The Federal Reserve’s Response to Aggregate Demand and Aggregate Supply Shocks: Evidence of a Partisan Political Cycle*

EDWARD N. GAMBER  
Lafayette College  
Easton, Pennsylvania

DAVID R. HAKES  
University of Northern Iowa  
Cedar Falls, Iowa

I. Introduction

The orthodox approach to modeling the Fed’s response to economic conditions is to employ a monetary policy reaction function. Most reaction functions are estimated by regressing a policy indicator, possibly the federal funds rate or a monetary aggregate, on variables that describe the state of the economy, such as unemployment, inflation, and growth in output.¹ Under certain conditions which we discuss below, estimated coefficients from a reaction function provide information about the Fed’s monetary policy priorities. Moreover, extending the model to include election and partisan dummy variables may provide information about the Fed’s response to political pressures.

There are two problems with interpreting the coefficients in a standard reaction function as the weights that the Fed attaches to its policy objectives. First, the monetary policy decision may not be represented accurately by an aggregate reaction function (one that models the Fed as a whole) because there are twelve voting members on the FOMC. Chappell, Havrilesky, and McGregor [10] have recently addressed this issue by employing a “disaggregated” set of reaction functions.

The second problem with interpreting reaction function coefficients as the weights the Fed places on its policy objectives is that this interpretation implicitly assumes structural stability of the underlying macroeconomy. Abrams, Froyen, and Waud [1, 31] acknowledge this shortcoming when they state, “. . . coefficients from estimated reaction functions . . . do not provide direct information on policymaker utility functions. Rather than being the solution to an unconstrained optimization dependent only on policymaker preferences, reaction functions are the output of a constrained maximization, where the constraints are the reduced-form equations that characterize

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¹. See the survey articles by Barth, Sickles and Weist [4] and Khoury [30].
the economy. Therefore a finding of instability in policy response would not necessarily indicate that policy formation was subject to political or other pressures.” Nearly all studies employing reaction functions, however, avoid this problem by assuming that the structural parameters of the economy are stable over the time period estimated. Recently, for example, Chappell, Havrilesky, and McGregor [10, 185] state, “Under the assumption of a stable macroeconomic structure, estimated reaction function coefficients reveal information about the weight the Fed attaches to the various goal variables.”

Empirical evidence, however, does not support the assumption of a stable macroeconomic environment. In particular, evidence suggests that there is a unit root in GDP and thus, deviations from trend are not purely transitory fluctuations driven by aggregate demand. Output fluctuations are, to some extent, a function of permanent aggregate supply shocks. Reaction function studies that assume a stable macroeconomic environment implicitly assume that all deviations from trend are aggregate demand driven. If, indeed, both aggregate demand and aggregate supply shocks are important determinants of economic fluctuations, then prior interpretations of reactions functions may be invalid.

To illustrate the importance of allowing for this type of structural change in the underlying model (i.e., aggregate supply shocks), consider the following case: Suppose the Fed is faced with a decrease in output. If the decrease in output is generated by a negative aggregate demand shock, the accompanying reduction in inflation allows the Fed to initiate an expansion and trade an increase in inflation for an increase in the level of output. If the decrease in output is generated by a negative supply shock, however, the Fed is faced with the dilemma of increasing inflation further to achieve an increase in output or decreasing output further to achieve a reduction in inflation.

The problem with failing to properly identify the source of the shock is most evident in the context of studies of the political business cycle. These studies generally test whether the Fed is pressured to ease monetary policy prior to elections or during Democratic administrations. However, since aggregate demand and aggregate supply shocks may elicit different responses from the Fed, a change in the Fed’s response to output may not be due to political pressure but, instead, to a change in the type of shock generating the movement in output. Thus, failure to identify the nature of these shocks may lead to incorrect conclusions about the Fed’s response to political pressures.

The purpose of our paper is to identify aggregate demand and aggregate supply shocks using the method developed by Blanchard and Quah [8] and to measure the Fed’s response to each of these shocks. In addition, we measure the difference in the Fed’s response to these decomposed aggregate shocks over pre- and post-election periods, and during Democratic and Republican administrations. Thus, while Chappell, Havrilesky, and McGregor [10] disaggregate the Fed’s policy vote, we disaggregate the Fed’s policy objectives.

Our results suggest that the Fed responds countercyclically to both aggregate demand and aggregate supply shocks. We find that the Fed responds with greater vigor, however, to aggregate demand shocks. Further, we find that the Fed responds to all shocks with greater enthusiasm.

2. See Stock and Watson [38] for a review of this literature.
3. Wood [40], Friedlaender [15], and Shen and Hakes [35] explicitly show that reduced-form reaction functions assume that movements in output are aggregate demand driven. The assumption is expressed by the structural equations of these models, where the target rate of output growth is exogenous and the policy instrument can permanently alter output. Other standard reaction function studies implicitly assume this type of underlying macro model. See the survey article by Barth, Sickles, and Weist [4].
during Democratic administrations, particularly during pre-election periods. Thus, we find evidence of a partisan election cycle in the response of monetary policy to aggregate demand and aggregate supply shocks.

In section II, we present a model of Federal Reserve behavior. We use this model to illustrate how monetary policy can be expected to react to aggregate demand and aggregate supply shocks. In section III, we describe the data and present the method that we employ to identify aggregate demand and supply shocks. In section IV, we present the results of estimates of the reaction function for the period 1955 through 1992. Section V summarizes and concludes the paper.

II. A Model of Fed Behavior

We adopt the usual convention and assume that the Fed minimizes the disutility associated with deviations in output growth and inflation from their target levels. This assumption implies a quadratic functional form for the Fed's loss function ($L$):

$$L = \alpha(y^* - y)^2 + \pi^2$$

where $y^*$ denotes the targeted natural rate of output growth, $y^* - y$ denotes deviations from the target level of output growth, $\pi$ denotes deviations from the target inflation rate of zero, and $\alpha$ represents the relative importance of the inflation and output goals.

The Fed chooses $P$ to minimize the loss function, equation (1), subject to the constraints imposed by the structure of the economy, equations (2) through (4). This minimization yields the following first order condition:

$$\alpha y_1(y^* - y) = \pi_1 \pi.$$  

To determine how the Fed changes its policy instrument in response to aggregate demand

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4. See, for example, Friedlaender [15].
5. We have set the inflation target equal to zero to simplify the exposition. The results obtained from this simple illustrative model, however, will hold for any constant target inflation rate.
and aggregate supply shocks, we totally differentiate equation (5) with respect to $P$, $e^D$, and $e^S$, which yields the following expression:

$$dP = -de^D(\pi_1\pi_2 + \alpha y_1y_2)/\theta + de^S[\alpha y_1(y_1^* - y_3) - \pi_1\pi_3]/\theta,$$

(6)

where

$$\theta = \alpha y_1^2 + \pi_1^2 > 0.$$

Equation (6) shows that the Fed should unambiguously lean against the wind in response to aggregate demand shocks ($e^D$). That is, the model predicts that the Fed should respond countercyclically to aggregate demand shocks. The sign on the Fed's response to aggregate supply shocks ($e^S$) is, however, ambiguous. Variations in the parameter $\alpha$ reveal the intuition behind the ambiguous sign. The inflation term, $\pi_1\pi_3$, is negative, and the output term takes on the sign of $y_1^* - y_3$. Consider the case where $\alpha = 0$; that is, the Fed places no weight on the output target. A positive aggregate supply shock reduces the inflation rate which induces the Fed to stimulate the economy by increasing $P$.

At the other extreme, suppose $\alpha = \infty$, which implies that the Fed places no weight on the inflation target. In this case, a positive aggregate supply shock prompts the Fed to tighten policy if target output growth rises by less than actual growth ($y_1^* - y_3 < 0$). Symmetrically, the Fed will loosen policy if target output growth rises by more than actual growth ($y_1^* - y_3 > 0$). Thus, equation (6) shows that there are two sources of sign ambiguity arising from an aggregate supply shock. One source of ambiguity is that the output target moves with aggregate supply shocks. The other source of ambiguity is that the Fed faces conflicting goals during supply shock periods. As a result, the Fed may accommodate aggregate supply shocks or it may respond countercyclically to aggregate supply shocks.

III. Data and Derivation of Aggregate Demand and Supply Shocks

The model presented in section I suggests that the Fed may respond differently to aggregate demand and aggregate supply shocks. In this section, we develop the empirical measures of aggregate demand and supply shocks which we will employ in a Federal Reserve reaction function in section IV.

To identify aggregate demand and aggregate supply shocks, we employ the technique suggested by Blanchard and Quah [8]. Their technique involves estimating a structural vector autoregression with the identifying restriction, derived from the natural rate hypothesis, that aggregate demand shocks have no long-run impact on the log of real output. Thus, we begin by estimating the following vector autoregression:

$$B(L)Z_t = \mu_t,$$

(7)

6. Equations (2) through (4) are assumed to be linear in the three exogenous variables $P$, $e^D$, and $e^S$. Thus, the cross partial derivatives are zero.

7. Although Blanchard and Quah [8], and Gamber and Joutz [18], employ quarterly data in their analysis, Gamber and Joutz [17] show that the properties of aggregate demand and supply are unaltered when monthly unemployment and industrial production replace quarterly unemployment and GDP in the vector autoregression.
where
\[ Z_t = \begin{bmatrix} \Delta y \\ u \end{bmatrix} \quad \text{and} \quad \mu_t = \begin{bmatrix} \mu_{\Delta y} \\ \mu_u \end{bmatrix}, \]
and where the \( B(L) \)'s are polynomials in the lag operator. The elements of the vector \( Z \) are \( \Delta y \), the differenced log of industrial production, and \( u \), the unemployment rate for prime age males. The data employed are monthly values from the period 1955.7 through 1992.12. We estimate the VAR described by equation (7) using six lags of each variable.

The innovations to this system \((\mu_{\Delta y}, \mu_u)\) have a covariance matrix \( \Omega \). The moving average form for this system is:

\[ Z_t = C(L)\mu_t \quad (8) \]

where
\[ C(L) = B(L)^{-1}. \]

The \( C(L) \)'s are the impulse responses. However, since the \( \mu_t \)'s are contemporaneously correlated it is not possible to interpret the \( C(L) \)'s as responses to independent innovations. Thus, we seek an alternative moving average representation:

\[ Z_t = A(L)e_t \quad (9) \]

where \( e = (e^D, e^S)' \) are orthogonal innovations to aggregate demand and aggregate supply, respectively.

Identification of these orthogonal innovations requires two sets of restrictions on the matrix of contemporaneous responses \( A(0) \). First, to normalize the variance of the orthogonalized innovations to one, we impose the restriction \( A(0)A(0)' = \Omega \). Since there are only three unique elements of \( \Omega \), this condition identifies three of the elements of \( A(0) \). Second, we impose the Blanchard and Quah restriction that the long-run impact of an aggregate demand shock on the log of real output is zero; that is, the \((1,2)\) element of \( [E-0 C(L)]A(0) = 0 \). We obtain the resulting series of aggregate demand \( (e^D) \) and aggregate supply \( (e^S) \) shocks by multiplying the estimated residuals from the unconstrained regressions (the \( \mu \)'s) by the inverse of the \( A(0) \) matrix: \( e = A(0)^{-1}\mu \). These shocks are shown in Figures 1 and 2. In the following section we incorporate these shocks into a Federal Reserve reaction function.

IV. Reaction Function Estimates

Our first task is to identify a measure of monetary policy. Although a variety of policy indicators have been employed in the reaction function literature, they can be grouped generally into one of two categories—money or interest rates. For example, Sims [36] uses the monetary base as

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8. The data were obtained from Citibase [13]. The Citibase pneumonics are as follows: industrial production \( \text{(IP)} \), prime age male unemployment rate \( \text{(LHMUR)} \) and federal funds rate \( \text{(FYFF)} \).

9. A variety of discrete choice policy indicators have been derived from the minutes of the FOMC. Boschen and Mills [9] find these indicators to be very similar to interest rate indicators of monetary policy. Other specific indicators are discussed by Barth, Sickles, and Weist [4], Khoury [30], and Hakes and Gamber [23].
Figure 1. Aggregate Demand Shocks, 1955.01–1992.12

Figure 2. Aggregate Supply Shocks, 1955.01–1992.12

the policy indicator implicitly assuming that the supply of money is perfectly inelastic. Alternatively, Sims [3] and Bernanke and Blinder [7] use the federal funds interest rate as the indicator of policy which suggests that the supply of nonborrowed reserves is infinitely elastic. To support the choice of the federal funds rate as the indicator of monetary policy, Bernanke and Blinder [7] provide evidence, using an instrumental variables approach, that the slope of the supply curve
for nonborrowed reserves is insignificantly different from zero. We make use of this result and identify innovations in the federal funds interest rate as innovations in monetary policy.

The reaction functions we estimate in this paper are of the following general form:

$$
\Delta FF_t = \alpha + \sum_{i=1}^{m} \beta_i^{D} \xi_{t-i}^{D} + \sum_{i=1}^{m} \beta_i^{S} \xi_{t-i}^{S} + \eta_t
$$

where $\Delta FF$ is the change in the federal funds rate, and the other variables are as previously defined. In this reaction function, the traditional variables used to describe the state of the economy have been replaced by aggregate demand and supply shocks.$^{10}$ The sum of the coefficients on aggregate demand ($\sum \beta_i^{D}$) measures the Fed's response to aggregate demand shocks over $m$-periods. The sum of the coefficients on aggregate supply ($\sum \beta_i^{S}$) measures the Fed's response to aggregate supply shocks over $m$-periods. The lag length $m$ was found to be two using both the Akaike lag length selection criteria and highest-significant lag method.$^{11}$ All regressions are corrected for first order serial correlation. The sample period is 1955.10–1992.12.$^{12}$

We report the results of estimations of the basic reaction function, equation (10), in line one of Table I. The Fed clearly responds to aggregate demand shocks more vigorously than to aggregate supply shocks. The interpretation of the coefficients is as follows. For a one unit (one standard deviation) increase in aggregate demand, the Fed raises the fed funds rate by 24 basis points over a two month period. For a one unit increase in aggregate supply, the Fed raises the fed funds rate by 8 basis points over a two month period.$^{13}$ Thus, as expected, the Fed responds countercyclically to aggregate demand shocks. With regard to how the Fed might be expected to respond to aggregate supply shocks, however, recall that our theoretical model suggests an ambiguous response. Our empirical results suggest two possible interpretations of Fed response

$^{10}$ This reaction function does not explicitly contain the traditional objectives of unemployment and inflation along with movements in output. However, unemployment is employed in the VAR to generate the aggregate demand and supply shocks and this precludes its use in the reaction function. Further, we cannot reject the hypothesis that there is a stable relationship between aggregate demand shocks and prices, and aggregate supply shocks and prices. Therefore, we do not include both aggregate shocks and price innovations in the reaction function because the aggregate shocks contain the implied price movements.

$^{11}$ We started with 12 lags of each variable and successively eliminated lags until a lag was significant. The second lag was the highest significant lag for both aggregate demand and supply. Moreover, a two month lag length is intuitively appealing since we must assume that the policy indicator (Fed funds rate) does not have an impact on the independent variables (aggregate demand and supply shocks) for at least two months. This is quite reasonable since monetary policy is generally viewed as having an impact on the economy with long and variable lags. Further, bivariate Granger-causality tests using two lags of each variable show that the change in the federal funds rate fails to Granger-cause either output growth or the unemployment rate.

$^{12}$ A potentially attractive method to estimate the Fed's reaction to aggregate demand and aggregate supply shocks is to include the federal funds rate in the VAR (equation (7)) and employ the assumption that the federal funds rate is contemporaneously exogenous with respect to the other variables in the VAR. This assumption identifies the federal funds rate as the Fed's policy variable. The shortcoming of this technique, however, is that in order to estimate the Fed's reaction to shocks over pre- and post-election periods and Democratic and Republican regimes, we must include dummy variables on each lagged dependent variable in the regression and there are insufficient degrees of freedom to perform this estimation.

$^{13}$ A one unit increase in aggregate demand translates into a 0.16 increase in industrial production at the one year horizon. A one unit increase in aggregate supply translates into a 0.18 increase in industrial production at the one year horizon. Based on a Chow-test (sample split 1974) we found the relationship between industrial production and the aggregate demand and supply shocks to be stable over the sample period. Moreover, recall from note 6 that we also find a stable relationship between aggregate shocks and prices. Thus, we find evidence of structural stability within the aggregate demand and aggregate supply shocks. This supports our interpretation of the reaction function coefficients as measuring the response of the Fed to aggregate shocks.
Table I. Coefficient Estimates

<table>
<thead>
<tr>
<th>Model Estimated</th>
<th>Aggregate Demand</th>
<th>Aggregate Supply</th>
<th>Adjusted $R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Model</td>
<td>0.24**</td>
<td>0.08**</td>
<td>0.19</td>
</tr>
<tr>
<td>Partisan Effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democrat</td>
<td>0.42**</td>
<td>0.18*</td>
<td></td>
</tr>
<tr>
<td>Republican</td>
<td>0.16**</td>
<td>0.06</td>
<td>0.22</td>
</tr>
<tr>
<td>Electoral Cycle Effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Election</td>
<td>0.23**</td>
<td>0.06</td>
<td>0.19</td>
</tr>
<tr>
<td>Post-Election</td>
<td>0.24**</td>
<td>0.09</td>
<td>0.19</td>
</tr>
<tr>
<td>Combined Partisan and Electoral Cycle Effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democrat Pre-Election</td>
<td>0.63**</td>
<td>0.96**</td>
<td></td>
</tr>
<tr>
<td>Democrat Post-Election</td>
<td>0.21**</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Republican Pre-Election</td>
<td>0.05</td>
<td>-0.01</td>
<td></td>
</tr>
<tr>
<td>Republican Post-Election</td>
<td>0.22**</td>
<td>0.11*</td>
<td>0.29</td>
</tr>
</tbody>
</table>

*Indicates significance at the 0.05 level.
**Indicates significance at the 0.01 level.

Table II. Differences in Coefficients

<table>
<thead>
<tr>
<th>Coefficients Differenced</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate Demand — Aggregate Supply</td>
<td>0.16**</td>
</tr>
<tr>
<td>Democrat AD — Republican AD</td>
<td>0.26**</td>
</tr>
<tr>
<td>Democrat AS — Republican AS</td>
<td>0.12</td>
</tr>
<tr>
<td>Pre-Election AD — Post-Election AD</td>
<td>-0.01</td>
</tr>
<tr>
<td>Pre-Election AS — Post-Election AS</td>
<td>-0.03</td>
</tr>
<tr>
<td>Differences within Party</td>
<td></td>
</tr>
<tr>
<td>Democrat Pre-Election AD — Democrat Post-Election AD</td>
<td>0.42**</td>
</tr>
<tr>
<td>Democrat Pre-Election AS — Democrat Post-Election AS</td>
<td>0.96**</td>
</tr>
<tr>
<td>Republican Pre-Election AD — Republican Post-Election AD</td>
<td>-0.17*</td>
</tr>
<tr>
<td>Republican Pre-Election AS — Republican Post-Election AS</td>
<td>-0.12</td>
</tr>
<tr>
<td>Differences across Parties</td>
<td></td>
</tr>
<tr>
<td>Democrat Pre-Election AD — Republican Pre-Election AD</td>
<td>0.58**</td>
</tr>
<tr>
<td>Democrat Post-Election AD — Republican Post-Election AD</td>
<td>-0.01</td>
</tr>
<tr>
<td>Democrat Pre-Election AS — Republican Pre-Election AS</td>
<td>0.97**</td>
</tr>
<tr>
<td>Democrat Post-Election AS — Republican Post-Election AS</td>
<td>-0.11</td>
</tr>
</tbody>
</table>

*Indicates significance at the 0.05 level.
**Indicates significance at the 0.01 level.

to aggregate supply. The Fed may respond consistently, yet gently, in a countercyclical fashion to aggregate supply shocks; or the Fed may accommodate some shocks and lean against others, with the countercyclical activity generally outweighing the accommodative activity. The difference between the Fed’s response to aggregate demand and supply is 0.16 which is significant at the 1 percent level. The results of tests for the significance of differences in estimated coefficients are reported in Table II.

To detect the impact of the president’s party affiliation on the Fed’s response to aggregate demand and supply, we estimate equation (10) with intercept and slope dummy variables equal to one during Republican administrations and zero otherwise. The results of these estimates are presented in rows two and three of Table I. Here we see that the Fed reacts more to both aggregate
demand and supply shocks during Democratic administrations than during Republican administrations. Table II, lines two and three, report the differences in the coefficients. The response to aggregate supply under Democratic administrations is 0.12 greater than the response under Republican administrations, but this difference is only marginally significant (12 percent level). The response to aggregate demand under Democratic administrations, however, is 0.26 greater than under Republican administrations and this difference is significant at the 1 percent level.

To assess the impact of the presidential election cycle on the Fed’s response to aggregate demand and supply, we remove the partisan dummy variables and replace them with slope and intercept dummy variables that equal one for the 12 months prior to a presidential election and zero otherwise. The resulting estimates are presented in rows four and five of Table I. Consistent with the preceding discussion, the Fed responds more vigorously to aggregate demand shocks than to aggregate supply shocks. The estimated coefficients suggest, however, that there is no significant difference in the Fed’s response to aggregate demand shocks in pre-election periods when compared to post-election periods. The same can be said for aggregate supply. These coefficient differences can be found in lines four and five in Table II. In sum, the results reported above indicate that there is significant partisan influence, but no significant electoral cycle influence, on the Fed’s response to aggregate demand and supply shocks.

To address the combined effects of party affiliation and election cycle, we estimate equation (10) with both partisan and election cycle dummy variables. These results are reported in lines six through nine in Table I. We find that, during Democratic presidential regimes, monetary policy responds to both aggregate demand and aggregate supply shocks more vigorously in pre-election periods than post-election periods. This difference is significant at the 1 percent level. Thus, we now find strong evidence of an electoral cycle in monetary policy, but it is most evident during Democratic regimes. Moreover, during Democratic regimes, pre-election monetary policy responds more vigorously to both aggregate demand and supply shocks than during Republican presidential regimes. This difference is also significant at the 1 percent level.

These combined results suggest that monetary policy, in general, is more activist under Democratic regimes. In addition, monetary policy is more activist in pre-election periods if a Democrat is in the White House. It seems noteworthy that monetary policy is distinctly nonactivist in pre-election periods during Republican administrations and, further, that the Fed responds to aggregate demand with greater vigor in post-election periods instead of pre-election periods during Republican administrations. Since Republican monetary policy is most aggressive in the very periods when the Democratic monetary policy is least aggressive, failure to account for partisan effects will make the electoral cycle “disappear.” All remaining within party and across party differences are reported in lines six through thirteen in Table II.

As a final exercise, we test whether monetary policy responds symmetrically to positive and negative shocks. We estimate equation (10) with separate dummy variables for positive and negative aggregate demand and supply shocks. We found no significant differences in the Fed’s response. Thus, while Democratic regimes may respond to shocks with greater enthusiasm, particularly in pre-election periods, there may be nothing particularly sinister in this result. That is,

14. Although not exhaustive, Allen [3] demonstrates ten different dummy variable schemes that might capture an electoral cycle in monetary policy. From these options, we choose to employ an electoral cycle of one year prior and three years following a presidential election due to its simplicity.

15. Hakes [21] also finds that monetary policy is nonactivist during pre-election periods, and countercyclical in post-election periods.

16. These results are available from the authors upon request.
we produce evidence that Democratic monetary policy is systematically more countercyclically activist, not that it is systematically more expansionary.\(^\text{17}\)

**V. Summary and Conclusions**

We estimate a reaction function in which the Fed is allowed to respond independently to aggregate demand and aggregate supply shocks. The use of these decomposed aggregate shocks removes a source of structural instability found in other reaction function studies. We find, as expected, that the Fed responds with greater countercyclical enthusiasm to aggregate demand shocks than to aggregate supply shocks. This may be because the Fed’s proper response to aggregate supply shocks is ambiguous. That is, the response could be countercyclical or accommodative. We find that the Fed generally leans against aggregate supply shocks as opposed to accommodating them. We fail to reject the hypothesis that all countercyclical responses are symmetric with regard to positive and negative shocks.

When partisan and electoral cycle dummy variables are included in the reaction function, we find that, during Democratic presidential regimes, the Fed responds to aggregate shocks more vigorously in pre-election periods than in post-election periods. During Republican administrations, however, monetary policy is more responsive to aggregate shocks in post-election periods. Finally, monetary policy is more countercyclically activist under a Democratic administration than a Republican administration during pre-election periods.

The results of previous studies that deal with the Fed’s possible role in a political business cycle cannot be compared directly to our results because previous studies are concerned with whether monetary policy is systematically easier during pre-election periods or during Democratic administrations, while our study tests whether monetary policy is more activist during these same periods. Regardless of this asymmetry, note that the results of previous studies are quite mixed.\(^\text{18}\) Our results may provide an explanation for the wide range of results found in previous studies of Federal Reserve policy. If monetary policy responds differently to aggregate demand and aggregate supply under Democratic and Republican administrations, studies that fail to allow for these different sources of aggregate shocks will produce unreliable results for periods that

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\(^{17}\) We estimate equation (10) with the level of the fed funds rate as the policy indicator and the first two lags of the federal funds rate as additional independent variables. We find no substantial difference with regard to the Fed’s response to aggregate demand and aggregate supply shocks from those reported in Table I. However, the intercept term may now be interpreted as the level of the federal funds rate under the different partisan regimes. We find that under a Democratic regime the federal funds rate is 0.22 lower in pre-election periods than in post-election periods. This difference is significant at the 5 percent level. We also find that the federal funds rate is systematically lower under Democrats in pre-election periods when compared to Republicans in pre-election periods (0.08 but not significant), and higher in post-election periods when compared to Republican policy (0.13 and significant at the 5 percent level). Thus, we find some evidence that Democratic monetary policy is systematically easier in pre-election periods. These results should be interpreted with caution, however, since the level of the federal funds rate contains a unit root, and thus, test statistics are biased. For this reason, these results are not reported here but they are available from the authors upon request.

\(^{18}\) Allen [3], Grier [20], Hakes [21; 22], Havrilesky [24; 25; 26; 27], Haynes and Stone [29], and Laney and Willet [31], find some, but not consistent, evidence of an election cycle in monetary policy. Beck [5; 6], Gambier and Hakes [16], Luckett and Potts [32], Richards [34], and Wallace and Warner [39] find little evidence of an election cycle. Partisan effects on monetary policy have been found, to various degrees and through different channels, by Alesina and Sachs [2], Beck [5], Chappell, Havrilesky, and McGregor [10], Chappell and Keech [11; 12], Grier and Neiman [19], Haynes and Stone [29], and Havrilesky [24]. Most recently, Chappell, Havrilesky, and McGregor [10] find limited partisan effects from the current presidential administration, but they find greater support for a partisan effect from the appointing president. Puckett [33], Woolley [41], and Havrilesky and Gildea [28] find partisan effects in dissenting FOMC votes.
are disproportionately Democratic or Republican, or for periods that contain a disproportionate amount of aggregate demand or supply shocks.

References


