Legislative Bargaining and the Macro-economy

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Introduction

With only hours to spare before the US government would default in June 2002, the House of Representatives passed legislation identical to the Senate's proposal to raise the national debt by $450 billion. The New York Times reported that the stock market had become skittish at the prospect of an executive-legislative standoff over the debt limit, potentially leading to a partial government shutdown as occurred in the winter of 1994-95 (Stevenson 2002). This eleventh hour agreement between Congress and President Bush is just one of many instances where bargaining between Capitol Hill and the White House have important ramifications for the economy. In the first two years of the Bush Administration, legislation such as the president's promised tax cut, fast-track authority on trade negotiations, and reform of corporate responsibility laws were a few more examples of the important role Congress plays in the nation's economic wellbeing. These, as well as numerous other statutes, and even some policy proposals that were not enacted into law, had important economic implications, and required a delicate process of give and take between the executive and legislative branches before laws could be passed and policy enacted.

No doubt the casual observer would say that there is a close link between politics and economic performance in the United States. Yet if we survey the academic literature on the political factors that affect the US economy, we would be hard pressed to find a sophisticated empirical study that takes political institutions as seriously as it takes economic modeling. It is not entirely clear why this is the case, but presumably scholars exploring questions of economic performance simply do not believe that policy makers, beyond the president, play a meaningful role in shaping the expectations of economic actors.

In this chapter we set out to not only highlight the importance of politics as a key determinant of economic performance, but also to challenge some of the existing work that does utilize political variables to model economic cycles. We argue that the dominant work in this field focuses solely on characteristics associated with the US president and minimizes—or, more likely, ignores—the necessity of presidential-congressional bargaining. In the process of developing our argument, we also hope to illuminate a corner of the emerging field of research on the macro-politics of Congress that is significantly under-tilled – the importance of executive-legislative interaction in managing the economy.

Exploring the relationship between political institutions and macroeconomic performance is no small task. Our goal, however, is more modest. We do not develop the behavioral micro-foundations linking divided government, partisan politics or governmental bargaining to economic outcomes. Formal models investigating these linkages have been developed—admirably we might add—by numerous scholars; notably Alberto Alesina and his coauthors (Alesina 1987; Alesina and Rosenthal 1995; Alesina, Roubini et al. 1997). There is, to our knowledge, however, little work that empirically tests hypotheses relating divided government or governmental bargaining to trends in the economy; extant empirical papers focus solely on the partisanship of the president (see Herron 2002, for a notable exception). As such, our contribution is to examine how measures of divided government and governmental bargaining perform within the framework of political business cycle models. Our results, therefore, can be considered an initial attempt to identify the "stylized facts" pertaining to US political institutions and the macroeconomy. In the conclusion we identify ways that these "facts" can lead to fruitful theory development.

We organize our arguments and evidence as follows. First we provide a brief review of the political business cycles literature highlighting partisan and divided government models and their implications for economic performance. Section two develops our indicators of legislative and institutional behavior. These variables are then used in section three to help explain the variance in economic performance as

measured by economic growth, unemployment, inflation and interest rates using quarterly data from 1949-1999 in section three. Section four concludes and offers suggestions for future research.

Politics, Policy Outputs, and the Macroeconomy

Political Business Cycles

Despite the growing number of achievements in the study of the macro-politics of Congress (many of which are highlighted in this volume), there have been surprisingly few advances in our understanding of how congressional organization and inter-branch relations affect economic policy. This is particularly startling since the field of economics has such a well developed literature on macro-economic trends. Yet there has been little synergy in the two research traditions of economic fluctuations and the macro-politics of executive-legislative interaction.

Economic research into the relationship between "politics" and markets has a relatively long history (e.g., Block 1977; Lindblom 1977). Within this body of scholarship a significant vein examines the extent to which a policymaker's behavior—and thus policy—changes during the period surrounding elections. One strand of this literature, popularized by Nordhaus (1975), argues that policymakers behave opportunistically; that is, during the run-up to an election incumbents manipulate economic policy to create an economic boom and increase their likelihood of re-election (e.g., Nordhaus 1975; Tufte 1978; Hibbs 1987; Alesina and Roubini 1992).

A second strand of this literature, originally proffered by Hibbs (1977), examines partisan electoral cycles that arise *after* elections. The election of a liberal or unemployment adverse-policymaker gives rise to expansionary policies resulting in an increase in economic growth, a decrease in unemployment and a rise in inflation. Alesina's (1987) rational expectations take of this model produces predictions along the lines suggested by Hibbs but with a twist. The implication of rational expectations means economic expansions only occur as a result of policy (or political) surprises; thus, the real effects of expansions are only temporary.

Work by Alesina, Roubini and Cohen (1997) represents the most complete test of partisan, rational and opportunistic political business cycle models in the United States. The findings in this work generally support the proposition that there are rational partisan effects on the economy as a whole. Specifically, they find significant relationships between the party of the president and aggregate growth and unemployment and, to a lesser degree, inflation and interest rates. They find less support for the hypothesis that partisanship influences fiscal policy and no support for opportunistic (Nordhausian) political business cycle models.

Macro-politics and the Economy

Research on the macro-politics of Congress and interbranch relations is not as well developed as the literature on economic fluctuations, but its findings are still extremely important in guiding our analysis of how politics affects economic policy and economic outcomes. As can be seen in this volume, a good portion of the research on the policy consequences of interbranch bargaining focuses on divided government, gridlock, and their meaning for policy making and policy production. Most often, these studies have focused on broad concepts of policy productivity.

In only a few instances have scholars of divided government touched on the subject of economic policy. For instance, Cox and McCubbins (1991) examine how different partisan configurations of government (unified Republican control, unified Democratic control, Republican president-Democratic Congress, etc.) result in various shifts in tax policy and the level of federal tax receipts. Moreover, they emphasize the importance of particular kinds of partisan-control of the different branches of government as a means of effectively vetoing or forcing compromise in certain fiscal policy changes.

Herron's (2002) study of divided government, preference conflict, and interest rates is another good example of how scholars of American politics use theories of macro-politics to examine governmental effects for economic policy. Herron's focus, however, is on interest rates as an indicator of government gridlock. He finds that periods of divided government and periods where there is wide preference conflict across legislative chambers and the presidency (often these two can overlap), are associated with low interest rates and thus, he deduces, policy gridlock.

Our concern with the economic effects of different configurations of government, while similar in some ways to Herron, does not profess to impart any particular political interpretation to fluctuations in economic indicators. Rather, our objective is to better understand macroeconomic fluctuations (interest rates, unemployment, growth and inflation) by focusing on interbranch legislative bargaining in the United States. We assert that existing research on the economic impact of various governmental arrangements is greatly underspecified from a political perspective; this assertion guides our exploration to follow.

Developing Measures Linking Political Institutions to Macroeconomic Performance

Perhaps the most fundamental problem in testing the linkage between politics and economics is developing meaningful measures of governmental change that are useful in examining their effect on economic outcomes. How does one characterize the configuration of numerous governmental actors (the president, members of Congress, bureaucratic agencies, etc.) in a way that is logical and imparts meaning to our analysis of the relationship between politics and economics? In some respects this is one of the main obstacles confronted by all the work in the field of macro-politics – devising ways to understand how complex institutions like Congress and the president change over time and how those changes cause alterations in government output. As noted above, we are interested in not only understanding the effect of "government" on the economy, but gleaning whether or not it is specifically interbranch bargaining that has an impact on economic tides. Thus, we develop measures of divided government and governmental bargaining, described below, and use them in models of macroeconomic performance. We begin with very simple notions of U.S. political institutions and economic decision making and gradually increases in complexity.

Before proceeding, however, we first consider the measures of economic performance and the expected behavior of relevant economic actors. Our notion of macroeconomic performance follows that used in most of the political business cycle literature and most notably in the recent work by Alesina, Roubini and Cohen (1997). Specifically we look at fluctuations in two sets of macroeconomic indicators: (1) economic growth and unemployment, and (2) interest and inflation rates.

Traditionally, studies of political business cycles focused on real effects in the macroeconomy—growth and unemployment—because it was felt that voters respond to fluctuation in these variables at election time. When the economy is good—high growth and low unemployment—voters favor incumbents and thus they are reelected. On the other hand, if economic growth is sluggish and unemployment rises, then politicians stand a greater chance of losing their elected offices. Heeding the admonition "it's the economy, stupid," political business cycle models predict that policymakers will use all instruments at their disposal to increase growth and employment in the run-up to an election. Our use of these two dependent variables reflects this tradition.

In addition to providing a robustness check—growth and unemployment should move together although in opposite directions—fluctuations in these variables reflect changes in a variety of macroeconomic policies. Economic actors—investors, unions, corporations, consumers, etc—in anticipation of and in

reaction to stimulative government policy engage in increased economic activity: contracts are signed, investments are made, workers are employed, technology is developed and products are bought and sold. The consequence is that the economy grows and unemployment is reduced. However, when economic actors are uncertain about the future course of government policy and/or policy is expected to have contractionary effects, investment and consumption decisions are often put on hold; consequently labor contracts are not signed or extended, investments are put on hold, etc., and the economy as a whole slows.

Recently—with the rational expectation revolution—scholars studying political business cycles have begun to look for political effects on nominal variables. Because prices generally reflect the expectations of buyers and sellers, a more direct measure of expected policy change can be gleaned by examining movements in (nominal) interest rates and consumer prices. One need only recall the late 1970s to know that these two variables fluctuate together and move in the same direction. Interest rates—specifically the interest rate on ten-year treasury bills at auction—reflect expectations by buyers (whether they are institutional or individual investors) in the long-term performance of the economy. Holding constant the federal funds rate (as set by the Federal Reserve), fluctuations in interest and inflation rates generally reflect confidence (or lack thereof) in the economy as a whole. Market confidence, in turn, is a function of macroeconomic fundamentals and political expectations.

President as Economic Policy Maker

We begin our examination of the effect of governmental influence on economic outcomes by exploring what most scholars have traditionally considered to be the key political actor in economic policy making – the president. The view that the president is supreme in economic and fiscal policy is one that is widely held both in the political science and economics literature. More often than not, research on economic policy refers to the policies of "president X" usually with only passing reference to the role of Congress in the development of that policy. As one presidency scholar bluntly put it, "the performance of the economy is presidential business" (Pious 1979, 293).

The first theory of executive dominance in economic policy making is a fairly straightforward model of expectations regarding presidential influence. Hibbs (1977; 1987) constructed a retrospective expectations model of partisan control of the executive that posits Democrats are more concerned with GNP growth and unemployment than inflation, while Republicans maintain opposite priorities. Thus, presidential administrations will pursue economic and fiscal policies in accordance with the priorities of their party and this should result in identifiable differences between the two parties' control of the White House, throughout their tenure.

Tests of this theory can be easily captured through a dichotomous variable indicating the party of the president. In order to maximize comparability between our study and that of Alesina, Roubini and Cohen (1997), we code this dichotomous variable positive one (1) for Republican presidents and negative one (-1) for Democratic presidents. Descriptive statistics for these variables, as well as all others included in our analysis, are offered in Table 1.

To test rational expectations versions of this partisan hypothesis—that is, to see if there is a structural break in the effect of partisanship on the economy—Alesina, Roubini and Cohen (1997) modify their presidency variable to reflect the president's party for only the first four, six and eight quarters of a presidential term. We follow their lead and create a variable which is equal to the previous dichotomous variable for the first six quarters of a presidential term and zero for the remaining quarters.[1]

[1] We also created the equivalent variable for four and eight quarters, but did not find significant deviations from the results we report below. This is the same finding reported by Alesina, Roubini and Cohen (1997).

Our expectation, following that of the traditional scholarship on political business cycles, is that growth, employment, inflation and interest rates will all increase (decrease) under Democratic (Republican) presidents.

Unified and Divided Government

As we have argued, the almost exclusive focus on the president as the lone economic policy actor has neglected the effect of interbranch relations and bargaining as important factors in economic policy and outcomes. Governmental economic policy does not simply consist of unilateral executive action but includes statutory decisions such as ratification of trade agreements, new legislation to alleviate unemployment, changes in the tax code, consent on executive appointments, or, potentially, the lack of action on such matters. In this respect we redefine the term "government" as the *two* entities specified in the Constitution to be partners in the policy making process – the executive *and* legislative branches.

At its most basic level, modern American government is generally characterized by conflict between the two major political parties. Thus, we utilize two different specifications of the relationship between the branches of government that underscores this partisan conflict. The first might be characterized as a classic divided government view of policy making and economic control. The assertion is that there are fundamental differences in how government performs under unified versus divided government. A popular view is that divided government leads to policy gridlock – less legislation produced because of an inability of the Congress and the White House to agree on legislative changes, which stems from fundamental policy differences between the political parties. This conventional wisdom, however, is a matter of debate in the political science literature (Mayhew 1992; Kelly 1993; Fiorina 1996; Edwards, Barrett et al. 1997; Binder 1999; Howell, Adler et al. 2000).

The classic divided government variable has two variations: The first measures instances of divided government such that the president must be of a different party than *both* chambers of Congress. The second characterization of divided government includes those periods when one of the two chambers is simultaneously controlled by the party of president.

A degree of partisan subtlety can be added to this blunt accounting of the consequences of divided government by simply distinguishing not only between periods that are unified and divided, but those when unified or divided governments are of a particular partisan variety. As was noted above, the policy expectations of economic actors may vary when government (meaning the president) is Republican- versus Democratic-controlled. The same may be the case for instances where divided (or perhaps even unified) government is constituted by a presidency of one party versus the other. For instance, divided government with a Republican in the Oval Office may lead to certain expectations about economic controls and influence that are different from those where a Democrat presides over a divided government.[2] We therefore construct a model using three variables to account for the effects of economic influence by unified Democratic-control of government, Democratic-led divided government, and Republican-led divided government, with Republican-controlled unified government serving as the baseline for comparison.

If the government is unified under Democratic (Republican) control then our expectations follow those of classic rational partisan theory: growth and employment will be higher (lower) under unified Democratic (Republican) government. We also anticipate that interest rates and inflation will be higher under unified government, regardless of partisan stripe, than they will be when the government is divided. The logic is as follows: if divided governments produce less new policy, then they will also engage in less spending, will implement fewer tax hikes and will be less likely to increase the federal deficit. Anticipating this,

[2] We include in this variable the exceptional case of Reagan's first six years where he faced a Democratic-controlled House but a Republican-controlled Senate.

markets will not demand a premium in order to lend the government money in the form of treasury bills, hence interest rates (and inflation rates) will remain lower.

Institutional Conflict and Gridlock

In contrast to the above described measures of divided government and gridlock, some authors have argued that the order of governmental business and institutional bargaining can serve as an indicator as to the *degree* of gridlock one is likely to see in policy making. Here, the reliance is less on an *a priori* accounting of partisan control of each branch (or chamber) and more on what the preferences or actions of legislators might indicate about the potential for making profound legislative changes. It is not simple a matter of gridlock or no gridlock, but rather what markets expect about the capacity for policy makers to come to legislative agreements.

- *Pivotal Politics*

The first of these theories relies on legislator ideal points as predictors of the potential for policy activity or inactivity. Similar to several efforts that employ ideology scores along with stylized models of the legislative process to understand and predict the capacity and direction for government output (including a number in this volume), we rely on Krehbiel's theory of pivotal politics (1987; 1996; see alsoBrady and Volden 1998). The pivotal politics model lends itself well to consideration of government capacity to influence economic policy. Like other theories of interbranch bargaining, this model describes the capability of Congress and the president to come to agreement on any number of policy matters. Constitutional mandates, rules of congressional deliberation, and the preferences of key political actors constrain the possibilities for public policy changes, according to Krehbiel. Specifically, he sees key veto and filibuster actors as the boundaries within which legislative change is very unlikely.

How does this work? Consider a situation in which a conservative Republican president is serving with a more liberal House and Senate (as measured by the preferences of the median legislator). It is likely that extant policies that are located around the median for the two legislative chambers will not be subject to change. The size of the "gridlock interval" on an ideological scale would be determined by the most conservative veto pivot of either chamber (2/3 voter) and whichever actor of either the House median or Senate filibuster pivot (the 3/5ths voter) is furthest away from the president. For instance, a status quo policy located precisely at the conservative veto pivot of the House is one that at least 2/3rds of the chamber would not be satisfied with changing even further in conservative direction – toward the position of the president. The larger the distance between the critical pivot actors, the more status quo policies fall within the gridlock interval and the fewer policy changes occur.[3]

Gridlock Expansion or Contraction

To test the theory of government gridlock, we employ two specifications of Krehbiel's theory. The first is derived from a rough reading of expansion and contraction in the gridlock interval based on the status of the president and the swing in the proportion of seats controlled by the majority party in each chamber. First, Krehbiel computes the average in the proportion of change in seats after an election between the two chambers, where Democratic gains are positive and Republican gains are negative. This will determine the size of change in the gridlock interval.

Then, to determine if this swing results in an *expansion* or *contraction* of the gridlock interval, Krehbiel examines its relationship to the presidency. If the prior election results in a president maintaining his office (either during a midterm election or in a successful bid after the first term) and there is a loss of seats for the president's party, that results in an expansion of the gridlock interval. Of course, the opposite would be true in a gain of seats for the president's party; this would lead to a contraction of the interval. If the presidency changes parties, this is usually accompanied by a gain in seats for his party,

[3] For a more complete description of the pivotal politics model, see Krehbiel (1996)

and this is also considered a contraction. Finally, there were two specific instances in which the presidency changed parties, but concurrently there was a net loss of seats for his party (Kennedy in 1960 and Clinton in 1992) – Krehbiel claims that the effect on the gridlock interval is unclear and thus leaves these two as indeterminate or a change of zero.[4]

The Size of the Gridlock Interval

Alternatively, Herron (2002) applies Krehbiel's theory to the spatial locations of key actors on an ideological dimension (again, using NOMINATE scores), and determines the actual size of the gridlock interval in each congressional term. That is, using the ideology scores, he calculates the exact location of the chief filibuster and veto pivots and reports the distance in-between as the size of the gridlock interval. Here, change is less a concern than the actual size of the interval at any given moment and its effect on the ability of government to alter policy.[5]

Following our earlier discussion we expect that governments with larger gridlock intervals will experience lower rates of both inflation and interest rates. The relationship between gridlock and economic growth and unemployment, however, is less clear. If gridlocked governments produce less legislation then it is likely that growth (or employment) enhancing measures will not be enacted and gridlock will have a negative influence on these two variables. However, since gridlocked governments engage in less deficit financing, and markets know this, there is no need to delay investment decisions. As a result, we are relatively agnostic as to the relationship between gridlock and growth and employment.

- *Vetoes*

Finally, as one further specification of the institutional gridlock perspective, we examine a more dynamic measure of interbranch hostility – vetoes. Rather than using *prospective* views of the probable capacity for policy change, one that does not alter during a congressional term, we look for actual indications of legislative/executive enmity through the use of the legislative veto. There are different ways to interpret the veto, not the least of which is a belief that the process of vetoes, amended legislation, and overrides are part of the practicee3 of bargaining between Congress and the president (McCarty and Poole 1995; Cameron 2000). The interpretation employed here, however, assumes that fully informed congressional actors know *ex ante* whether or not a passed bill is something that is likely to be opposed at the presidential signature stage. Thus, when the legislature chooses not to work out a legislative-executive compromise beforehand, and objectionable policy proposals are sent to the White House to receive vetoes, this is a public game of political chicken. By sending the bill back to the legislature the president is challenging Congress to either alter the proposal to something that is more acceptable or be forced to mobilize a two-thirds majority for override votes in both houses. Either way, a veto is a fairly clear signal of disagreement and turmoil in changing public policy.

Our belief is that the animosity between the president and Congress can build over time. As enmity increases, it fosters a belief that the two branches will not be legislatively productive. Legislative gridlock should affect all policy areas, including the economy. This measure of gridlock will have a similar effect on the economy as the previous two. We employ a quarterly measure of vetoes that is cumulative within a congressional term. That is for every quarter we count the number of vetoes that occurred and add them

[4] Krehbiel footnotes the possibility of contraction codings (1998, 61).

[5] Herron's interpretation of the gridlock effect on economic factors is slightly different than the one we employ. He assumes that a wider gridlock interval will result in less new policy enacted, but that this is likely to have a positive effect on the economy (in his study, it will push down interest rates) because there is less uncertainty about the influence of government through new public policy.

to all the previous vetoes in that congressional term.[6] The slate is then wiped clean at the start of each new administration or congressional term.

Institutional Compromise

Expectations about the effects on the economy of different configurations of government may have a further refinement than the broad concepts of partisan preferences or even more subtle notions of gridlock. As has already been described, government output is not merely a product of Democratic and Republican presidential policy objectives, but also their ability to obtain, or more often compromise, those goals given the strengths and weaknesses of the political actors and the process of legislative bargaining. Outside economic actors, knowing that policy output is usually a result of negotiation between the legislative and executive branches, will generate expectations as to the likely location of policy outputs on an ideological continuum. The ideological location of policy is conditioned on the preference positions or partisan strengths of actors in the different branches. Hence, this approach does not assume partisan or ideological divisions between the branches necessarily results in absolute or even partial gridlock. That is, observers are not presumed to think that government will be incapable of passing certain kinds of legislation because of partisan or ideological rifts between Congress and the president, but rather those divisions are seen as indicators of the likely *shift* in the ideological locations of new policies (how liberal or conservative) that are inevitably going to be produced.

The model is derived from Alesina and Rosenthal's "institutional balancing" discussion of policy making (1995, 43-49). Legislative activity is seen as a two-stage process established by provisions in the Constitution (Article I, Section 7) – in the first stage policy proposals must be agreed upon by the two chambers in the legislature, and in the second stage that compromise must be reconciled with the position of the president. Given the structural demands for compromise, the simplest expectation of outsiders is a "split-the-difference" outcome. For instance, the likely product of bargaining between two chambers with differing preferences but equal powers is some mid-point position. This is often the case when House and Senate negotiators (frequently in the context of conference committees) are faced with the responsibility of merging the policy language of the two chambers' legislative proposals (Shepsle and Weingast 1987; Longley and Oleszek 1989).

Institutional Compromise: A partisan approach

We operationalize this variable in two different ways. The first examines the strength or size of majority parties in the two legislative chambers and the partisan control of the presidency. We start with a presumption of complete command of the executive branch by the party of president, and this is interacted with the percentage of each chamber controlled by its majority party. The assumptions underlying this partisan proportions-approach are: 1) that members of the same party have similar economic and policy goals at a given moment,[7] and 2) that the size of the majority is meaningful for leverage with other actors in negotiating a split-the-difference midpoint. One can imagine several reasons why "size matters," perhaps the most straightforward is that a larger majority in the chamber provides a wider cushion for defections.[8]

This measure is constructed by calculating the proportion of each chamber that is controlled by the majority party, and making that coefficient negative if it is Democratic and a positive if it is Republican.

[6] We only count those non-pocket vetoes that were clearly for public, rather than private, bills.

[7] Literature examining conditional party government (CPG) show that the acceptability of this assumption waxes and wanes over time (Rohde 1991; Cox and McCubbins 1993; Aldrich and Rohde 1998).

[8] One possible refinement of the "size matters" approach is to note party majorities under divided government that are veto-proof (larger than two-thirds) thus able to override presidential opposition, or under unified government when the Senate is filibuster-proof (enough votes to invoke cloture) and thus able to prevent bills from being killed in the Senate. Such instances are much more the exception than the rule in Congress.

In the first stage of this split-the-difference measure we find the midpoint (or average) of the House and Senate proportions. For the second stage we calculate the midpoint between the first stage compromise and the president's position, where the president is either a -1 if a Democrat or 1 if Republican. The trends in this variable are meant to track the expectation of the direction of policy outputs by outside observers. They should be extreme in one direction or the other under unified partisan control with large majorities in both chambers, slightly less extreme if those majorities are slimmer, even more moderate if the opposite party controls one chamber of legislature, and very close to the policy midpoint under completely divided government with large majorities in both chambers.

To a certain extent, this measure of institutional compromise derived from the size of partisan majorities is a more nuanced view of unified and divided government. Periods of unified government, such as the first two years of the Clinton administration, will have relatively extreme expectations about policy outcomes, while periods of divided government will have expected policies that tend toward the middle.

This variable is shown by the solid line in Figure One, where the expectation of liberal policies is on the negative side and conservative policies are on the positive side (using the left-side axis). This measure exhibits some fairly severe shifts when there are alterations in the partisan control of the different branches of government. The measure projects it's most liberal expectations about policy during the periods of unified Democratic control – part of the Truman administration, the Kennedy and Johnson administrations, the Carter administration and the first two years of the Clinton administration. Its most conservative years were the one term of unified Republican government during the first two years of the Eisenhower administration. Other than that we see many years of more moderate expected policy during divided government with various Republican presidents (Eisenhower, Nixon, Ford, Reagan, and Bush) and the remaining years of the Clinton presidency. The first six years of the Reagan presidency are slightly more conservative given Republican control of the Senate.

As becomes obvious from the construction of this institutional compromise measure, the influence of the three key actors (the House, Senate and president) is not equal. In fact, because of the order of moves the president is afforded power that is equivalent to that of both legislative chambers combined. In light of the common perception that the president does have disproportionate influence over economic policy, this weighting of the components does not seem unreasonable. An alternative to this combination of variables would be to include each individually as well as interacted with each other to reveal their appropriate weights in influencing the economy. The problem with doing this is that we would lose their collective effect on expectations regarding government and economic policy.[9]

Institutional Compromise: An ideological approach

An alternative view of institutional compromise relies on policy preferences rather than partisanship. Following the perspective that party affiliation of legislators is less important than their individual ideologies and political proclivities (Krehbiel 1998), we create a similar measure of "split-the-difference" compromises using Poole and Rosenthal's common space NOMINATE scores. We, again, determine the policy position of each chambers' median in the same ideological space at different periods of time (Poole and Rosenthal 1997), as well as the ideological position of the president (McCarty and Poole 1995). We then employ these median positions to determine the expected equilibrium of interbranch policy compromises in a policy space. Thus, the first stage compromise is the ideological midpoint between the House and Senate, and the expected second stage bargain is the midpoint between the inter-chamber compromise and the president's ideal point.

[9] We prefer our formulation as opposed to developing a fully interactive model for two reasons: (1) our specification is more parsimonious (one variable versus six variables), and (2) in a theoretical sense we believe the weighted index should be combined in an additive rather than multiplicative manner.

The dashed line in Figure One follows the trend of the institutional compromise variable as measured using ideology scores. As is clear in the figure, the institutional compromise variables measured either by partisan strength or ideological position look very similar. Not unexpectedly there is a very high correlation between these two variables (0.97). The correspondence is largely driven by the disproportionate influence given to the president's position in both measures and, to a certain extent, the strong linkage between partisan strength of the two parties and the overall ideological composition of the chambers. There are some differences in the two measures. For instance, the loss of Senate control by the Republicans in 1987 has a much bigger effect on the partisan measure than it does on the ideological measure of expected policy position.

These measures of institutional compromise encapsulate some of the ideological and institutional components we have discussed earlier. We can make fairly reasonable predications about how they affect the macroeconomy. Institutional compromise liberal policy compromises should cause markets to anticipate policies that promote growth and stimulate employment while also releasing forces associated with inflation and higher interest rates (e.g., deficit spending). Compromise leading to conservative policy outcomes, on the other hand, should be associated with the opposite outcomes as markets anticipate less spending: lower growth and employment but also lower interest and inflation rates.

Statistical Models and Results

We examine the relationship between political institutions and the macroeconomy using a time-series of quarterly data from the first quarter of 1949 through the fourth quarter of 1999.[10] This sample encompasses and extends that used by Alesina, Roubini and Cohen (hereafter ARC; 1997). The 51 year period includes ten different presidents (five Republican and five Democratic), and five "episodes" of divided government (all with Republican presidents, except the last with Clinton). All the instances of unified government are with Democratic presidents, except the first two years of the Eisenhower administration.

We examine the same economic variables as ARC: the growth rate of real gross domestic product, the civilian unemployment rate, the long term interest rate and the inflation rate[11]. The first two dependent variables provide alternative indicators of the economy's overall performance while the second two variables measure the monetary policy in general. All these variables are converted to annual growth rates based on quarterly data.[12]

Our specification of the baseline model for our macroeconomic variables follows ARC. The general model is:[13]

$$y_t = \alpha + \beta_1 y_{t-1} + \beta_2 y_{t-2} + \beta_3 y_{t-3} + \beta_4 Politics_{t-1} + \varepsilon_t$$

where y_t is one of the macroeconomic variables (economic growth rate, unemployment rate, inflation rate, or interest rate) and $Politics_{t-1}$ is a variable that captures the institutional variation described above. Three lags are used because that is the optimal lag length as determined via Akaike's Information Criteria; the political variables are lagged because it is argued that political influences take at a minimum one quarter to influence the behavior of markets. All the models reported passed standard tests for serial correlation,

[10] The exception is when we use the ideological compromise measure; that data series begins quarter one of 1953.
[11] All data was obtained from the St. Louis Federal Reserve Bank's website (http://research.stlouisfed.org/fred/).
[12] Growth rates are calculated as $y_t=((x_t-x_{t-4})/x_t)*100$ where y is the rate in question and x is the level of GDP or unemployment.
[13] The only exception is when the dependent variables is the inflation rate. Following Alesina, Roubini and Cohen (1997), we include a dummy variable for the years following the end of the Bretton Woods international monetary system (post-1973) and a variable measuring the quarterly price of oil as economic controls in all models.

homoskedastic disturbances, omitted variable bias, and normality of residuals. To keep our exposition simple we do not report coefficients and standard errors for any lagged endogenous variables because we treat as statistical controls and we are not interested in drawing inferences about them. We do note that the coefficients on the lagged endogenous variables for all four dependent variables are similar in sign, magnitude and statistical significance to those reported by ARC.

We begin the discussion of our results by focusing on growth and unemployment before turning to the inflation and interest rate models. Columns 1 and 2 of table 2 add variables indicating the party affiliation of the president (1=Republican; -1=Democrat) to the baseline specification. Recall that the only difference between the variables in columns 1 and 2 is that this party variable is coded for the entire administration in column 1 and is coded as zero after the sixth quarter in column 2. Again, these results are similar to those of ARC and provide support for the naïve partisan and rational partisan hypotheses.

In column 3 we begin adding our variables of interest one at a time, beginning with the measures of unified/divided government. Consider first the coefficient on the divided government I variable. Recall that this variable is coded as "divided" (and hence as "1") if the party of the president does not control *both* chambers of Congress; otherwise it is considered a unified government. The first six years of the Reagan administration are not included in this analysis because Republicans controlled the Senate. The coefficient is negative and statistically significant indicating that the economy slows by a little more than one half of one percent during periods divided of as compared to unified government.

In column 4 we broaden the definition of divided government and code that variable one for those cases when the president is of one party and *either* house of Congress is of the other party. In practice this adds the first six years of the Reagan presidency. This variable, divided government II, is statistically significant and also in the negative direction, providing additional support for the argument that unified government is more conducive to economic growth than divided government.

Finally, in column 5, we include three variables that provide a complete menu of unified and divided government possibilities by type of partisan control. These variables indicate whether the government is unified under a Democratic administration or divided with Democratic (Republican) presidents and Republican (Democratic) Congresses. A unified Republican administration is the omitted category. The results in column 5 support the partisan hypothesis but also provide evidence confirming the importance of divided government. Only the variable indicating a Democratic unified government is statistically significant at conventional levels. The coefficient is positive suggesting not only that Democratic administrations are growth enhancing but that unified Democratic administrations grow faster than any of the three other alternatives.

Effects of governmental gridlock on economic growth are negligible at best. Columns 6, 7 and 8 contain our various indicators of gridlock and the measure of presidential vetoes. None of these variables approaches statistical significance, suggesting economic growth is neither helped nor hindered by institutional or policy disagreement. That is, expectations—as measured by the gridlock interval—or even the reality of legislative discord—vetoes—do not significantly affect the behavior of market participants.

We get a better feel for this phenomenon in columns 9 and 10 where we include our measures of institutional compromise. At the negative (positive) extreme for the partisan indicator of institutional compromise we have sizable Democratic (Republican) majorities in both chambers and a Democratic (Republican) president. This increases the likelihood that policy compromises will better reflect the goals and objectives of a Democratic (Republican) agenda. The coefficient on this variable is negative and statistically significant, indicating that partisan compromise under Democratic majorities and presidents increases economic growth. As expectations of Democratic bargaining strength decline

(Republicans gain control of either house and/or the presidency), economic growth declines as well. We get similar results using the ideology indicator of institutional compromise. This measure captures ideological rather than strictly partisan differences across legislative chambers and between the executive and legislative branches. Like the earlier measure, the ideological indicator is negative and statistically significant. Economic growth is significantly—in both a substantive and a statistical sense—greater under policy compromises that are expected to be more liberal.

In Table 3 we conduct a similar analysis using the unemployment rate as the dependent variable. Since the growth and unemployment rates are correlated both theoretically and empirically[14] we do not go through each set of independent variables separately but rather highlight interesting and anomalous findings. The only significant differences between the growth and unemployment regressions occur in the divided government models. While the results in Table 2 indicate consistent support for the hypothesis that divided governments decrease growth, Table 3 suggests that only when there is a unified Democratic government is there a reduction in the unemployment rate. All the other coefficients are similar and as expected: Democratic governments decrease economic uncertainty leading to unemployment. The institutional compromise variables tell the same story: anticipated liberal policy compromises reduce unemployment.

We examine the reaction of monetary indicators to various governmental configurations in Tables 4 and 5. Here our expectations are different; extant theory (e.g., Alesina, Roubini and Cohen, 1997; Herron 2002) suggests less of a rational partisan effect than an institutional conflict influence on monetary policy. Beginning in Table 4, we examine how these factors affect the interest rate on the ten-year Treasury Bill. Our findings indicate that the partisanship of the president does have a statistically significant influence on the interest rate, with rates being higher under Democratic administrations. This partisan difference only arises, however, when we use the variable measuring the president's party over his entire term (column 1), rather than the first six quarters (column 2). There is more consistent support for hypotheses concerning the relationship between divided government and interest rates. Interest rates are significantly **(**both substantively and statistically**)** higher under unified than under divided governments (column 3); again, however, this result is not robust to alternative notions of divided government (column 4). Column 5 confirms both partisan and institutional theories: interest rates are higher under unified Democratic administrations. In fact, this coefficient is larger in absolute value than that in column 1, suggesting the importance of combining partisan and institutional variables.

Gridlock has mixed consequences for interest rates depending upon the measure employed. The measure of governmental gridlock that simply examines expansion and contraction in the gridlock interval (Krehbiel's measures) does not seem to have any relationship to interest rates. However, Herron's measure of the actual size of the gridlock interval does have a relationship to the movements in interest rates. The coefficient on this measure is consistent with Herron's findings: because the public expects little policy change from gridlocked governments, they are unlikely to demand a higher rate of return when lending money to the government. Finally, the coefficient on the vetoes measure is not significant related to changes in interest rates.

Both measures of institutional compromise have negative and statistically significant effects on interest rates. This result is again consistent with our priors. As economic actors anticipate policy compromises that tend to the liberal extreme—those that increase government spending, raise taxes and potentially add to federal debt—they will demand a higher return on their investment before they purchase government securities. Policy compromises that are expected to be more conservative, on the other hand, tend to decrease this demand by the market and, consequently, are associated with lower interest rates.

[14] Unemployment and growth have a bivariate correlation of -.80.

Table 5 contains the results of our investigation into the political causes of inflation. In comparison with the results in previous tables, these findings are the least supportive of our position that institutional variables are an important source of information regarding macroeconomic policy. They do, however, demonstrate that—with the exception of the unified Democratic government variable—that partisan politics do not play a role in generating inflation. Unified Democratic administrations have higher rates of inflation and gridlocked (at least according to the Herron measure) governments experience lower rates of inflation. None of the other variables have a statistically significant influence on changes in consumer prices.

Robustness of the Results

Is there any evidence that the results reported above are spurious? For instance, are the findings of partisan influences on growth driven by the fact that Democratic administrations have lower rates of unemployment and lower rates of unemployment drives an increase in economic growth? We examine the robustness of our findings using a vector autoregression (VAR) framework. In general, our VAR is written as follows:

$$y_t = \alpha + \sum_{j=1}^{J} \beta_j y_{t-j} + \sum_{j=1}^{J} \delta_j z_{t-j} + \lambda Politics_{t-1} + u_{1t}$$

$$z_t = \alpha + \sum_{j=1}^{J} \theta_j y_{t-j} + \sum_{j=1}^{J} \phi_j z_{t-j} + \lambda' Politics_{t-1} + u_{2t}$$

This setup allows one endogenous variable—growth, for instance—to be a function of past values of growth, unemployment and political variables. In addition, unemployment is a function of past values of unemployment, growth and political variables. Estimating these two equations simultaneously provides a safeguard against omitted variables biasing the coefficient on the political variables. In the models reported below we include three lags of each endogenous variable; this lag structure was determined via the Akaike Information Criteria.

For the ease of presentation we do not include the tables but simply report where the VAR results confirm or differ from our single equation models. The first models use growth and unemployment as the endogenous variables. The results from this VAR confirm those reported earlier. As a consequence we are more comfortable that the economic effects we have attributed to our political variables are not a result of omitted variable bias.

The results for the VAR using interest and inflation rates are a bit more interesting. While there still is no support for partisan influences on monetary policy, using the VAR setup we find increased support for theories of institutional conflict. The unified government and unified Democratic government variables have statistically significant and positive effects on both interest and inflation rates while the other divided government measures have mixed effects. The gridlock interval derived from Herron's work is negative and statistically significant for both rates but, unlike the findings in Tables 3 and 4, neither of the institutional compromise variables are statistically significant. These findings indicate that for nominal economic indicators it is not simply the party of the president that matters—as might be suggested by previous scholarship—but rather the relationship between the president and Congress that influences market expectations.

Conclusion and Discussion

What is clear from the data and results presented in this chapter is that we have much to learn from disaggregating the "political" in political business cycles models. In part our findings can be seen as a confirmation of the influential work of ARC; however, we go a step further. Not only do markets respond to the partisanship and electoral behavioral of the individual occupying the White House, but they respond to the composition of the legislative bodies located further down Pennsylvania Avenue. The economy performs better—in terms of increased growth and decreased unemployment—when there is a Democrat in the Oval Office and when there is the likelihood of partisan compromise along more "liberal" lines between the president and Congress. This composition of institutions, however, is the proverbial double-edged sword: economic stimulation carries with it higher interest and inflation rates.

This chapter represents what we hope will be the beginning of a sustained interest in the macro-politics of Congress and the macroeconomy. There are at least two avenues for future research that are worth exploring. First, the arguments advanced in this paper suggest that market participants engage in political speculation about the composition and productivity of the executive and legislative branches. It would be fruitful to investigate whether private asset markets in general (e.g., stock and bond markets) respond to these expectations. If markets have rational expectations and can predict the extent of partisan and/or institutional compromise, then they should be able to hedge their investments in private equity markets.

A second avenue for examination concerns the relationship between divided government, the macroeconomy and congressional elections. While Alesina and Rosenthal have examined—at least theoretically—the relationship between presidential elections and the macroeconomy, there is little evidence that similar dynamics are at work during congressional elections.

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Table 1: Measures of Governmental Configurations for Purposes of Economic Policy Making

VARIABLES	MEASUREMENT	MIN	MAX	MEAN
President as Policy Maker				
President's Party	1 = Republican, -1 = Democrat	-1	1	0.037
President's Party (six quarters)	Same as above for first six quarters of term, 0 = otherwise	-1	1	0.028
Unified/Divided Government				
Divided Government I	0 = President's party same as both chambers in Congress, 1 = President's party different than *both* chambers in Congress	0	1	0.56
Divided Government II	0 = President's party same as both chambers in Congress, 1 = President's party different than *either* chamber in Congress	0	1	0.61
Divided Government (partisan varieties)				
Unified Democrat	1 = unified Democratic government, 0 = otherwise	0	1	0.36
Divided Government – Dem President	1 = divided government with Democratic president, 0 = otherwise	0	1	0.13
Divided Government – Rep President	1 = Divided government with Republican president, 0=otherwise	0	1	0.38
Institutional Conflict				
Gridlock Expansion/ Contraction	Krehbiel's measuring using partisan change in seats in Congress and presidential turnover (see text)	-9.91	13.29	1.45
Size of Gridlock Interval	Using NOMINATE scale, the furthest distance between critical pivot actors (see text)	0.26	0.53	0.35
Vetoes	Cumulative vetoes within a congressional term (no pocket vetoes or private bills)	0	32.0	4.35
Institutional Compromise				
Partisan Compromise	Calculating the "midpoint" between the House and Senate using size of partisan majorities, then calculating the midpoint of that with President's party (see text)	-75.33	83.95	15.20
Ideological Compromise	Calculating the "midpoint" between the House and Senate using ideology scores, then calculating the midpoint of that with President's ideology (see text)	-0.30	0.23	0.001

Table 2: Economic Growth

	Model									
	1	2	3	4	5	6	7	8	9	10
President's Party	0.30*									
	(0.09)									
President's Party (six quarters)		0.65*								
		(0.15)								
Divided Government I			0.64*							
			(0.20)							
Divided Government II				-0.59*						
				(0.19)						
Unified Democrat					0.62*					
					(0.28)					
Divided Government -- Dem President					0.15*					
					(0.36)					
Divided Government -- Rep President					-0.13					
					(0.27)					
Gridlock Expansion/Contraction						0.00				
						(0.02)				
Size of Gridlock Interval							0.21			
							(1.38)			
Vetoes								-0.01		
								(0.02)		
Partisan Compromise									0.01	
									(0.00)	
Ideological Compromise										-1.28*
										(0.44)
Adjusted R^2	0.79	0.8	0.79	0.79	0.79	0.79	0.79	0.78	0.79	0.79
F-Statistic	196.56	206.00	170.37	195.99	131.77	162.13	161.79	185.25	197.47	180.17
Prob > F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Cell entries are OLS estimates with standard errors in parentheses. The constant and three lags of the dependent variable are not reported.

Table 3: Unemployment Rate

	Model									
	1	2	3	4	5	6	7	8	9	10
President's Party	2.12*									
	(0.66)									
President's Party (six quarters)		4.15*								
		(1.04)								
Divided Government I			2.47*							
			(1.44)							
Divided Government II				2.13						
				(1.32)						
Unified Democrat					-3.93					
					(1.95)					
Divided Government -- Dem President					-3.69					
					(2.62)					
Divided Government -- Rep President					0.50					
					(1.86)					
Gridlock Expansion/Contraction						-0.09				
						(0.14)				
Size of Gridlock Interval							-5.23			
							(8.51)			
Vetoes								0.03		
								(0.12)		
Partisan Compromise									-0.04*	
									(0.01)	
Ideological Compromise										7.72*
										(3.25)
Adjusted R^2	.88	.88	.88	.87	.88	.87	.86	.87	.88	.87
F-Statistic	360.76	372.04	303.36	345.63	238.17	291.62	285.78	340.60	359.71	317.92
Prob > F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Cell entries are OLS estimates with standard errors in parentheses. The constant and three lags of the dependent variable are not reported.

Table 4: Treasury bills

	Model									
	1	2	3	4	5	6	7	8	9	10
President's Party	-0.12*									
	(.05)									
President's Party (six quarters)		-0.12								
		-0.08								
Divided Government I			-0.26*							
			-0.09							
Divided Government II				-0.24*						
				-0.12						
Unified Democrat					0.47*					
					-0.16					
Divided Government -- Dem President					0.22					
					-0.2					
Divided Government -- Rep President					0.21					
					-0.15					
Gridlock Expansion/Contraction						0.01				
						-0.01				
Size of Gridlock Interval							-2.07*			
							-0.86			
Vetoes								-0.02*		
								-0.01		
Partisan Compromise									0.00	
									0.01	
Ideological Compromise										-0.76*
										-0.26
Adjusted R2	0.95	0.94	0.94	0.95	0.95	0.94	0.93	0.95	0.95	0.94
F-Statistic	883.38	865.53	761.49	882.10	595.69	618.48	584.99	878.68	896.71	684.71
Prob > F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Cell entries are OLS estimates with standard errors in parentheses. The constant and three lags of the dependent variable are not reported.

Table 5: Inflation

	Model									
	1	2	3	4	5	6	7	8	9	10
President's Party	0.01									
	(0.05)									
President's Party (six quarters)		0.01								
		(0.09)								
Divided Government I			-0.18							
			(0.11)							
Divided Government II				-0.18						
				(0.11)						
Unified Democrat					0.30*					
					(0.16)					
Divided Government -- Dem President					-0.51*					
					(0.20)					
Divided Government -- Rep President					0.17					
					(0.15)					
Gridlock Expansion/Contraction						0.00				
						(0.01)				
Size of Gridlock Interval							-2.68*			
							(0.73)			
Vetoes								0.00		
								(0.01)		
Partisan Compromise									0.00	
									(0.00)	
Ideological Compromise										-0.23
										(0.19)
Adjusted R2	.95	.95	.95	.95	.95	.97	.97	.95	.95	.97
F-Statistic	615.01	614.88	581.91	623.55	500.29	994.34	1068.55	614.89	619.22	1073.16
Prob > F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Cell entries are OLS estimates with standard errors in parentheses. The constant and three lags of the dependent variable are not reported.

Figure 1. Institutional Compromise Measures