surcharges	Nay
Regulatory Cost-Benefit Analysis (passage)	HR 1074	OMB to make annual cost-benefit analysis assessing impact federal regulations	Yea
OSHA Ergonomics Regulations (passage)	HR 987	Restrict issuing new ergonomic rules	Yea
Disapprove Normal Trade Relations with China (passage)	HJ Res 57	Reject extension normal trade relations	Nay
Africa, Caribbean Trade (rule)	HR 434	Extend tariff benefits to those nations	Yea
China Trade (passage)	HR 4444	Make normal trade relations permanent	Yea

Table C16. *Senate Votes in 106th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Steel Import Quotas (cloture)	HR 975	Limit debate on imposing quotas	Yea
Democratic Emergency Farm Aid	S 1233	Table extending farm aid	Yea
Compromise Emergency Farm Aid	S 1233	Table extending emergency farm aid	Yea
China Trade / Import Relief	HR 4444	Market disruption import relief	Nay
Food / Medicine Sanctions	S 1233	Table ending sanctions	Nay
Fuel Efficiency Standards	HR 2084	Study raising CAFÉ standards	Nay
Steel, Oil, Gas Loan Guarantee (cloture)	HR 1664	Limit debate on loan guarantees	Nay
Steel, Oil, Gas Loan Guarantee (passage)	HR 1664	Establish loan guarantees	Nay
China Normal Trade Relations / Discharge	SJ Res 27	Reverse extending normal trade relations	Nay

Table C17. *House Votes in 107th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Farm Bill / Sugar Subsidy	HR 2646	Reduce loan rates for raw sugar cane	Nay
Vietnam Trade (passage)	HJ Res 101	Disapprove normal trade relations	Nay
Trade Promotion Authority (conference)	HR 3009	Extend duty free status Columbia, Peru, Bolivia, and Ecuador	Yea
Trade Promotion Authority / Rule	HR 3009	Adopt rule (H Res 509) for floor consideration of trade promotion and duty free status	Yea
Trade Promotion Authority / Rule	HR 3005	Adopt rule (H Res 306) expediting floor consideration of trade negotiations between executive branch and foreign government	Yea
Trade Promotion Authority / Passage	HR 3005	Expedited negotiations between executive branch and foreign governments promoting trade	Yea

Table C18. *Senate Votes in 107th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
Farm Bill / Sugar Program	S 1731	Table phasing out of sugar support	Nay
Andean Trade / Tariff Reduction	HR 3009	Table prohibiting reduction in tariffs	Yea
Andean Trade / Motion to Proceed	HR 3009	Motion to proceed to bill extending duty free status	Yea
Andean Trade / Passage	HR 3009	Extend duty free status to products from Columbia, Peru, Bolivia, and Ecuador	Yea
Vietnam Trade / Passage	HJRES 51	Normal trade relations with Vietnam	Yea

Table C19. *House Votes in the 108th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
U.S. – Chile Trade (passage)	HR 2738	Reduce tariffs and trade barriers	Yea
U.S. – Australia Trade (rule)	HR 4759	Floor consideration reducing barriers	Yea
U.S. – Australia Trade (passage)	HR 4759	Reduce tariffs and trade barriers	Yea
Miscellaneous Tariff Reductions	HR 1047	Reduce / eliminate tariff on 300 chemicals	Yea
U.S. – Morocco Trade (rule)	HR 4842	Floor consideration reducing barriers	Yea
U.S. – Morocco Trade (passage)	HR 4842	Reduce U.S. – Moroccan trade barriers	Yea
Gasoline Price Reduction	HR 4545	Waivers from fuel additive requirement	Yea

Table C20. *Senate Votes in the 108th Congress*

Legislation	Bill Number	Narrative	Economic efficiency
U.S. – Morocco Trade (passage)	S 2677	Extend duty free to most products and reduce tariffs to other Morocco products	Yea
U.S. – Australia Trade (passage)	HR 4759	Extend duty free access and reduce tariffs	Yea
Fiscal 2005 Defense Authorization / U.S Foreign Subsidiaries	S 2400	Extend restrictions on transactions of U.S. companies that do business with countries that sponsor terrorism to foreign subsidiaries where the U.S. firm owns 50 percent or more of company	Nay
Miscellaneous Tariff and Trade (cloture)	HR 1047	Motion to invoke cloture on conference report on a bill suspending duties	Yea