

# Does Partisan Heritage Matter? The Case of the Federal Reserve

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Received evidence suggests that changes in appointer- and overseer-*preferences* influence monetary policy (i.e., partisan heritage matters). Evidence presented here, on the other hand, is consistent with changes in the *cost* of pursuing a *common* preference influencing policy. I draw this evidence from a panel of Federal Open Market Committee (FOMC) votes and find support for the following conclusions: (1) Federal Reserve Board (FRB) governors who were nominated and confirmed by the *same* party (Republican *or* Democrat) prefer significantly looser policy than do other FOMC members. (2) Monetary policy is significantly looser when *either* party controls the oversight mechanism (i.e., the presidency and Senate) than when control is split. (3) Oversight acts less forcefully on district bank presidents than on FRB governors. In short, the present evidence suggests that political agents from *both* parties prefer loose money and pursue this preference more efficiently when their parties are aligned.

## 1. Introduction

The political economy of the Federal Reserve System is an extensively researched topic. Consequently, contributors to the literature have “established” several results about how political forces influence U.S. monetary policy. One such result suggests that “partisan heritage” influences policy through appointments and oversight—that is, Democrats induce looser policy than do Republicans.

Evidence on which this result rests, however, appears problematic. First, while relevant political agents<sup>1</sup> (e.g., the president and Senate) can exercise

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1. Throughout the article I refer to presidents/Senates as “political agents” to recognize their relationship with associated constituent-principals. One goal of the present research is to improve our understanding of how institutions influence agency-costs within *this* relationship. While presidents/Senates employ their own agents (e.g., central bankers), I view any such employment as a component of this more encompassing principal-agency relationship.

influence *jointly*, received evidence rests on the assumption that agents act independently. Second, while appointments and oversight can *simultaneously* influence policy, received evidence rests on the assumption that only one or the other is empirically relevant.

I address these difficulties by formally examining a panel of Federal Open Market Committee (FOMC) votes. The resulting evidence is robust and supports conclusions that depart markedly from those in the literature.

1. Federal Reserve Board (FRB) governors who were nominated and confirmed by the *same* party (Democrat *or* Republican) prefer significantly looser monetary policy than do any other FOMC members.
2. Monetary policy is significantly looser when *either* party controls the oversight mechanism (i.e., the presidency and Senate) than when control is split.
3. Oversight acts less forcefully on district bank presidents than on FRB governors.

In short, the present evidence suggests that political agents from both parties prefer loose money and face lower costs to act on this common preference when their parties are aligned.<sup>2</sup>

In addition to improving our understanding of how political forces influence U.S. monetary policy, these results provide insight to a more general phenomenon; namely, how formal institutions constrain political agents. Since at least Kydland and Prescott's (1977) seminal contribution, social scientists have recognized the potential for time inconsistency to induce suboptimal equilibria. One mechanism for checking this problem is delegation to disinterested authorities (Schelling, 1960). A necessary condition for effective delegation, however, is durability. An interesting question for political economists thus becomes: *What constrains political agents from circumventing potentially efficiency-enhancing delegation?*

The Federal Reserve System (the Fed) offers a natural laboratory in which to address this question. By delegating authority over monetary policy, Congress potentially checked its ability to pursue time-inconsistent policies. But what constrains Congress from circumventing this delegation?

Evidence that I report here suggests that identifiable features of the Fed's institutional structure strengthen these constraints. For example, the present evidence suggests that having the Senate confirm presidential nominations significantly constrains political agents from manipulating policy via appointments. In addition, it suggests this constraint is stronger when different parties control the presidency and Senate. This insight cannot be drawn from contributions that ignore the potential for presidents and Senates to *jointly* influence policy.

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2. The relatively rich set of punishment strategies available to players from the same party may reduce this cost. When these strategies are not feasible, as may be the case when players come from different parties, cooperative outcomes may not be sustainable, even if the players' preferences point in the same direction.

The present evidence also suggests that placing district bank presidents on the FOMC significantly constrains political agents from manipulating policy via oversight. Like the constraint on appointments, this one appears to be stronger when different parties control the presidency and Senate. This insight cannot be drawn, however, from contributions that ignore the potential for appointments and oversight to *simultaneously* influence monetary policy.

In short, the present evidence is consistent with changes in the *cost* of political agents pursuing a common objective, not changes in *preferences* over corresponding outcomes, influencing policy. This distinction is important because costs are sensitive to identifiable features of relevant institutional structures that, in principal, can be altered to improve associated political outcomes. Preference-based explanations, on the other hand, are difficult (if not impossible) to refute and lack normative prescriptions.

The remainder of the article is organized as follows. In Section 2 I explicate those features of the Federal Reserve System that are important for the present research and critically review contributions to the literature. In Section 3 I formally identify how unobservable political forces, acting through appointments and oversight, can reveal themselves in FOMC voting. In Section 4 I apply this identification to interpret a panel of FOMC votes. Finally, I conclude in Section 5.

## 2. Appointments and Oversight as Potential Channels for Political Influence

In this section I describe how interested political agents can influence monetary policy through appointments and oversight. I then review contributions to the literature that identify partisan forces as acting through these channels.<sup>3</sup> I conclude the section by highlighting difficulties with this inference.

### 2.1 Channels for Influence

2.1.1 Formal Structure of the Federal Reserve System. The Federal Reserve System includes 12 district banks and the Federal Reserve Board (FRB). Each bank has a president who is nominated by the district's board of directors and approved by the FRB to a renewable five-year term.<sup>4</sup> The FRB has

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3. Because this literature is extensive, my review necessarily excludes many important contributions. Nevertheless, I believe that the contributions reviewed here accurately represent the literature's progress. While I take issue with the state of this literature, I do so respectfully because it is frequently easier to criticize received theories than to create new ones.

4. Each district bank has a board of nine outside directors. Three of these board members are class A directors who are affiliated with Federal Reserve System member banks and elected to their respective boards by these banks. In addition, three members are class B directors who, like class A directors, are elected to the board by member banks. However, class B directors are *not* affiliated with the Federal Reserve System (i.e., they are not officers, directors, or employees of member banks). Finally, three members are class C directors who, like class B directors, are chosen from the public. In addition, class C directors cannot be stockholders of a bank and are not elected to their respective boards by member banks. Instead, the FRB appoints class C directors, designating one as the board's chair and another as the deputy chair (Havrilesky, 1995:2–3).

seven governors who are appointed by the president and confirmed by the Senate to nonrenewable 14-year terms.<sup>5</sup> On a rotating basis, four district bank presidents combine with all seven FRB governors and the New York district president to make up the Federal Open Markets Committee (FOMC), the policy-making center of the Federal Reserve System.

The FOMC meets approximately eight times a year to devise open market operations, the most important tool for implementing monetary policy. At each meeting the FOMC officially defines its position by agreeing to a policy directive. Agreement is formally reached when a simple majority of FOMC members vote to adopt a proposed directive. Following such agreement, the FOMC shares its directive with the Domestic Manager of the System Open Market Account at the Federal Reserve Bank of New York who then implements the agreed upon policy (Havrilesky, 1995:5).

2.1.2 Lack of Familiar Constraints. A lack of familiar bureaucratic controls is frequently cited as insulating the Fed from political influence. For instance, throughout its history, the Fed has not received a Congressional appropriation. Instead, it finances its operations with interest on a portfolio of government securities, which it accumulates through open market operations (Toma, 1986). In addition, if appointed to a full 14-year term, a board member is not eligible for reappointment; only members who complete unexpired terms can be reappointed (Friedman, 1986:28).<sup>6</sup> Finally, board members cannot be fired, forced to resign, or voted out of office (Waller, 1992:415).

2.1.3 Potentially Influential Mechanisms: Appointments and Oversight. Despite this apparent insulation, channels exist through which interested actors may influence monetary policy. For example, although FRB governors are seldom swayed by the prospect of reappointment, the original appointment process may be influential.

In addition, while conventional oversight methods (e.g., budget appropriations) are unavailable to the Fed's overseers, interested political agents appear to have alternative channels. The FRB chair represents one such channel. Unlike other FRB members, the chair testifies before Congress and faces reappointment (i.e., to the chair, not the FOMC). As a result, he may be more sensitive to oversight than are other FOMC members. In turn, the chair potentially influences FOMC members by building consensus as an internal allocator of resources (Chappell, Havrilesky, and McGregor, 1993:191). The chair thus appears to be an important "conduit" for political forces acting through oversight.<sup>7</sup>

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5. One governor's term expires every other January. Governors must come from different Federal Reserve Districts so that no region is overrepresented. The FRB's chair is chosen from among the seven governors and serves a four-year renewable term (Havrilesky, 1995:3-4).

6. On the other hand, district bank presidents may be reappointed, even after serving a full five-year term.

7. The manner in which the chair acts as this conduit, in turn, suggests that oversight can induce observable changes in FOMC voting behavior. I formally establish this implication in Section 3.

## 2.2 Received Evidence Regarding Appointment and Oversight Influence

This unique institutional structure has led scholars to focus on a relatively small set of questions.

1. Do strategic appointments of FRB governors influence monetary policy?
2. Does the process through which FRB governors are appointed impose different forces on monetary policy than does the process through which district bank presidents are appointed?<sup>8</sup>
3. Following the appointment process, does oversight influence monetary policy?

Evidence exists that strategic appointments influence monetary policy and that partisan forces drive this influence.<sup>9</sup> For example, Chappell, Havrilesky, and McGregor (1993:187) examine whether FOMC members are “directly influenced by the partisan ideology of the *current* President, and whether they systematically differ according to the party of the President *who appointed them*” (emphasis in original).<sup>10</sup> Their results suggest that supply-side (i.e., Reagan) appointees prefer significantly lower Fed funds rates (i.e., looser monetary policy) than do Democrat appointees who, in turn, prefer significantly lower rates than do “traditional” Republican appointees (Chappell, Havrilesky, and McGregor, 1993:199). In other words, Chappell, Havrilesky, and McGregor’s evidence is consistent with Reagan appointees being the most liberal FRB governors and other Republican appointees being the most conservative. The authors interpret this result as being consistent with appointments providing “an important channel of *systematic partisan influence*” (Chappell, Havrilesky, and McGregor, 1993:209, emphasis added).

Evidence also exists that the mechanism for selecting FRB governors produces different political forces than does the mechanism for selecting district bank presidents. For example, Chappell, Havrilesky, and McGregor (1993:202) interpret their data as being consistent with FRB governors preferring looser policy than do district bank presidents.

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8. Answers to this question have immediate policy applications in light of recent proposals to either remove voting rights from district bank presidents or bring the appointment of district presidents under more direct control of Congress and the executive (e.g., see Keech and Morris, 1997:262).

9. See Keech and Morris (1997:254) for a review of contributions that identify “appointment power as a central mechanism of presidential influence of the Fed.” See Chappell, Havrilesky, and McGregor (1993:186) for a review of contributions that identify a president’s party as affecting the appointment process.

10. Chappell, Havrilesky, and McGregor (1993) simultaneously examine appointment and oversight influence by estimating reaction functions for individual FOMC members across time. They use a two-stage process to first estimate each individual’s preferred policy (i.e., target Fed funds rate) and then the relationship between this preference and appointments and oversight. In this manner they assess the relationship between a member’s ideal point, the party of his or her appointing president, and the party of his or her overseeing president. Keech and Morris (1997:254) suggest that Chappell, Havrilesky, and McGregor provide “the most complete investigation of the possibility that presidents influence monetary policy through the power of appointment.” Nevertheless, Chappell, Havrilesky, and McGregor do not address the potential for Congress and presidents to *jointly* influence appointments and oversight.

Tootell (1996), on the other hand, argues that differences in partisan heritage, not between FRB governors and district bank presidents, induce variation in FOMC voting.<sup>11</sup> He argues that, since the FRB must approve nominations of district bank presidents, appointments of district presidents should be no less political than those of FRB governors (Tootell, 1996:192).<sup>12</sup> For Tootell (1996:193), “(w)hether bank presidents are more conservative than board governors depends on whether presidents are more likely than governors to be Republicans.”

Finally, evidence exists that partisan forces also influence monetary policy via oversight. For example, Caporale and Grier (1998) examine whether changes in the real Fed funds rate are associated with changes in overseer preferences (e.g., those of the president and leaders of relevant congressional committees).<sup>13</sup> Caporale and Grier (1998:423) find evidence that oversight by Republican presidents and relatively conservative Senate Banking Committee leadership is associated with tighter monetary policy.<sup>14</sup> Hibbs (1986) offers early evidence in this spirit.

In short, evidence exists (though it is mixed) that (i) political forces influence monetary policy through appointments, (ii) mechanisms through which FRB governors and district bank presidents are selected create different influences on monetary policy, and (iii) political forces influence monetary policy via oversight. While contributors to the literature disagree about the channels through which political forces act on monetary policy, they tend to agree that such forces vary systematically with the party of relevant political agents (i.e., *partisan heritage matters*).

### 2.3 Potential Difficulties with Received Evidence

Evidence on which these conclusions rest faces at least two difficulties. First, contributors tend to examine how appointments *or* oversight influence

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11. To evaluate this conjecture, Tootell (1996) separately estimates reduced form reaction functions for governors and district presidents. He uses a similar method to evaluate differences in voting behavior between Democrat and Republican appointees. Evaluated in this manner, his data are consistent with reaction functions that do not differ between FRB governors and district bank presidents (Tootell, 1996:195). He concludes that “(p)artisan affiliation seems to play some role in FOMC voting” (Tootell, 1996:204). However, Tootell’s examination does not control for the simultaneous influence that oversight has on FOMC voting. In addition, it does not control for the influence that interactions between the president and Senate might have on how political forces act on monetary policy.

12. For Tootell’s argument to be valid, outcomes of the “appointment game” must be robust to its extensive form representation.

13. The authors distinguish presidents by party and members of Congress by average Americans for Democratic Action (ADA) scores over the period in which they held a committee leadership position. They do not, however, investigate how interactions between the president and Congress might influence the ability to exercise oversight. In addition, because they examine time series data, they cannot control for how the appointment process might influence oversight’s effectiveness and direction. I address these sources of potential bias both theoretically (see Section 3.2) and empirically (e.g., see Table 8).

14. Chappell, Havrilesky, and McGregor (1993) on the other hand, present evidence that is inconsistent with oversight significantly influencing monetary policy. Unlike Caporale and Grier, however, they do not address the potential for Congress to exert influence via oversight.

monetary policy.<sup>15</sup> Since political agents frequently oversee the same FOMC members that they appointed, inferences that can be drawn from such studies potentially confound influence that acts through these channels simultaneously. I address this difficulty by examining a panel of FOMC votes.<sup>16</sup> By evaluating cross-sectional and time-series variation together, I can measure the independent influence of appointments and oversight, respectively.

Second, contributors tend to ignore institutionally defined interactions between relevant players.<sup>17</sup> For example, while the Senate confirms presidential nominations, contributors to the literature frequently employ only the president's party to measure the influence acting through appointments. I address this difficulty by partitioning appointers in a manner that identifies the nominating president *and* confirming Senate. Doing so facilitates my evaluation of whether the president influences appointments alone or does so jointly with the Senate.

Inferences that can be drawn from the literature (i.e., partisan heritage matters) appear sensitive to these difficulties. For example, when I ignore the joint influence of presidents and Senates, the inference from my FOMC voting data is consistent with conclusions in the literature—partisan heritage matters. When I account for this joint influence, however, I produce evidence that Democrats and Republicans exercise influence *identically*—partisan heritage does not matter. Before turning to this evidence in Section 4, I establish in Section 3 the manner in which political forces can make themselves observable in FOMC votes.

### 3. Observable Implications of Appointments and Oversight

In Section 2 I critically review received conclusions and argue that inference from a panel of FOMC votes is potentially more valid. To facilitate this inference, I illustrate in the present section how appointment and oversight forces can make themselves observable in FOMC voting. I do so in a relatively simple manner; namely, by synthesizing theoretical insights about coalition formation and Chappell, Havrilesky, and McGregor's (1993) formal characterization of FOMC voting behavior. By taking this approach, I attempt to strengthen conclusions that are available from the present data—these conclusions depart markedly from those in the literature, but emerge from an analytical framework that earlier contributors have, in large part, already adopted.

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15. Because contributors frequently examine either time-series or cross-sectional data, they can only evaluate how changes in oversight or appointments, respectively, influence monetary policy. Chappell, Havrilesky, and McGregor (1993) are an important exception to this generalization. However, they do not evaluate how interactions between the president and Senate might influence the appointment and oversight processes.

16. Tootell (1996) also evaluates voting data, but only considers the potential for appointments to influence monetary policy. In addition, he does not investigate the potential for presidents and Senates to jointly influence appointments.

17. Theoretical results regarding the nonneutrality of hierarchies (and thus the sensitivity of bureaucratic decisions to institutional structures) emphasize the importance of addressing this issue (e.g., see Hammond and Thomas, 1989).

Chappell, Havrilesky, and McGregor (1993) offer a comprehensive account of how the FOMC develops policy directives. In short, they argue that homogenizing forces induce FOMC members to dissent from proposed directives only if the distances between ideal points  $x^*$  and proposals  $x^P$  exceed a threshold  $\lambda$ .<sup>18</sup> Stated more precisely, they identify the following conditions as governing FOMC voting.

$$\text{Members dissent in favor of } \textit{looser} \text{ policy if } x^* - x^P < -\lambda \quad (1.1)$$

$$\text{Members assent if } -\lambda \leq x^* - x^P \leq \lambda \quad (1.2)$$

$$\text{Members dissent in favor of } \textit{tighter} \text{ policy if } x^* - x^P > \lambda \quad (1.3)$$

In a relatively straightforward manner, Equations (1.1)–(1.3) imply that “tight” or “loose” political agents appoint FOMC members who dissent more frequently, *ceteris paribus*, in the *same* direction. Coupled with theoretical insights about coalition formation, these conditions also imply that relatively tight or loose overseers induce FOMC members to dissent more frequently, *ceteris paribus*, in the *opposite* direction.

I develop these observable implications more carefully by letting

$$x^*: [a, b]^2 \rightarrow [a, b] \quad (2)$$

govern the formation of ideal points  $x^*$  in Equations (1.1)–(1.3). I also let  $x^*$  increase in each of its arguments where elements of the ordered pair  $(x_i^A, x_i^O) \in [a, b]^2$  represent the ideal points of FOMC member  $i$ 's appointer and period  $t$ 's overseer, respectively. Finally, I interpret leftward (rightward) movements on  $[a, b]$  as preferences for looser (tighter) monetary policy.

### 3.1 Observable Implications of Appointments

To see how appointments influence FOMC voting, suppose that member  $i$ 's appointer prefers looser policy than does member  $j$ 's (i.e.,  $x_i^A < x_j^A$ ). Since  $x^*$  increases in its first argument and contemporaneous members face overseers with the same ideal points, member  $i$  must prefer looser policy than does  $j$  (i.e.,  $x^*(x_i^A, x_i^O) < x^*(x_j^A, x_i^O)$ ). In turn,  $x^*(x_i^A, x_i^O) - x_i^P < x^*(x_j^A, x_i^O) - x_i^P$ . It follows from Equations (1.1)–(1.3) that member  $i$  dissents for looser policy with (weakly) higher probability than does member  $j$  (and vice versa for tighter policy). Since this argument holds for any two FOMC members, its conclusion can be stated more generally as follows.

*Proposition 1.* Political agents who prefer relatively tight or loose monetary policy appoint FOMC members who, *ceteris paribus*, dissent with higher probability in the *same* direction.

18. This phenomenon is evident, for example, in a statement by Alfred Hayes (a former New York district bank president) who “was reluctant to vote affirmatively because he was dissatisfied with the proposed course. He planned to do so, however, because the difference of view was not sufficiently great to warrant his casting a dissenting vote” (Chappell, Havrilesky, and McGregor, 1993:192). Chappell, Havrilesky, and McGregor (1993:192, note 13) offer additional anecdotal evidence that homogenizing forces act on FOMC voting.

### 3.2 Observable Implications of Oversight

Proposition 1 says that attempts to influence monetary policy via appointments can increase observed dissents in the same direction. The opposite observable implication emerges when political agents influence policy via oversight—dissenting behavior is *negatively* related to the direction in which overseers influence policy.

Suppose that overseer preferences change from  $x_i^O$  to  $x_{i+1}^O$  and, without loss of generality, let  $x_{i+1}^O < x_i^O$  (i.e., the new overseer prefers looser policy). Since FOMC member ideal points increase in each of their arguments, and the first argument (i.e., the appointer's ideal point) is constant across time, it follows that  $x^*(x_i^A, x_{i+1}^O) < x^*(x_i^A, x_i^O) \forall i$ . In other words, *each* FOMC member prefers looser policy under period  $t + 1$ 's oversight than under period  $t$ 's oversight. Hence, because the FOMC's collective choice rule (i.e., majority rule) satisfies the condition of unanimity, *ceteris paribus*, the equilibrium policy directive must also shift leftward; that is,  $x_{t+1}^P < x_t^P$ . The question of present interest is whether such a shift creates observable responses in FOMC voting.

For oversight to create observable responses, it must (by Equations (1.1)–(1.3)) change the distance between FOMC member ideal points and equilibrium policy directives for at least one member (i.e.,  $\exists i$  such that  $|x^*(x_i^A, x_i^O) - x_t^P| \neq |x^*(x_i^A, x_{i+1}^O) - x_{t+1}^P|$ ). A sufficient condition for this change is for oversight to be sensitive to appointer ideal points (i.e., Equation (2) satisfies  $\partial/\partial x_i^A(\partial x^*/\partial x_i^O) \neq 0$ ). Under this condition, the magnitude of  $\partial x^*/\partial x_i^O$  differs across members  $i$  because appointer ideal points differ (e.g.,  $\partial x^*/\partial x_i^O|_{x_i^A} \neq \partial x^*/\partial x_i^O|_{x_j^A}$ ). Consequently  $|x^*(x_i^A, x_i^O) - x_t^P|$  does *not*, in general, equal  $|x^*(x_i^A, x_{i+1}^O) - x_{t+1}^P|$  for all  $i$ . Coupled with Equations (1.1)–(1.3), the condition  $\partial/\partial x_i^A(\partial x^*/\partial x_i^O) \neq 0$  thus implies that oversight *can* change FOMC voting behavior and thus provide information about how oversight influences monetary policy.

Hence, to establish that FOMC voting reveals influence via oversight, I show that  $\partial/\partial x_i^A(\partial x^*/\partial x_i^O) \neq 0$  is an empirically relevant condition. Recall from Section 2 that overseers can exert influence on the Fed chair. The chair, in turn, can influence policy directives via his positions as policy proposer and allocator of internal resources. The manner in which the chair acts as this conduit can reveal overseers' preferences.

If the cost of suppressing dissents increases with the difference  $|x^*(x_i^A, x_i^O) - x_t^P| - \lambda$  in Equations (1.1)–(1.3), then a cost-minimizing chair responds to oversight by lobbying only those members who *marginally* oppose the overseer's influence.<sup>19</sup> Consequently, ideal points for "extreme" members (i.e., members for whom  $|x^*(x_i^A, x_i^O) - x_t^P| - \lambda \gg 0$ ) are relatively insensitive to changes in overseer preferences. Stated more formally, the magnitude of  $\partial x^*/\partial x_i^O$  increases as  $|x^*(x_i^A, x_i^O) - x_t^P| - \lambda \rightarrow 0_+$   $\forall t$  and thus  $\partial/\partial x_i^A(\partial x^*/\partial x_i^O)$  does *not* equal zero.

19. Riker (1962) offers an early argument in this spirit.

Under these conditions, oversight leaves extreme opposers' ideal points unchanged while shifting policy proposals away from them. Equations (1.1)–(1.3) therefore imply that an overseer's attempt to *loosen* monetary policy (weakly) increases dissents for *tighter* policy. The symmetric implication obtains for attempts to tighten policy. I state this implication more generally as follows.

*Proposition 2.* Overseers who prefer relatively tight or loose monetary policy, *ceteris paribus*, increase the probability with which FOMC members dissent in the *opposite* direction.

## 4. Empirical Analysis

### 4.1 An Estimable Model

Propositions 1 and 2 identify how political forces, acting through appointments and oversight, can create observable influences on FOMC voting. I employ these insights in this section to interpret evidence from a panel of FOMC votes.

This evidence emerges from my estimates of the following model:

$$y_{it} = f(x_{1,i}, x_{2,t}, x_{3,t}, u) \quad (3)$$

where

- $y_{it}$  measures the voting behavior of FOMC member  $i$  in year  $t$ ;
- $x_{1,i}$  denotes a vector of dummy variables characterizing FOMC member  $i$ 's appointer;
- $x_{2,t}$  denotes a vector of dummy variables characterizing each FOMC member's oversight environment in year  $t$ ;
- $x_{3,t}$  denotes a vector of variables that control for unmodeled forces that might influence each FOMC member's voting behavior in period  $t$ ; and
- $u$  is an error term.<sup>20</sup>

### 4.2 Data

4.2.1 *Dependent Variables.* To mitigate the potential for structural changes in the data's generation, I draw my sample from the post-gold-standard period 1973–1997.<sup>21</sup> In addition, to facilitate checks of robustness, I employ two different dependent variables to estimate Equation (3). The first reflects the frequency with which an FOMC member dissented and the second identifies whether a member dissented. Information that is necessary to construct these variables appears in the *Federal Reserve Bulletin*.

20. Note that the error term  $u$  does not vary across individuals or time. I control for variation in these error components via the appointer and overseer dummies, respectively.

21. The length of this sample is comparable to that of other contributions. For example, Chappell et al. (1993) examine data from FOMC meetings during 1960–1987, Krause (1994) examines data from FOMC meetings during 1967–1990, Tootell (1996) examines data from FOMC meetings during 1965–1986, and Caporale and Grier (1998) examine a time series of Federal funds rates from 1961 to 1996.

Table 1. Continuous Dependent Variable (*Voting Score*)

Description	N	Mean	SD	Min	Max
The percentage of times an FOMC member dissented for tighter (positive values) or looser (negative values) policy in a given year	259	0.02	0.15	-0.45	0.63

To construct the first variable (i.e., *voting score*) I assigned a value of  $-1$  to members who voted for looser policy than was proposed in a meeting's directive. Similarly I assigned a value of  $0$  to members who voted for a meeting's directive (i.e., those who did not dissent) and  $+1$  to those who voted for tighter policy. For each year in which an FOMC member voted in at least half of the meetings, I calculated that member's *voting score* as the average of his or her votes. Hence each member's *voting score* is continuous on  $[-1, 1]$  and equals the percentage of times that he or she dissented for looser (negative scores) or tighter (positive scores) policy.<sup>22</sup> Table 1 describes this variable's distribution.

To construct the second dependent variable (i.e., *group*), I assigned each member who dissented *at least once* for looser policy in a particular year to group 1. Similarly, I assigned to groups 2 and 3, respectively, members who did not dissent and dissented at least once for tighter policy. Consequently, *group* is a polychotomous variable that identifies whether an individual member dissented (and, if so, how) in a particular year. Table 2 describes this variable's distribution.

By employing this alternative measure, I attempt control for unmodeled and persistent shocks that might inflate the magnitude of estimates under the dependent variable *voting score*. Such a bias could emerge if a persistent shock increased the frequency with which FOMC members dissent and coincided with changes in appointments or oversight. While *group* is a relatively coarse measure of voting behavior, and thus reduces the efficiency with which I can estimate Equation (3)'s parameters, its magnitude is robust to the persistence of unmodeled shocks. Associated parameter estimates are thus less susceptible to bias.

**4.2.2 Independent Variables—Appointments and Oversight.** To measure appointment influence, I partition FOMC members into several subsets (not necessarily disjoint). In addition to partitions considered in the literature, the present partitions include those that recognize the potential for presidents and Senates to *jointly* influence appointments. Variables described in Table 3 define these partitions.

To measure the influence of oversight, I partition the data's time-series dimension into several subsets (not necessarily disjoint). Like those for

22. No members dissented for both tighter and looser policy in a given year.

Table 2. Polychotomous Dependent Variable (*Group*)

Group	Description	<i>N</i>
1	FOMC members who dissented for looser policy in a given year	53
2	FOMC members who did not dissent in a given year	143
3	FOMC members who dissented for tighter policy in a given year	63
	Total	259

appointments, these partitions extend measures from the literature by controlling for the *joint* influence of presidents and Senates.<sup>23</sup> Variables described in Table 4 define these partitions.<sup>24</sup>

By employing the proxies described in Tables 3 and 4, I can evaluate political influence on monetary policy within the context of received contributions and by controlling for the joint influence of relevant political agents. For example, by employing a partition that only distinguishes FRB governors from district bank presidents, I can examine the present data in a manner similar to that employed in the literature. On the other hand, by employing a finer partition (e.g., one that identifies FRB governors who were nominated and confirmed by the same party), I can explicitly address the potential for presidents and Senates to jointly exert influence.

4.2.3 Independent Variables—Other Controls. In developing Propositions 1 and 2, I implicitly assume that only political forces influence FOMC voting. Economic forces may also exert influence, however. To check the potential for associated omitted-variable bias, I include a measure of inflation in Equation (3)'s regressors. Information in Table 5 summarizes this variable's distribution.

Finally, I include the time-trend variable *YEAR* as a regressor. In doing so, I control for unmodeled forces that vary with time but not across individuals.

#### 4.3 Empirical Methods

I estimate Equation (3) using two different measures of FOMC voting behavior: one continuous (i.e., *voting score*) and the other discontinuous (i.e., *group*). Under the discontinuous measure, the relationship  $f$  in Equation (3) is clearly nonlinear. The multinomial logit model yields valid parameter estimates for this pattern of nonlinearity when choices are independent of irrelevant alternatives. Since FOMC members do not chose from close substitutes,

23. Caporale and Grier (1998) present evidence that the Senate, but not the House, exerts significant influence via oversight. To facilitate comparability of the present and received results, I restrict my attention to interaction between the president and Senate.

24. Since these proxies reflect the *potential* for political agents to exercise oversight capabilities, they provide a more fundamental measure of relevant political forces than would proxies for actual oversight (e.g., number of oversight hearings).

Table 3. Independent Variables—Appointments

Variable	Description	Mean
APPTFRB	Equals one for FRB governors	0.53
APPTDIST	Equals one for district bank presidents	0.47
APPTDEM	Equals one for FRB governors nominated by a Democrat	0.13
APPTREP	Equals one for FRB governors nominated by a Republican	0.40
APPTREP2	Equals one for FRB governors nominated by a “traditional” Republican (i.e., non-Reagan nominees)	0.23
APPTSS	Equals one for FRB governors nominated by a “supply-sider” (i.e., Reagan nominees)	0.17
ADEMDEM	Equals one for FRB governors nominated by a Democrat president and confirmed by a Democrat Senate	0.11
AREPREP	Equals one for FRB governors nominated by a Republican president and confirmed by a Republican Senate	0.10
ADEMREP	Equals one for FRB governors nominated by a Democrat president and confirmed by a Republican Senate	0.02
AREPDEM	Equals one for FRB governors nominated by a Republican president and confirmed by a Democrat Senate	0.30
ASAMEP	Equals one for FRB governors nominated and confirmed by the same party	0.21

Source: various issues of the *Federal Reserve Bulletin*.

Table 4. Independent Variables—Oversight

Variable	Description	Mean
OVERDEM	Equals one for each year in which Democrats controlled the presidency	0.35
OVERREP	Equals one for each year in which Republicans controlled the presidency	0.65
ODEMDEM	Equals one for each year in which Democrats controlled both the presidency and Senate	0.24
OREPREP	Equals one for each year in which Republicans controlled both the presidency and Senate	0.25
ODEMREP	Equals one for each year in which Democrats controlled the presidency and Republicans controlled the Senate	0.12
OREPDEM	Equals one for each year in which Republicans controlled the presidency and Democrats controlled the Senate	0.40
OSAMEP	Equals one for each year in which the same party controlled the presidency and Senate	0.48

Sources: Caporale and Grier, 1998; Nelson, 1993.

Table 5. Independent Variable—Inflation

Variable	Description	Mean	SD	Max	Min
LAGINFL	The annualized inflation rate measured in December of year $t - 1$ .	5.0%	3.6%	14.4%	-1.2%

Source: Federal Reserve Bank of St. Louis at <http://www.stls.frb.org/fred/data/cpi/cpilfesl>.

the independence of irrelevant alternatives (IIA) problem appears insignificant for the present application. I thus employ the multinomial logit model to estimate Equation (3) when  $y_{it}$  is the polychotomous dependent variable.

The relationship  $f$  in Equation (3) can also be nonlinear under my continuous dependent variable (i.e., *voting score*). Equations (1.1)–(1.3) imply that changes in FOMC member ideal points are observable only for relatively large changes in political influence. Under these conditions, changes in the regressors induce smaller changes in observed *voting scores* than in “true” *voting scores*. If such frictions are statistically large, then estimating Equation (3) via the conventional least-squares dummy variable (LSDV) model returns deflated parameter estimates.

I address this difficulty by assuming that Rosett’s model of friction generated the FOMC voting data.<sup>25</sup> Estimates from this piecewise linear model are valid when the dependent variable responds only to “large” values of the independent variables (Maddala, 1983:162).<sup>26</sup> Equations (1.1)–(1.3) imply exactly this pattern of responsiveness for the variable *voting score*.

#### 4.4 Empirical Results

My empirical results appear robust in at least two respects. First, when I ignore the potential for the president and Senate to jointly influence monetary policy, I can re-create important results from the literature. In particular, I can reproduce evidence that FRB governors prefer looser policy than do district bank presidents, Democrat appointees prefer looser policy than do their Republican counterparts, and “supply-side” Republicans prefer looser policy than do “traditional” Republicans.<sup>27, 28</sup> I report this evidence in Table 6.

25. In the appendix, I present LSDV estimates that correspond to those reported in Tables 6 and 7. While the LSDV estimates appear to be biased downward (as they would be if  $f$  in Equation (3) is piecewise linear), inferences that can be drawn from them are qualitatively similar to those from estimates of Rosett’s model.

26. The likelihood function for Rosett’s model of friction is  $L(\alpha_1, \alpha_2, \beta, \sigma) = \prod_1 \frac{1}{\sigma} \phi[(y + \alpha_1 - \beta'x)/\sigma] \times \prod_2 [\Phi[(\alpha_2 - \beta'x)/\sigma] - \Phi[(\alpha_1 - \beta'x)/\sigma]] \times \prod_3 \frac{1}{\sigma} \phi[(y + \alpha_2 - \beta'x)/\sigma]$ , where  $[\alpha_1, \alpha_2]$  denotes the interval over which the dependent variable is unobservable (i.e., the interval over which FOMC members do not dissent even though the proposed policy directive does not coincide with their ideal points). The product in the likelihood function is over sets of observations for which the true voting score is less than  $\alpha_1$ , greater than  $\alpha_1$  but less than  $\alpha_2$ , and greater than  $\alpha_2$ , respectively (Maddala, 1983:163–4).

27. In addition, estimates reported for specifications 1–3 are inconsistent with political agents exerting significant influence via oversight. Chappell, Havrilesky, and McGregor (1993) present qualitatively similar evidence.

28. Coefficient estimates on LAGINFLN are significant and positive in each reported specification. Note, however, that the magnitudes are relatively small. In addition, the inference that can be drawn from estimates on LAGINFLN is not robust to alternative measures of economic activity (e.g., the Fed funds rate, unemployment rate, government expenditures, and GDP). In unreported regressions, each of these alternatives exhibits a statistically insignificant relationship with *voting score* while leaving inference that can be drawn from estimates on the political variables unchanged. The relative insignificance of LAGINFLN, as well as its lack of robustness, would result under Equations (1.1)–(1.3) if FOMC members responded in a homogeneous manner to changes in economic data. Results from unreported regressions in which I apply a

Table 6. Reproducing Qualitative Results from the Literature—Dependent Variable is *Voting Score*

Variable	(1)		(2)		(3)	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
CONSTANT(1)	10.07	7.66	9.94	7.58	13.15	8.01*
CONSTANT(2)	10.56	7.67	10.42	7.59	13.63	8.02*
APPTFRB	-0.19	0.05***				
APPTDEM			-0.31	0.08***	-0.30	0.08***
APPTREP			-0.16	0.05***		
APPTREP2					-0.12	0.05**
APPTSS					-0.21	0.06***
OVERDEM	0.04	0.04	0.05	0.04	0.03	0.04
LAGINFLN	0.01	0.01**	0.02	0.01**	0.02	0.01**
YEAR	0.01	0.00	0.01	0.00	0.01	0.00*
Log likelihood	-157.94		-155.10		-154.07	
Avg. log likelihood	-0.61		-0.60		-0.59	
Akaike info criterion	1.27		1.26		1.26	
Schwarz criterion	1.37		1.37		1.38	
N	259		259		259	

\*Significant at the 90% confidence level.

\*\*Significant at the 95% confidence level.

\*\*\*Significant at the 99% confidence level.

My results also appear robust in that inference from my dependent variables *voting score* and *group* is qualitatively identical—partisan heritage doesn't matter, but influence is stronger when the same party controls the presidency and Senate. This inference can be drawn, for example, from results reported in Table 7 where the dependent variable is *voting score* and parameters are estimated using Rosett's model of friction.

To generate these estimates, I permit the president and Senate to *jointly* influence monetary policy. In particular, to estimate Specification (4)'s parameters, I control for the potential that appointment and oversight forces vary across combinations of presidential and Senate parties. Consequently this specification explains significantly more variance in FOMC voting than do those reported in Table 6.<sup>29</sup>

Moreover, results from Specification (4) are consistent with political agents exercising significantly greater influence when the same party controls both the presidency and Senate.<sup>30</sup> For example, FOMC members who

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Box-Cox transformation to the non-dummy-variable regressors (i.e., LAGINFLN and YEAR) are consistent with this type of response. Hibbs (1986:69) offers qualitatively similar evidence.

29. For any specification reported in Tables 6 and 7, the hypothesis that "ignoring interaction effects impairs the model's explanatory capability" can be accepted with more than 95% confidence.

30. As an additional precaution against omitted variable bias, and thus against the potential to overstate the present results, I attempt to control for the influence of individual Fed chairs. In particular, I add a set of "chair dummies" to each set of regressors reported in Table 7 (e.g., CHAIR BURNS equals one for the years in which Arthur Burns chaired the FOMC).

Table 7. Parameter Estimates with Joint Influence—Dependent Variable is *Voting Score*

Variable	(4)		(5)	
	Coeff.	SE	Coeff.	SE
CONSTANT(1)	18.47	8.25**	12.98	7.40*
CONSTANT(2)	18.95	8.27**	13.46	7.41*
ASAMEP			-0.21	0.05***
ADEMDEM	-0.31	0.08***		
AREPREP	-0.35	0.07***		
ADEMREP	-0.21	0.22		
AREPDEM	-0.10	0.05**		
APPTDIST			0.11	0.05**
OSAMEP			0.08	0.04**
ODEMDEM	0.18	0.11*		
OREPREP	0.16	0.11		
OREPDEM	0.11	0.11		
LAGINFLN	0.01	0.01*	0.01	0.01**
YEAR	0.01	0.00**	0.01	0.00*
Log likelihood	-147.35		-149.25	
Avg. log likelihood	-0.57		-0.58	
Akaike info criterion	1.23		1.21	
Schwarz criterion	1.40		1.32	
N	259		259	

\*Significant at the 90% confidence level.

\*\*Significant at the 95% confidence level.

\*\*\*Significant at the 99% confidence level.

were nominated and confirmed by the same party (i.e., members for whom ADEMDEM or AREPREP equals one) dissented more than 30% more frequently for looser policy, *ceteris paribus*, than did district bank presidents.<sup>31</sup>

In unreported regressions, coefficient estimates on each of the chair dummies is statistically insignificant. In other words, voting behavior of FOMC members does not appear to vary significantly, *ceteris paribus*, across Fed chairs. Chappell, Havrilesky, and McGregor (1993) offer qualitatively similar evidence. This evidence is *not*, however, inconsistent with oversight acting through the Fed chair.

31. For the sample period 1973–1997, AREPREP equals one only during the Reagan presidency (i.e., from 01/05/81 to 01/06/87). Hence, interpreting the associated parameter estimate as a “same party” effect may be inappropriate. To address this potential difficulty, I include dummies in an unreported regression that equal one for each president-Senate combination (e.g., REAGAN-REP equals one for FRB governors nominated by Reagan and confirmed by a Republican Senate, while REAGAN-DEM equals one for FRB governors nominated by Reagan and confirmed by a Democratic Senate). Estimates from this specification are consistent with governors nominated by Reagan and confirmed by a Republican Senate (i.e., governors for whom AREPREP equals one) dissenting for looser monetary policy significantly more frequently than governors nominated by Reagan and confirmed by a Democratic Senate (i.e., governors for whom AREPDEM equals one). In this light, coefficient estimates on AREPREP appear to reflect a “same party” effect as opposed to a “Reagan” or “supply-side” effect. In addition, estimated coefficients on the variables CARTER-DEM, REAGAN-REP, and CLINTON-DEM (i.e., variables that account for about 91% of the governors who were nominated and confirmed by the same party) are statistically indistinguishable and the most negative of estimated appointment coefficients.

They also dissented significantly more for looser policy than did FRB governors who were nominated and confirmed by the different parties (i.e., members for whom ADEMREP or AREPDEM equals one).<sup>32</sup> Interpreted in light of Proposition 1, these estimates are consistent with political agents appointing significantly *looser* governors when the same party controls the presidency and Senate.

Rather than varying systematically across parties, political influence appears to follow here from (i) a *common* incentive to loosen policy and (ii) a lower cost to pursue this incentive when parties are aligned. This conjecture finds additional support in estimates of Specification (5). To generate these estimates, I explicitly impose coefficient restrictions that are evident from Specification (4)'s results. In particular, I assume that appointment forces are constant across FRB governors who were nominated and confirmed by the *same* party. I also assume that oversight forces are constant across years in which the *same* party controlled both the presidency and Senate.<sup>33</sup>

Under this specification, FRB governors who were nominated and confirmed by the same party dissented for looser policy more than 20% more frequently than did governors who were nominated and confirmed by different parties. Similarly, FOMC members who served when the same party controlled both the presidency and Senate dissented for tighter policy about 8% more frequently than when party control was split. In light of Propositions 1 and 2, these results are consistent with political agents attempting to loosen policy significantly more frequently when agents from *either* party are aligned. Moreover, this specification has greater explanatory ability than does any reported in Tables 6 and 7.<sup>34</sup>

Qualitatively identical evidence emerges when I replace the continuous dependent variable *voting score* with the polychotomous variable *group*.<sup>35</sup> For example, the probability of dissenting for looser policy is significantly greater for FRB governors who were nominated and confirmed by agents from the same party than for other FOMC members. Table 8 summarizes this evidence.<sup>36</sup>

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32. The significant and negative coefficient estimate on AREPDEM is *not* inconsistent with political agents exercising significantly greater appointment influence when the same party controls the presidency and Senate. This inference might be valid if the magnitude of AREPDEM's coefficient estimate was statistically indistinguishable from those on AREPREP and ADEMDEM. It is not. Rather, it is consistent with governors who were appointed by Republican presidents and Democratic Senates preferring looser policy than do district bank presidents, but tighter policy than do same-party appointees.

33. Neither of these hypotheses can be rejected at reasonable levels of confidence.

34. While this specification does not maximize the likelihood function across reported specifications, it does have the greatest explanatory power with respect to the Akaike information and Schwarz criteria.

35. To generate this evidence, I populate Equation (3) with Specification (5)'s regressors (see Table 7) and estimate the parameters using the multinomial logit model.

36. I calculate these probabilities at the mean level of inflation (i.e., 4.97) and year (i.e., 1985) when the variable OSAMEP equals zero (i.e., when the overseeing president's party differs from that of the overseeing Senate).

Table 8. Dissent Probabilities—Appointments

	FRB governor nominated and confirmed by <i>same</i> party	FRB governor nominated and confirmed by <i>different</i> parties	District bank president
Prob(dissent for looser policy)	0.44	0.20	0.05
Prob(dissent for tighter policy)	0.02	0.13	0.25

Similarly, the probability of dissenting for tighter policy is significantly greater when the same party controls the presidency and Senate. Like that reported in Table 7, this evidence is consistent with overseers from both parties preferring relatively loose policy and pursuing this preference more effectively when they are from the same party. Table 9 summarizes this evidence.

In addition to being consistent with overseers from *both* parties pursuing significantly looser policy when parties are aligned, evidence reported in Table 9 suggests that oversight does not act uniformly across FOMC members. To see this, notice that FRB governors who were nominated and confirmed by different parties have about a 10% greater probability of dissenting for tighter policy when overseers' parties are aligned (i.e., 0.23 versus 0.13) and district bank presidents have almost a 15% greater probability (i.e., 0.40 versus 0.25). Interpreted in light of Proposition 2, this evidence suggests that overseers induce significantly looser policy when their parties are aligned, but do so by leaving the ideal points of district bank presidents and FRB governors who were nominated and confirmed by different parties relatively unchanged.<sup>37</sup> In other words, *individuals who were nominated and confirmed by the same party appear subject to significantly greater influence via both appointments and oversight.*

#### 4.5 Summary

Contributors to the literature tend to argue that variation in appointer and overseer *preferences* causes variation in monetary policy. When I follow the literature by ignoring interactions between the president and Senate, I too find evidence for these arguments. When I control for the joint influence of presidents and Senates, however, the resulting evidence is consistent with party alignment reducing the cost for political agents to pursue a *common* incentive. This cost reduction may be due to the relatively rich set of punishment strategies available to agents from the same party. When these strategies are not feasible, as may be the case when agents come from different parties,

37. Received positive results regarding oversight's effectiveness (e.g., Caporale and Grier, 1998) are drawn from time-series data and thus cannot identify how oversight might elicit different observed responses from different classes of FOMC members.

Table 9. Dissent Probabilities—Oversight

	FRB governor nominated and confirmed by same party		FRB governor nominated and confirmed by <i>different</i> parties		District bank president	
	Overseers are from the same party	Overseers are from <i>different</i> parties	Overseers are from the same party	Overseers are from <i>different</i> parties	Overseers are from the same party	Overseers are from <i>different</i> parties
Prob(dissent for looser policy)	0.41	0.44	0.17	0.20	0.04	0.05
Prob(dissent for tighter policy)	0.05	0.02	0.23	0.13	0.40	0.25

cooperative outcomes may not be sustainable even though agents' preferences point in the same direction.<sup>38</sup>

## 5. Conclusion

The Federal Reserve System is a relatively insulated bureaucracy. Nevertheless, at least two channels remain through which political agents can exert pressure: appointments and oversight. Contributors to the relevant literature disagree about which channel carries more force, but tend to agree that any such force has a partisan heritage.

Why has this essentially preference-based explanation been so influential in the present context when social scientists have long been critical of such explanations in general (e.g., see Becker, 1976)? One reason may be its apparent robustness—after all, I can re-create evidence from the present data and methods that partisan heritage matters. Another may be, as Caporale and Grier (1998) argue, that preference-based explanations have predictive value.

I would argue from the present evidence that these apparent virtues are ephemeral and have heretofore dissuaded scholars from investigating deeper and sometimes unintuitive implications of a fundamental political force; namely, the inability for individuals, acting collectively, to efficiently pursue their *common* interests. From this perspective, the partisan heritage model appears to be a description, as opposed to an explanation, of fundamental forces that shape our empirical reality.

The manner in which Reagan nominees have heretofore been treated is illustrative. These nominees frequently dissent for looser policy in both the present data and those evaluated in the literature (e.g., see Chappell, Havrilesky, and McGregor, 1993). Scholars have rationalized this exceptional behavior by attributing it to systematic variation in Republican preferences (i.e., supply-siders prefer looser policy than do “traditional” Republicans).

If Reagan nominees reflect a systematic pattern of within-party preference heterogeneity, however, then the estimated influence of appointments and oversight should vary only with changes in the executive, not the partisan alignment of executives and Senates. Nevertheless, observations where Reagan appointees dissent for looser monetary policy are *not* distributed uniformly across Reagan's terms. Rather they are concentrated in Reagan's first six years; that is, years in which Republicans formally controlled the presidency and Senate. Interpreted in this light, the present data are consistent with political agents, regardless of party, having homogeneous preferences over monetary policy and differences in observed influence emanating from

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38. If party members incur lower costs to punish others in their own party, then within-party collective action costs will be relatively low. Beck et al. (1999) and Henisz (2000) exploit this hypothesis to measure the magnitude of political constraints across countries. Henisz (2000), Stasavage (2000), and Falaschetti (2001) offer evidence that these measures indeed reflect the cost for political agents to act collectively.

changes in the *costs* for associated individuals to act collectively on these preferences.<sup>39</sup>

This cost-based explanation maintains the qualities that have heretofore been attributed to preference-based explanations: it's robust and facilitates prediction. In addition, it explains significantly more variation in the present data and identifies more precisely the channels through which oversight influences monetary policy. Interpreted in this light, the present research appears to improve our understanding of how political forces influence an important policy domain.

## Appendix: LSDV Estimates

Table A1. LSDV Estimates of Specifications Presented in Table 6

Variable	(1)		(2)		(3)	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
CONSTANT	-3.57	2.54	-3.51	2.52	-5.89	2.68**
APPTFRB	-0.07	0.02***				
APPTDEM			-0.12	0.02***	-0.11	0.02***
APPTREP			-0.06	0.02***		
APPTREP2					-0.03	0.02
APPTSS					-0.10	0.03***
OVERDEM	0.02	0.02	0.02	0.02	0.01	0.02
LAGINFLN	0.01	0.00	0.01	0.00*	0.01	0.00*
YEAR	0.00	0.00	0.00	0.00	0.00	0.00**
$R^2$	0.07		0.08		0.10	
Adj. $R^2$	0.05		0.07		0.07	
$F$ -statistic	4.72		4.62		4.73	
Prob( $F$ -stat)	0.00		0.00		0.00	

\*Significant at the 90% confidence level.

\*\*Significant at the 95% confidence level.

\*\*\*Significant at the 99% confidence level.

39. This evidence might also be interpreted as reflecting the ability of presidents to “stack the FRB” late in their terms—dissents might become less frequent as a president’s tenure grows and the board becomes more concentrated with his nominations. I control for this potential in unreported regressions by including the variable *TERM2* as a regressor. *TERM2* equals one for years in which the president was in his second term and zero otherwise. Inference that can be drawn from regressions that include this variable do not differ qualitatively from those reported in the present article. I thank Chip Chappell for bringing this issue to my attention.

Table A2. LSDV Estimates of Specifications Presented in Table 7

Variable	(4)		(5)	
	Coeff.	SE	Coeff.	SE
CONSTANT	-7.03	2.76**	-4.79	2.32**
ADEMDEM	-0.12	0.03***		
AREPREP	-0.16	0.04***		
ADEMREP	-0.07	0.04**		
AREPDEM	-0.03	0.02		
ASAMEP			-0.11	0.03***
APPTDIST			0.03	0.02
ODEMDEM	0.07	0.03**		
OREPREP	0.07	0.04**		
OREPDEM	0.04	0.03*		
OSAMEP			0.04	0.02**
LAGINFLN	0.00	0.00	0.00	0.00
YEAR	0.00	0.00**	0.00	0.00*
$R^2$	0.14		0.13	
Adj. $R^2$	0.11		0.12	
F-statistic	4.63		7.88	
Prob(F-stat)	0.00		0.00	

\*Significant at the 90% confidence level.

\*\*Significant at the 95% confidence level.

\*\*\*Significant at the 99% confidence level.

## References

- Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh. 1999. "New Tools in Comparative Political Economy: The Database of Political Institutions." Policy Research Working Paper no. 2283, World Bank.
- Becker, Gary. 1976. *The Economic Approach to Human Behavior*. Chicago: University of Chicago Press.
- Caporale, Tony, and Kevin B. Grier. 1998. "A Political Model of Monetary Policy with Application to the Real Fed Funds Rate," *XLI Journal of Law and Economics* 409–28.
- Chappell, Henry W., Thomas M. Havrilesky, and Rob Roy McGregor. 1993. "Partisan Monetary Policies: Presidential Influence Through the Power of Appointment," 108 *Quarterly Journal of Economics* 185–218.
- Falascetti, Dino. 2001. "Credible Commitment and Investment: Do Checks on the Ability or Incentive for Opportunism Matter?," Paper presented at the Public Choice Society, San Antonio, TX, March 9–11.
- Federal Reserve Bulletin*. Various issues. Washington, DC: Board of Governors of the Federal Reserve System.
- Friedman, Milton. 1986. "Monetary Policy: Theory and Practice," in E. F. Toma and M. Toma, eds., *Central Bankers, Bureaucratic Incentives, and Monetary Policy*. Boston: Kluwer Academic.
- Hammond, Thomas, and Paul Thomas. 1989. "The Impossibility of a Neutral Hierarchy," 5 *Journal of Law, Economics, & Organization* 155–84.
- Havrilesky, Thomas. 1995. *The Pressures on American Monetary Policy*, 2 ed. Boston: Kluwer Academic.
- Henisz, Witold J. 2000. "The Institutional Environment for Economic Growth," 12 *Economics & Politics* 1–31.
- Hibbs, Douglas, Jr. 1986. "Political Parties and Macroeconomic Policies and Outcomes in the United States," 76 *American Economic Review* 66–70.

- Keech, William R., and Irwin L. Morris. 1997. "Appointments, Presidential Power, and the Federal Reserve," 19 *Journal of Macroeconomics* 253–67.
- Krause, George A. 1994. "Federal Reserve Policy Decision Making: Political and Bureaucratic Influences," 38 *American Journal of Political Science* 124–44.
- Kydland, Finn E., and Edward C. Prescott. 1977. "Rules Rather than Discretion: The Inconsistency of Optimal Plans," 85 *Journal of Political Economy* 437–91.
- Maddala, G. S. 1983. *Limited Dependent and Qualitative Variables in Econometrics*. Cambridge: Cambridge University Press.
- Nelson, Garrison. 1993. *Committees in U.S. Congress 1947–1992*. Washington, DC: Congressional Quarterly.
- Riker, William. 1962. *The Theory of Political Coalitions*. New Haven, CT: Yale University Press.
- Schelling, Thomas. 1960. *The Strategy of Conflict*. Oxford: Oxford University Press.
- Stasavage, David. 2000. "Private Investment and Political Institutions," working paper, London School of Economics.
- Toma, Mark. 1986. "Inflationary Bias of the Federal Reserve System: A Bureaucratic Perspective," in E. Toma and M. Toma, eds., *Central Bankers, Bureaucratic Incentives, and Monetary Policy*. Boston: Kluwer Academic.
- Tootell, Geoffrey M. B. 1996. "Appointment Procedures and FOMC Voting Behavior," 63 *Southern Economic Journal* 191–204.
- Waller, Christopher J. 1992. "A Bargaining Model of Partisan Appointments to the Central Bank," 29 *Journal of Monetary Economics* 411–28.