Domestic Political Sources of American Monetary Policy: 1955–82

Nathaniel Beck
University of California, San Diego

This study investigates what domestic political factors affect monetary policy in the United States. Monetary policy is measured by changes in adjusted bank reserves. A reaction function is estimated using quarterly data for 1955–82. Independent economic variables in the reaction function are current and expected inflation, slackness, international reserves, the balance of payments, and the high employment surplus. Political variables examined are elections, party, administration, and the relationship between monetary and fiscal policy.

Elections do not affect Fed policy. Monetary policy is easier under Democratic presidents; the Kennedy and Nixon administrations do not fit this general pattern. The effect of party and administration is linear; neither party nor administration affects the relationship between the state of the economy and Fed policy. Monetary and fiscal policy covaried during the 1960s; by the 1970s easy fiscal and tight monetary policy became more common.

Unemployment rates in the United States in the early 1980s are at a level unseen since the Great Depression; inflation rates are at a decade low. Why? The first two years of the Reagan administration were characterized by extremely tight monetary policy and extremely easy fiscal policy; by 1983 monetary policy had moderated. Why? Answers to these questions must lie, as Keohane (1978) has clearly shown, in the realm of psychology, sociology, or political science, not economics. The discipline of economics can deal with the question of how different

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economic policies lead to different economic outcomes, but it cannot explain either social preferences for the outcomes, or why nations undertake specific policies.

The field of political economy is vibrant again. The Hirsh and Goldthorpe (1978) collection contains several studies relating the form of political organization and worldwide inflation; Tufte (1978) has explained business cycles by reference to the timing of elections; and Hibbs (1977) has examined the relationship between party control of the executive branch and social tradeoffs between unemployment and inflation. The recent Alt and Chrystal (1983) text is testimony to the growing article literature that uses political variables to explain economic phenomena.

Most of the literature cited by Alt and Chrystal treats the relationship between politics and economic outcomes; there has been less work done on how politics affects policy choice. The latter question must be considered since political leaders can only directly affect policy; their impact on outcomes must be indirect. This study examines the political causes of one type of economic policy, monetary policy.

Two strategies are available for studying this question. One approach is comparative, relating political variables and monetary policy across advanced industrial societies; exemplars of this approach are Black (1983), Cowart (1978), and Woolley (1983). The alternative is a more detailed examination of a single country, as in the studies by Frey and Schneider (1981) or Beck (1982a). Differences in the way countries conduct their monetary policies make comparative analysis difficult; studies of single countries allow for greater consideration of the specific features of policymaking in that country. Single-country studies, however, narrow the range of independent variables that can be considered; the consequences of major structural political variables for monetary policy can only be studied in a comparative context.

This study is limited to a single country, the United States, in the period 1955–82. As a consequence some potentially interesting independent variables (such as the legal independence of the monetary authorities, the openness of the economy, and the presence of consociational or corporatist politics) are outside its scope. The greater possibilities for detailed specification and testing, and the availability of a much richer data set, make this tradeoff worthwhile. Ideally, as several single-nation studies are undertaken, the materials for true comparative analysis will become available.

Both qualitative and quantitative approaches are possible. Borins (1972) and Woolley (1984) provide excellent qualitative studies of the American Federal Reserve. Their approach, however, makes it difficult carefully to test hypotheses about the relationships between politics and economics. Monetary policy, moreover, provides an ideal arena for

quantitative analysis, since quantitative indicators of the variables are so readily available. This study takes advantage of the possibilities of precision inherent in quantitative work; with precision comes loss of some richness possible in qualitative analysis.

Three types of political influence on monetary policy are examined. First, is monetary policy used to help incumbents get reelected? Second, is monetary policy different under Republicans and Democrats, and how does control of the White House affect policy? Third, under what conditions do monetary and fiscal policy covary together? Only domestic political variables are considered here; in an earlier work I found no clear relationship between international political variables and domestic policy (Beck, 1983b). The next section sets out the various theories and discusses the relevant literature. The second section treats measurement and methodology, and the third contains tests of the theories.

Politics and Monetary Policy

Quantitative research in political economy, as reviewed by Alt and Chrystal (1983), has focused on the effect of elections on the economy. Some, following Nordhaus (1975) and Tufte (1978), have focused on the behavior of incumbents who desire reelection; others, following Hibbs (1977), have studied the economic consequence of electoral outcomes.

Tufte argued that presidents desiring to be reelected should stimulate the economy to produce a boom right before the election; as a consequence, there should be a four-year "political business cycle" which peaks right before each presidential election. To manufacture this boom presidents must use some of the economic levers they have available; as election day approaches, therefore, we should observe changes in the way economic policy is made. If the Fed is helping to create a political business cycle, then it should ease monetary policy about a year before election day; the exact timing of monetary ease depends on how long it takes for monetary changes to show up in the real economy.

Empirical support for the overall hypothesis has been weak. As Alt and Chrystal (1983, p. 125) conclude, "[n]o one could read the political business cycle literature without being struck by the lack of supporting evidence." The question of interest here is whether the Fed creates a "political monetary cycle" (PMC). There has been little research on PMCs. Many journalists and economists (for a current example, see Meiselman, 1984) believe in them, but the evidence is sparse, with much of it being anecdotal. The anecdotal evidence is primarily from the 1972 election (Rose, 1974; Maisel, 1973, pp. 267–68). This evidence is subject to varying interpretation. Woolley (1984, chap. 8), for example, found no clear evidence that the Fed acted in an electorally motivated manner during that year.

Quantitative evidence for a general political monetary cycle has been reported by Tufte (1978, pp. 50–51), Laney and Willett (1983), and Maloney and Smirlock (1981). Tufte's evidence is, as I have shown (Beck, 1982a), weak. His general finding relating elections and monetary policy is based on inadequate evidence, and careful analysis of the 1972 case does not support his conclusion. Laney and Willett (1983) provide, at best, mixed support for the PMC hypothesis. They found, on average, no influence of electoral timing on monetary policy. They did find, however, that monetary policy is somewhat more closely related to electorally motivated than nonelectorally motivated fiscal policy. Measurement of electorally motivated fiscal policy is difficult, at best; moreover, the statistical difference between the electorally and nonelectorally motivated variables is not strong.

Maloney and Smirlock (1981) do find evidence for electoral motivation in the making of both fiscal and monetary policy, in that the difference between strategically desired (in terms of the Nordhaus model) unemployment and actual unemployment significantly affects both fiscal and monetary policy. The measure of monetary policy they use is free reserves, but Brunner and Meltzer (1967) have shown this is not a good measure of policy. In addition, Maloney and Smirlock do not include a linear unemployment term in their estimations; this may lead to omitted variable bias, that is, their "strategic" unemployment term may receive credit for some of the variance that should have been explained by a linear (countercyclic) unemployment term. Their finding of electorally motivated monetary policy is suspect, at best.

On the negative side, Golden and Poterba (1980) found that elections did not influence the growth rate of one monetary aggregate, inflation adjusted M1, during the postwar period; monetary policy, however, was not the prime target of their study. I did not find that the elections of 1972 or 1976 significantly affected short-term interest rates; replicating this result over a longer series of elections is clearly of interest. Most significant, perhaps, the co-apostles of electorally motivated economic policy, Frey and Schneider (1981), do not even include elections as a direct influence in their model of central bank behavior. On balance, the prior evidence for a political monetary cycle in the United States does not appear strong. Still, many journalists and economists still believe in the PMC. A careful test of the PMC hypothesis, looking at a variety of elections, is clearly in order.

There has been less research on the influence of electoral outcomes on economic policy. The seminal work is that of Hibbs (1977); he found that right-wing governments provide less inflation while left-wing governments provide less unemployment. Hibbs reported evidence based both on a cross-national analysis of OECD nations and a time series

analysis of the United States and Great Britain. For example, he found that in the United States eight years of a Republican presidency led to an increase of more than two-and-a-half points in the unemployment rate.

I challenged some of Hibbs's findings in an earlier work (Beck, 1982b), and found that the effect of party on unemployment in the United States is less than half that reported by Hibbs. I also argued that for the United States administration is a better predictor of economic policy than is party; in the postwar period Democratic presidents ranged from the economically moderate Kennedy to the liberal Johnson, while Republican administrations pursued policies that ranged from the conservatism of Ford to the moderation of Nixon. It should be stressed that I did not find party to be unimportant, but that administration explains some results which are anomalies for party-oriented explanations.

The important point here is not the minor statistical argument about whether party has a one or a one-and-a-half point impact on unemployment; instead it has to do with the nature of the political process and the role of parties and elections in the formation of economic policy (see Hibbs, 1983; Beck, 1984a; Castles, 1982). In Hibbs's view of the world, parties represent class-based coalitions; when a party takes control of the government, it advances policies that aid the social class supporting it. In my view, parties are controlled by different coalitions at different times and will therefore undertake differing economic policies at various times. In addition, given the limitations on economic policymakers imposed by the private economy, both Republicans and Democrats will often be forced to follow similar economic policies regardless of their desires (Lindblom, 1977).

It is surprising, given its importance, how little empirical work has been done on the effect of party (or administration) on economic policy. If the occupant of the White House effects economic outcomes, it must be because of differential policy choices. In the only direct examination of this question in the monetary arena, Cowart (1978) found that, in Europe, left-wing governments pursue easier monetary policy than do right-wing governments.

Frey and Schneider (1978, 1981) provide indirect evidence on the subject. They found in their earlier study that Democratic regimes in general pursue more expansive economic policies and in their later study that the Bundesbank pursues easier policy when the German central government pursues easier policy. If the Fed is similar to the Bundesbank (and, as discussed in Beck, 1983c, there is every reason to believe that Frey and Schneider's findings for Germany should be even stronger for the U.S.) then monetary policy should be easier under Democratic presidents than under Republican ones.

Neither the Cowart nor the Frey and Schneider studies provide any

evidence about American monetary policy; in addition, both studies can be criticized on methodological grounds (Beck, 1983c). In an earlier work (Beck, 1982a) I found that monetary policy under the Republican Gerald Ford was more similar to policy under the Democrat Jimmy Carter than it was to policy under the Republican Richard Nixon. However, that study was limited to a short period of time. In this study I directly test the influence of both party and administration on postwar U.S. monetary policy.

Whether the timing of elections or which party controls the White House affects monetary policy, the Fed may be influenced by the direction of central government economic policy (as measured by fiscal policy). This may be because of the Fed's deferring to policy made by elected officials, or it may be because of its seeing a need to coordinate the various instruments of economic policy. Legally the Fed is independent of the executive branch; in practice, the Fed must take the executive into account in the making of monetary policy (see Woolley, 1984). Observers such as Maisel (1973) and Weintraub (1978) contend that the president can obtain the monetary policy he desires. Anecdotal evidence, such as Lyndon Johnson summoning William Martin to his ranch in Texas, supports this. The quantitative evidence on the relationship between fiscal and monetary policy is, however, mixed.

Many reaction functions estimated by economists (such as Abrams et al., 1980; or Havrilesky et al., 1975) omit fiscal policy as a predictor of monetary policy altogether. Those who include fiscal policy obtain mixed results. For example, Froyen (1974) found that fiscal policy affected the Fed in the 1960s but not in the 1950s or early 1970s; however, Barth et al. (1982) found fiscal policy to be a good predictor of the monetary base over that entire period.

The major theoretical support for a positive relationship between monetary and fiscal policy is provided by Frey and Schneider (1981). They take the interesting tack of assuming that the monetary authorities are pursuing their own political goals, but that these authorities do not have complete freedom to pursue those goals. In particular, when the policies of the central government (as evidenced by general fiscal policy) conflict with the policies of the central bank, Frey and Schneider assume that the central bank will follow the lead of the central government.

They also assume that the central bank's goal is to fight inflation; thus, left to its own desires, it will continually tighten up monetary policy via increasing short-term interest rates. Interestingly, it is assumed that the central bank prefers this policy regardless of the state of the economy; in other words, Frey and Schneider assume that central bankers are not interested in "Keynesian fine-tuning" or any other expansive use of monetary policy (such as in a recession). It is, presumably, only the interests of

the central government, and the weakness of the central bank vis-à-vis that government, which force the bank to engage in expansive policies.

Frey and Schneider's empirical application is to the German Bundesbank. Their model should, if anything, fit the Fed even better than it fits the Bundesbank, since the Bundesbank is, legally, at least as independent as the Fed (Woolley, 1977; Banaian et al., 1983). There are reasons, however, to be skeptical about whether Frey and Schneider's findings will hold for the United States.

Covariation is not required for monetary and fiscal policy to be considered coordinated. Macroeconomists argue that a mix of tight fiscal and easy monetary policy may be optimal. Monetary and fiscal policy may move in opposite directions because the central government desires that policy mix. Of more importance is the criticism that the Frey and Schneider model is apolitical in that it does not allow political factors to affect the degree of concordance between monetary and fiscal policy. If the Fed has *behavioral* independence, then there may be more concordance when fiscal policy is tight; alternatively, viewing central banks as conservative institutions, there may be more concordance between the Fed and conservative presidents or, following Hibbs, between the Fed and Republican presidents. The appropriate model for analyzing the relationship between monetary and fiscal policy may be the noncooperative two-person game (Blinder, 1982) rather than the game with a single dominant player. This study examines the interrelationship between political variables and the concordance of fiscal and monetary policy.

Measurement and Methodology

In this study reaction functions are estimated which show how monetary policy changes with changes in the outside world. Typically, reaction function studies have been done by economists; the outside world of interest, for them, is the state of the economy. In this study the outside world also includes the political sphere. While some issues in reaction function methodology are briefly discussed in this section, its major focus is on choice and measurement of the variables. More complete treatments of some of these issues may be found elsewhere.[1]

[1] A good discussion of reaction functions may be found in Alt and Woolley (1982). A dated but excellent introduction to monetary policy in the United States is that of Bach (1971); newer treatments may be found in Bryant (1980, 1983); political scientists who have discussed Fed policymaking include Borins (1972); Woolley (1983); and Beck (1982a).

In addition to standard econometric estimation, I use some results based on Brown, Durbin, and Evans's (1975) moving regression technique. Regressions are estimated on small subperiods of the entire period, and these subperiods are then moved along to cover the entire

Reaction functions relate a policy variable to some other set of variables. These functions can stand on their own, or they can be interpreted as the solution of constrained optimization problems that must be solved by policymakers. The policymaker under the latter interpretation is assumed to have a set of instruments that can be controlled and an objective function indicating the desirability of various combinations of outcomes; a model of the economy relates the control variables and economic outcomes. In this context, the estimated coefficients of the reaction function are determined by both the weights in the policymaker's objective function and the coefficients in the model of the economy. Thus reaction functions cannot be used to estimate the preferences of policymakers for, say, unemployment rather than inflation.

Reaction functions standing alone, however, do tell how a policy instrument changes as other factors change. In other words, reaction functions are useful for finding changes in economic conditions which are associated with changes in monetary policy. Estimates can thus be used to see whether political variables affect the relationship between economic conditions and the making of monetary policy.

The reaction function estimated here has the form:

$$\mathrm{INST}_t = b\mathrm{ECON}_{t-1} + c\mathrm{POL}_{t-1} + d\mathrm{ECON}_{t-1}\mathrm{POL}_{t-1} + e_t$$

where INST is the policy instrument being studied and ECON and POL represent vectors of economic and political variables.[2] The nonlinear d

period under study. In this study the subperiods are four years in duration. Graphs of the moving coefficients can show how coefficients change over time. See Beck (1983a) for a more complete discussion of this methodology; complete moving regression results are presented in Beck (1983b). The moving regression results are consistent with the conclusions reported here.

[2] This formulation is based on several implicit assumptions. The most important is that policymakers set their instruments as a function of where the economy was in the recent past. This is equivalent (see Abrams et al., 1980) to the assumption that policymakers use naive, extrapolative forecasts. Abrams et al. use linear forecasts of the economy (based on prior information on other economic variables) as independent variables in their estimation. This is almost the same as adding a wider class of economic variables to the vector ECON. Given the Fed's cavalier use of quantitative economic forecasts it is not obvious that the use of optimal linear forecasts is superior to the use of simple lagged variables in the vector ECON. Lombra and Moran (1980) show that the current state of the economy is a better predictor of monetary policy than are the Fed's own forecasts.

The time subscripts on the variables are important. If ECON were subscripted with t instead of $t-1$, there would almost certainly be simultaneous equation bias in the estimates. However, given that it takes some time for the government to collect data and some time for decision makers to act on the data, the assumption that current policy depends on prior information does not seem untenable.

term takes into account the possibility of interaction between economic and political variables by allowing the effect of economic variables to change as political circumstances change, and the e_t term includes all other unmeasured factors that affect policy. What variable should be substituted for INST? That is, what is an appropriate dependent variable?

The ideal solution would be to use some variable actually controlled by the Fed. Over the long period under study here the Fed has shifted operating procedures several times. Hence it is necessary to find some variable that, even if it was not directly controlled by the Fed, serves as an adequate measure of policy over the entire period. The less a variable is controlled by the Fed, the less useful that variable will be as an indicator of policy.

Regardless of the particular operating procedures used by the Fed, it has usually implemented policy primarily with open-market operations, that is, by manipulating bank reserves. Thus change in the level of bank reserves is a useful, albeit not perfect, indicator of policy over a long period. No claim is being made that the Fed really focused on bank reserves as a target; instead I make the weaker claim that bank reserves are an adequate indicator of whether the Fed was easing or tightening policy, regardless of how it was actually implementing that policy.

Reserves are important because they serve as a limit on the total amount of deposits (and hence money) that a bank can create. Since the total deposits that can be supported by any level of reserves is determined by legal reserve requirements, reserves—when used as a policy indicator—can only be compared over time if reserve requirements have remained constant during that period. (Increasing reserve requirements has the same effect as decreasing the level of bank reserves.) Over the period under study, however, reserve requirements did change. To solve this problem the Federal Reserve Bank of St. Louis has calculated a time series of reserves adjusted for changes in reserve requirements. While the theory behind this adjustment is complex, its basic idea is simple: an increase in reserve requirements is identical to some decrease in total reserves (see Tatom, 1980). The St. Louis series allows comparison of reserves across time. It also has the advantage of reflecting all the important policy actions of the Fed: open-market operations, changes in reserve requirements, and changes in the discount rate (which affect the level of borrowed reserves).[3]

[3] Adjusted reserves are similar to the more familiar adjusted base; the latter also includes currency in circulation. Because the Fed does not appear to make policy by manipulating currency, reserves would seem to be a better policy indicator than the base. Other studies of reaction function have used unborrowed reserves since these are what the Fed manipulates

The indicator of policy used in this study is the quarterly percentage change (on an annualized basis) in the seasonally adjusted St. Louis adjusted total reserve series. Changes instead of levels are studied because policymakers concentrate on changes, not levels; reading Fed minutes indicates that the Fed asks whether to continue or change present policy. Percentage changes rather than simple differences are used because the first difference of reserves increased over time.[4] To have used differences first would have led, by force, to the conclusion that later administrations followed easier policies than did earlier ones. Since this is a major question under study, it is important to eliminate such a source of bias.

The independent variables in this study should relate to various dimensions of economic activity. I use a small set of nonredundant economic variables to decrease the possibility of spurious inference. "Leading" rather than "coincident" or "lagging" indicators are used so that they may be considered to resemble economic forecasts.[5]

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with open market operations. Borrowed reserves are a small component of total reserves so these two series are similar. Unborrowed reserves are often used because they are exogenous; as a dependent variable, the endogeneity of total reserves causes no problems. The total reserve measure is superior since it reflects changes in discount rate policy; borrowed as well as unborrowed reserves can be used to support deposits.

The adjustment process used by the St. Louis Federal Reserve is based on a theoretical rather than an empirical argument. There are other methods of adjusting reserves, and they yield somewhat different results. The St. Louis series was chosen because it goes back to the 1950s. Neumann (1983) has discussed some theoretical problems of the St. Louis adjustment.

An alternative policy measure is one of the monetary aggregates such as M1. While M1 is not controlled by the Fed over short periods of time, it is likely that the Fed could hit M1 targets over a quarterly period if it chose to do so. Simple models often assume a stable relationship between the base and M1; if so, it matters little whether reserves, the base, or M1 is used as a policy measure. If the demand for money is shifting, M1 may be a superior measure of policy. My rationale for using a reserve measure is that the Fed is manipulating reserves directly; the argument for M1's being a policy measure is more indirect. For a more complete discussion of this question, see Beck (1984b).

[4] Using percentage differences is similar to the more common practice of taking logs of all variables. All percentage changes in this study are quarterly changes at an annual rate.

[5] Many different independent variables could have been used in this study. There is no theory to show upon which variables the Fed really focuses. Minutes of Fed policy meetings suggest that it considers a wide range of economic variables. Experiments with other variables suggest that change of independent variable does not change the substantive conclusions. The independent variables used here outperform other sets of independent variables. The change in capacity utilization, rather than its level, is used, for example, because the change predicts policy better than does the level.

Since the Fed is making policy to affect the future, leading indicators are the most sensible independent variables. To make policy from a lagging indicator, such as unemployment, would be to make policy about the future based on past business cycles. The capacity utilization series leads the more standard unemployment measures; the producer price index leads the more common CPI-based measures of inflation. Fed minutes suggest that the Fed is sensitive to leading indicators.

Economic variables to represent both current (or short-run) inflation and economic slack are needed. The inflation variable chosen is the percentage increase in the Producer Price Index; this measure seems to be mentioned more frequently in Federal Reserve minutes than does the more common Consumer Price Index. The measure of slack used is the percent change in the Federal Reserve's Index of Capacity Utilization; again, this measure appears more frequently in Fed discussion than does the more common unemployment measures. Using the percentage change in capacity utilization implies that the Fed is responding to changes, rather than levels, of slackness in the economy.

Differing theories of how the Fed should be operating imply differing signs for the various coefficients. If the Fed is operating in a countercyclic manner, the sign of the coefficient on capacity utilization should be negative since increasing capacity utilization should lead to a tightening of monetary policy. However, monetarist critics of the Fed argue that the Fed ought simply to worry about inflation (and that in the long term it is impossible for monetary policy to affect unemployment); if the Fed acts as the monetarists prescribe, the coefficient on capacity utilization should be zero. We can see whether the Fed is acting countercyclically or in a monetarist manner by examining the sign and size of the capacity utilization variable.

The sign of the inflation coefficient is difficult to predict; under high inflation, some growth in the nominal supply of money is required to keep the real supply from falling; reserves should show some accommodation to inflation, and the sign on the inflation coefficients should be positive. However, in comparing differing time periods, which is of interest here, a smaller coefficient on inflation indicates an increased anti-inflationary posture.

However much of a leading indicator the producer price index is, it is still a measure of short-run inflation; the Fed might be interested in future inflation as well as current inflation. It is difficult to get such a measure, but one good candidate is the percentage change in the yield of AAA corporate bonds (using Moody's index of seasoned issues). In standard Fisherian interest rate theory, the yield on long-term AAA bonds consists of a real return and returns to cover risk, inflation, and loss of flexibility. In the short run, changes in bond yields should be caused primarily by changes in the expected rate of inflation.[6] Percentage change in the yield of long-term AAA bonds is used in each reaction function as a measure of

[6] Changes in yields, and not changes in expected inflation, are included in the regressions. Yields could change for reasons other than changed perceptions of future inflation. For example, bonds could be perceived as becoming increasingly risky in the environment of the 1970s.

expected inflation; the sign of its coefficient has the same interpretation as that for current inflation.

Under alternative theories of monetary policy it is possible for the sign of the yield variable to be reversed. Increasing yields signal increasing tightness in the credit market; this tightness could be caused by changes in either the supply of or the demand for credit. As Kane (1980) has pointed out, many industries (housing is the most extreme example) are sensitive to both the quantity and the price of credit; as yields rise those industries use whatever political muscle they have to get the government to bring rates down. If the Fed responds to such short-run pressures, increasing yields will lead to increased ease instead of tightness. By examining the sign of the yield variable over time we can see whether the Fed seems to be more responsive to short-run pressures for ease in the credit markets or to long-run pressures to fight inflation.

The high employment surplus of the federal budget, as a percentage of the GNP, is used as the measure of fiscal policy. The high employment surplus corrects the actual surplus for movements caused by the business cycle; it is well known that during recessions government revenues decline and expenditures increase. The high employment surplus is a measure of discretionary fiscal policy, purged of automatic stabilizers.

If the Fed accommodates monetary to fiscal policy (instead of trying to offset policy), increased fiscal tightness should be associated with increased tightness of monetary policy; the sign of the surplus coefficient should be negative. It is equally plausible, however, that the Fed sees its role as "leaning against the wind," or counterbalancing the effects of a too easy fiscal policy; if so, the sign of the fiscal coefficient should be positive.

Two other independent variables are included in the reaction function to measure the effect of international variables on reserves. These two variables are the balance of payments as a proportion of the GNP and the level of international monetary reserves as a proportion of imports. International financial difficulties should lead to a lessening in the growth rate of reserves.

The reader of the monetary literature will note the absence of monetary targets as independent variables. This is owing partly to the period under study; there is little indication that the Fed focused on monetary targets until the late 1960s. Furthermore, when the Fed did use monetary targets, it used them as proxies for economic variables that themselves are of interest. In the 1970s, two decisions were made: first, what monetary target would yield the most desirable economic outcome; second, what setting of policy instrument would enable the monetary target to be hit. Thus, there is an indirect relation between policy and final macroeconomic outcome; it is this relation that is of interest. Whether the Fed missed its targets, which would have led to the outcome

it desired, or whether it hit its targets, which were misdirected toward the final goals, is not under study here.

The data used for this study are quarterly.[7] Some of the data (on budgets and balance of payments) are only available quarterly; moreover, quarterly data allow for some of the monthly aberrations in monetary policy to average out. High employment surplus figures are first available for the first quarter of 1955. Since all the independent variables are assumed to affect policy with a one-quarter lag, the time period under study is from the second quarter of 1955 through the end of 1982. For the regressions 111 data points are available.

Results

Table 1 shows the estimated reaction function using only economic variables.[8] Specification tests show that the assumed lag structure is reasonable in that neither lagged dependent variables nor further lagged independent variables are needed. The R^2 for the equation is not high; given that the dependent variable is a change, not a level, and considering the long time period under study, this is not surprising.

The two principal determinants of change in bank reserves are the high employment surplus and the change in the yield of AAA bonds; the only other variable that has a significant t-ratio is capacity utilization. All three coefficients show the expected sign. Neither current inflation nor the international variables has a significant effect. However it is not the general effect of these variables which is of interest; instead, it is how those effects change as political factors change. I first consider the impact of elections on monetary policy.

Elections

To test for a political monetary cycle, a dummy variable was added to the reaction function;[9] this dummy variable is 1 for the period starting

[7] The data used in the study are from standard government sources. All data are taken from the Department of Commerce's *Survey of Current Business*, except for adjusted reserves, which were supplied by the Federal Reserve Bank of St. Louis. All GNP account figures are based on the new revisions of GNP (and potential GNP) which appear in deLeeuw and Holloway (1982).

High employment surplus is the latest (November 1982) revision provided by the Bureau of Economic Analysis of the Department of Commerce. There are differing measures of the high employment surplus, although no other covers the entire period under study. For problems with the concept of high employment surplus, see Fellner (1982).

[8] All computations were done on a VAX 1170 at the UCSD Computer Center, using the UCSD version of TSP 3.5.

[9] Analysis reported below shows that administration terms should be added to the economic reaction function. Reaction functions reported in this section all contain the ad-

TABLE 1

REACTION FUNCTIONS WITHOUT POLITICAL VARIABLES
55:2–82:4

DEPENDENT VARIABLE: PERCENTAGE CHANGE IN ADJUSTED RESERVES
ORDINARY LEAST SQUARES

IND. VAR.	REGRESSION COEFFICIENTS	SUMMARY STATISTICS	
Constant	5.45	R^2	.37
	(7.2)	SSE	1294.05
		df	104
Inflation	.027	Auto	.14
	(0.3)	Auto 1–4	.73
		YLAG	.10
Cap. Ut. %	−.070	XLAG	3.21
	(2.0)		
YieldAAA %	−.102		
	(4.3)		
D Res/Imp	16.1		
	(1.1)		
BalPay/GNP	−78.1		
	(1.1)		
HiSurp/GNP	−1.39		
	(4.3)		

Note: The final four items are Lagrange multiplier tests for first order autocorrelation, first through fourth order autocorrelation, whether a lagged dependent variable should be included and whether lagged independent variables should be included. The statistics are all distributed like chi square, with 1, 4, 1 and 6 degrees of freedom, respectively. *t*-ratios in parentheses.

in the third quarter a year before a presidential election and ending in the third quarter of the election year; this period was chosen to take account of the long lags between changes in monetary policy and outcomes in the economy. (Experiments suggest that the results are not sensitive to the exact specification of the dummy variable.)

Coefficients for the various electoral dummy variables are shown in table 2. One regression includes a dummy variable that is 1 for any election year; another includes seven separate variables for each of the seven

ministration dummy variables. In Beck (1983b) I report results excluding the administration variables. The finding of no electoral effect is unchanged.

Each reaction function in tables 2 through 8 uses all the economic variables shown in table 1 (with the exception of the high employment surplus). To conserve space, coefficients of the economic variables are not reported; estimates of their values do not change significantly from table 1.

elections. Reaction functions were estimated both with and without the high employment surplus variable; this was done to test Laney and Willett's (1983) hypothesis that the Fed follows a political monetary cycle because it accommodates electorally motivated fiscal policy. If so, the reaction function that includes the fiscal variable understates electoral effect; the reaction function that excludes that variable will attribute any

TABLE 2

IMPACT OF ELECTIONS ON MONETARY POLICY

ELECTION	WITHOUT SURPLUS	WITH SURPLUS
All	.67	.47
	(.79)	(.75)
1956	.45	1.75
	(1.98)	(1.96)
1960	−.71	.92
	(2.00)	(2.01)
1964	−.05	.67
	(1.86)	(1.81)
1968	3.04*	.80
	(2.00)	(2.08)
1972	2.32	1.85
	(1.97)	(1.89)
1976	.40	−2.32
	(2.77)	(2.83)
1980	−1.30	−.89
	(2.09)	(2.02)
Regression with All Variable Only		
R^2	.37	.43
df	98	97
SSE	1297.12	1173.03
Regression with Specific Year Variables		
R^2	.39	.44
df	92	91
SSE	1244.26	1141.21

Note: Standard errors in parentheses. All estimates based on reaction functions including both economic and administration dummy variables. All refers to a dummy variable which is 1 before any election; specific refers to regressions including specific year dummy variables.

* Significant at .10. Significance levels 1-tailed.

explanatory power shared by elections and fiscal policy to elections.[10] Differences between the electoral coefficients in the two estimations indicate the indirect effect of elections on monetary policy through fiscal policy.

Table 2 does not give strong support for the electoral manipulation hypothesis. Only eleven of the sixteen coefficients have the predicted sign, and only one of those coefficients is significant at even the .10 level. Monetary policy actually may have been tighter before the 1960, 1964, 1976, and 1980 elections; this is exactly the opposite of Tufte's prediction.

Table 2 does give some support for the hypothesis that monetary policy was easier before the 1972 election; 1972 is the election that generated all the anecdotal evidence about political monetary cycles. While the coefficients for 1972 are large, they are not close to being statistically significant. The only coefficient near statistical significance is that for 1968 in the "without surplus" estimation. According to Maisel (1973), 1968 was the year that the Fed overestimated the effect of the Johnson tax surcharge and eased monetary policy too much; hence the 1968 coefficient may have little to do with electoral manipulation. During the nearly three decades under study the Fed does not appear to have engaged in electorally motivated policymaking.[11]

The Effect of Party and Administration

The reaction functions can show the effect of party and administration on monetary policy. If Democratic presidents provide more inflation, then monetary policy should be easier under Democratic presidents. A party dummy variable was added to each reaction function; this variable is 1 from the first quarter after a party takes office until it leaves office. The dummy variable specification assumes that, *ceterus paribus*, monetary policy will ease by a given amount each quarter that a Democrat occupies the White House. Results are shown in table 3.

As in the electoral analysis, the high employment surplus may cause problems. If Democratic presidents run larger deficits (which they do)[12] and if the Fed accommodates those deficits (which table 1 confirms), then monetary policy will be easier under Democrats. This result will not appear in a reaction function analysis that includes the surplus variable.

[10] Another way of saying this is that the estimations without the surplus variable take advantage of what would normally be considered omitted variable bias.

[11] This conclusion is reinforced by an examination of the plot of the moving constant term reported in Beck (1983b, figure 1a). That plot should show any preelection changes in policy not explained by economic variables; it does not show any suspicious peaks during preelection years.

[12] Under Democrats the deficit (as a proportion of GNP) was .37 percent higher than under Republicans. Compared to other administrations, the Eisenhower surplus was 1.64 percent more, the Kennedy surplus 1.14 percent more, the Johnson surplus .76 percent less, the Nixon surplus .59 percent less, the Ford surplus 1.06 percent less, the Carter surplus .70 percent less, and the Reagan surplus .86 percent less.

TABLE 3

IMPACT OF PARTY AND ADMINISTRATIONS (DUMMY VARIABLES)

ADMIN.	WITHOUT SURPLUS	WITH SURPLUS	TOTAL EFFECT
Dem.	1.85**	1.24*	1.71
	(.7)	(.8)	
Eisenhower	−3.57**	−.91	−4.29
	(1.3)	(1.5)	
Kennedy	−2.08	.08	−2.69
	(1.7)	(1.8)	
Johnson	.19	−.19	.45
	(1.3)	(1.3)	
Ford	−2.45*	−3.80**	−3.01
	(1.4)	(1.5)	
Carter	.42	.00	.17
	(1.3)	(1.2)	
Reagan	−2.02	−1.86	−1.46
	(1.6)	(1.5)	
Party Only			
R^2	.30	.39	
df	104	103	
SSE	1434.50	1255.37	
Administrations			
R^2	.36	.43	
df	99	98	
SSE	1304.68	1177.78	

Note: Party levels 1-tailed; administration levels 2-tailed. Entries in parentheses are standard errors of the coefficients. Coefficients represent deviation of Democratic presidents from Republicans and administrations from Nixon administration.

* *t*-ratio greater than 1.5.

** Significant at .01.

Results of estimations that include and exclude the surplus variable are therefore reported. In addition table 3 presents estimates of total party (or administration) effect that sums the direct effect of party (based on the estimations including the surplus) and the indirect effect of fiscal policy (which is the product of the surplus coefficient and the deviation of fiscal policy under a party or administration from the baseline period).

The first line of table 3 shows that monetary policy is easier under Democrats than it is under Republicans. Counting accommodation to

fiscal policy, reserves grow almost 2 percent faster (at an annual rate) under Democrats. This effect is both statistically significant and substantively large. Most of the party effect is direct; when fiscal policy is held constant reserves still grow faster under Democrats. Less than one-third of the party effect is due to easier Democratic fiscal policy.

This is consistent with the finding that Democratic presidents provide more inflation and less unemployment than do Republicans. When Democrats are in power, the Fed eases monetary policy regardless of economic conditions. Whether Democratic presidents force the Fed to behave in this manner, or whether the Fed does so for anticipatory reasons, or whether it simply believes that presidents should get the monetary policy they desire cannot be ascertained from this data.

Given that the Fed pursues easier policy under Democratic presidents, does it do so equally under all such presidents? The balance of table 3 shows how the various administrations differ from the Nixon administration. In general the Fed is tighter under Republican administrations than it is under Democratic ones. However, there are deviations from party; monetary policy under John Kennedy was tight and it was easy under Richard Nixon. With respect to monetary policy, the Johnson, Nixon, and Carter administrations appear liberal while the Eisenhower, Kennedy, Ford, and Reagan administrations appear conservative.

It may be objected that the model underlying table 3 is incorrect in that presidents do not, over the course of their administration, have the same level of influence on the Fed. It is possible that as presidents appoint more governors of the Fed their influence over it grows; it is equally plausible that presidents have maximal impact following their electoral mandate. Thus impact may grow or decline over time. To test for this possibility, we estimated reaction functions that included all the administration (or party) dummy variables and trend and squared trend terms for each administration (or party); the trend term is 1 for the quarter after an administration takes office and is increased by 1 for each quarter an administration stays in office; the party trend term starts anew each time a new party captures the White House.

Results of the trend analysis appear in table 4. Except for the Nixon administration there is no evidence of any linear or quadratic trends for either administration or party. The Nixon administration shows monetary policy easing during the first term and tightening thereafter. Table 4 does not suggest that the conclusions from table 3 need to be modified. Whatever effect party or administration has, it comes soon after a president takes office and continues over the entire term.

The Hibbs party theory cannot account for either the Kennedy or the Nixon administrations; nor can it account for the dramatic shifts between the Kennedy and Johnson and the Nixon and Ford administrations. Party

TABLE 4

IMPACT OF PARTY AND ADMINISTRATIONS (TREND VARIABLES)

ADMIN.	WITHOUT SURPLUS		WITH SURPLUS	
	TREND ONLY	TREND + SQUARE	TREND ONLY	TREND + SQUARE
Democrats				
Dummy	.76	.33	1.49	.82
	(1.12)	(1.71)	(1.08)	(1.63)
Trend	.08	.16	−.02	.11
	(.06)	(.25)	(.06)	(.24)
Square		−.002		−.004
		(.008)		(.007)
Eisenhower				
Dummy	2.37		−.74	
	(3.13)		(3.08)	
Trend	.10	.55	.11	−.07
	(.11)	(.73)	(.11)	(.72)
Square		−.011		.005
		(.018)		(.018)
Kennedy				
Dummy	1.40		3.34	
	(3.14)		(3.11)	
Trend	−.09	.18	−.12	−.49
	(.34)	(1.55)	(.33)	(1.50)
Square		−.023		.032
		(.126)		(.121)
Johnson				
Dummy	2.37		3.60	
	(2.85)		(2.80)	
Trend	.10	.07	−.14	−.43
	(.15)	(.56)	(.17)	(.56)
Square		.002		.013
		(.024)		(.024)
Nixon				
Trend	.34**	1.40**	.19	1.08*
	(.14)	(.53)	(.15)	(.54)
Square		−.047*		−.038
		(.022)		(.022)

Ford				
Dummy	1.18		−2.37	
	(3.69)		(3.77)	
Trend	.12	1.49	.22	−.63
	(.45)	(2.15)	(.44)	(2.16)
Square		−.100		.080
		(.183)		(.184)
Carter				
Dummy	4.34		1.65	
	(2.85)		(2.92)	
Trend	.07	−.13	.08	.005
	(.22)	(.86)	(.22)	(.82)
Square		.011		.001
		(.049)		(.047)
Reagan				
Dummy	4.93		4.64	
	(3.78)		(3.65)	
Trend	−.80	3.19	−1.04	2.68
	(.70)	(3.40)	(.69)	(3.24)
Square		−.491		−.46
		(.416)		(.40)
Party Only				
R^2	.31	.31	.39	.39
df	103	102	102	101
SSE	1412.17	1410.63	1254.24	1250.25
Administrations				
R^2	.42		.47	
df	92		91	
SSE	1190.04		1096.47	

Note: Level is 2-tailed for administrations. Trend is linear trend term; Square is squared trend. Linear trend terms estimated jointly; square terms estimated separately for each administration.

* Significant at .05. ** Significant at .01.

label tells us much about monetary policy, but it does not provide the entire story. The data cannot tell us why Nixon looked like a Democrat in the monetary arena, but they can tell us that he looked like one. The party control model provides a good first step, but a richer theory is needed to explain what would be anomalous results for the party control theory.

One plausible suggestion for why administrations differ is that presidential influence over the Fed may depend on the president's appointment of its chair since the chair dominates Fed policymaking (Maisel, 1973). Presidents who for some reason are forced to accept their predecessor's chair may have less ability to get the Fed to follow their policies.[13] Reaction functions were estimated which included dummy variables for the different Fed chairs instead of the different administrations. Results of this estimation are reported in table 5, where coefficients indicate deviations from the Martin tenure.

As in the analysis of party and administration, it is plausible here that the chairs' impact increases over time as they amass power; it is equally plausible that they come to office with a mandate so that their influence declines over time. Table 5 reports both dummy variable and trend estimations; as in table 4, both linear and quadratic trends were estimated. All the columns of table 5 are based on a single estimation. The best model is the linear trend model, although the Martin period shows some evidence of a quadratic trend (with policy easing at the beginning of his tenure and tightening at the end).

Table 5 shows that the chair does make a difference. This is especially true for the estimations that excluded the surplus variable. When Arthur Burns became chair monetary policy eased; as he remained in power policy slowly tightened. Policy was generally easier under William Miller with some indication of a tightening trend over his short tenure. The ascension of Paul Volcker brought no discontinuity in policy which tightened over the course of his chairmanship. Finally policy tightened slowly during the tenure of William Martin. (These results are qualitatively similar to those obtained when the surplus was included; the "without surplus" coefficients are generally larger and more significant.)

Knowing who is chair of the Fed helps explain Fed policy; this holds true even if we know who is president. It also helps to know who is president even if we know who is chair of the Fed. (Sums of squared errors when both chair and president are included in the reaction function are 1021 with the surplus variable and 1059 without that variable. Both the chair and administration variables explain a significant amount of extra

[13] A president may not appoint a new chair because of dissatisfaction with the previous officeholder; conversely, a president may be forced to appoint someone not personally preferred. An example of the former case is probably Reagan and Volcker; an example of the latter case is Carter and Volcker.

TABLE 5

IMPACT OF FED CHAIR ON MONETARY POLICY

CHAIR	WITHOUT SURPLUS			WITH SURPLUS		
Burns						
Dummy	2.49**	7.00***	10.119***	.72	3.47**	6.901***
	(1.14)	(1.79)	(2.671)	(1.18)	(2.11)	(2.661)
Trend		−.126*	−.432		−.159**	−.581*
		(.073)	(.335)		(.071)	(.318)
Square			.009			.012
			(.010)			(.009)
Miller						
Dummy	2.73	10.12***	19.063***	1.61	5.41	13.701**
	(1.91)	(3.81)	(6.751)	(1.86)	(4.01)	(6.51)
Trend		−1.315	−7.358*		−1.007	−7.107*
		(.880)	(4.259)		(.856)	(4.001)
Square			.862			.884
			(.591)			(.555)
Volcker						
Dummy	1.93	8.15***	6.847*	.67	4.271	1.261
	(1.38)	(2.83)	(4.089)	(1.35)	(3.041)	(4.132)
Trend		−.539*	.261		−.484*	.760
		(.291)	(1.180)		(.281)	(1.118)
Square			−.049			−.077
			(.082)			(.077)
Martin						
Trend		.068**	.259**		.006	.266**
		(.028)	(.116)		(.034)	(.109)
Square			−.003*			−.005***
			(.002)			(.002)
R^2	.29	.38	.42	.37	.43	.49
df	102	98	94	101	97	93
SSE	1453.74	1265.47	1187.73	1283.79	1164.76	1038.70

Note: Coefficients represent deviations from Martin tenure. Trend indicates linear trend; Square indicates quadratic trend; Dummy indicates dummy variable. Standard errors are in parentheses. * Significant at .10. ** Significant at .05. *** Significant at .01.

variance.) The chair of the Fed cannot explain some of the more interesting administration findings; Kennedy and Johnson shared Martin as chair, yet their monetary policies were different; Nixon and Ford shared Burns, yet their policies were radically different.

To study further why parties and administrations differ in their monetary policy it is necessary to examine interactions between administration (or party) and the economic variables. Table 6 reports the results of this interactive analysis. Interaction terms in table 6 are multiplicative; estimations used all economic variables, administration (or party) dummy variables, and a single interaction between an economic variable and an administration; each entry in table 6 is based on a separate regression. (This was done to decrease multicollinearity. Including the interaction terms in a single regression does not change any of the conclusions.) All regressions include the high employment surplus variable.

Table 6 shows whether the Fed is more sensitive to some economic conditions under Democrats than it is under Republicans. The Fed is not more responsive to inflation under Republicans. It does respond differently to the capacity utilization variable under the two parties. The sign of the difference is puzzling since it suggests that under Republicans a decrease in capacity utilization leads to a greater easing of monetary policy than it does under Democrats. Most of this party differential is caused by the Kennedy and Reagan administrations. In general the Fed does not respond differently to economic conditions depending on which party controls the White House.

Other than the paradoxical interaction between the Kennedy and Reagan administrations and capacity utilization, there are no interactions between administration and economic slack. There are no interactions between administration and current inflation which come close to being statistically significant. The Fed did ease policy when yields increased during the Kennedy administration while it tightened under similar circumstances during the Eisenhower administration; there is also some evidence (although the result is not statistically significant at even the .10 level) that the Fed under Carter eased when yields increased. This indicates that the Fed under Kennedy (and perhaps Carter) was sensitive to tightness in the credit markets whereas the Fed under Eisenhower was sensitive to expected inflation.

Most of the interactions between administration and the economy are small and not statistically significant. I cannot, therefore, account for differences between Fed behavior under the various administrations by different Fed reactions to the economy under those administrations. The data do not allow a simple systematic explanation of the effect of party or administration on the Fed. Monetary policy is easier or tighter depend-

TABLE 6

INTERACTIONS BETWEEN PARTY OR ADMINISTRATION AND ECONOMIC VARIABLES

	INTERACTIONS WITH[a]				
	INFL	CAPUT%	YIELD%	SURPLUS	EFFECT OF SURPLUS[b]
Democrats	.034	.134*	.058	.541	−.88
	(.150)	(.080)	(.044)	(.685)	
Eisenhower	.133	−.070	−.098**	−.135	−1.62
	(.427)	(.089)	(.054)	(1.131)	
Kennedy	−.245	.338*	.264**	1.831	.30
	(.666)	(.160)	(.156)	(2.584)	
Johnson	.047	.175	−.009	.861	−.94
	(.488)	(.191)	(.072)	(1.032)	
Nixon	−.142	.006	−.008	−2.352**	−3.51
	(.207)	(.121)	(.067)	(1.282)	
Ford	−.048	.021	−.039	.937	−.72
	(.229)	(.073)	(.101)	(1.405)	
Carter	.204	.056	.057	−.172	−1.67
	(.339)	(.048)	(.047)	(1.905)	
Reagan	.457	−.287**	.027	−.080	−1.59
	(.469)	(.151)	(.081)	(2.738)	

Note: Party regressions have 103 degrees of freedom; administration regressions have 98 degrees of freedom. Significance levels 1-tailed for party, 2-tailed for administration.

[a] Interaction terms are departures from Nixon or Republicans. Estimates based on reaction functions which included all but the indicated administration (or party) dummy variables and each interaction term separately.

[b] The effect of surplus figures are obtained by adding the linear and interactive surplus coefficients.

* Significant at .05. ** t-ratio greater than 1.5.

ing on who is president, but the Fed response to economic conditions does not depend on who occupies the White House.[14]

The Relationship between Fiscal and Monetary Policy

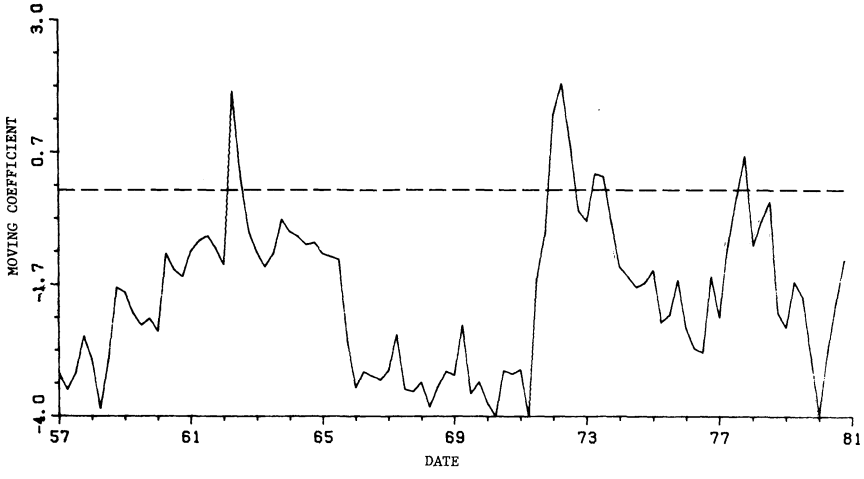
The coefficient on the fiscal variable in table 1 shows that when fiscal policy is easy so is monetary policy; if the deficit increases by $20 billion (about 1 percent of GNP) the growth rate of reserves will increase by almost one-and-a-half points. In general the Fed does not lean against, but rather accommodates to, fiscal policy.

Table 6 shows that there is somewhat less accommodation to Democratic fiscal policy than there is to Republican policy. However, while the size of the party-surplus interaction is not trivial, the coefficient is far from being statistically significant. For administrations the only significant interaction is with the Nixon administration; there was more accommodation under Nixon than under any other president. The Fed appears to have accommodated the Eisenhower, Carter, and Reagan regimes more than it did the Kennedy, Johnson, or Ford regimes; while suggestive, differences between these regimes are not statistically significant.

The more flexible moving regression technique can be used to study the changing effect of fiscal policy over time. Figure 1 plots the moving coef-

FIGURE 1

MOVING SURPLUS COEFFICIENT VS. DATE



[14] The moving regression reported in Beck (1983b) confirms this lack of a simple relationship between administration and the effect of economic variables.

ficient of the high employment surplus variable against time. (The moving regression is based on estimates using four years' data. Dates on the axis are the midpoints of four-year periods. The plotted points are not comparable to the figures in table 6 since they are based on different methodologies.)

The moving surplus coefficient is almost always negative, which indicates that reserves grow less when fiscal policy is tight, that is, monetary and fiscal policy vary together. Covariation was strongest from 1957 through 1960 and 1966 through 1970; the former period covers the Eisenhower administration while the latter corresponds to the height of the war in Vietnam. Covariation was weakest from 1962 through 1964 and 1972 through 1978 except 1975. (There is insufficient data for the moving regressions to be informative about the Reagan administration.)

The first period of high covariation corresponds to Eisenhower's use of orthodox conservative economic policy: tight money combined with a tight budget; the second such period corresponds to an attempt to finance an expensive war without cutting domestic programs, an attempt that was partly responsible for the inflationary 1970s. The second period of low covariation corresponds to the political attempt to combine easy fiscal and tight monetary policy (see Calleo, 1982). The theory behind such an attempt is that monetary policy is politically less visible than is fiscal policy. Hence easy fiscal policy can be used for political payoffs while inflation is kept in check in a politically less costly manner. If this view is correct, then we can think of monetary policy as the result of strategic political decisions—about how to finance a war painlessly or to fight inflation without paying the political costs of that fight—rather than as a mechanistic response to general party ideology.

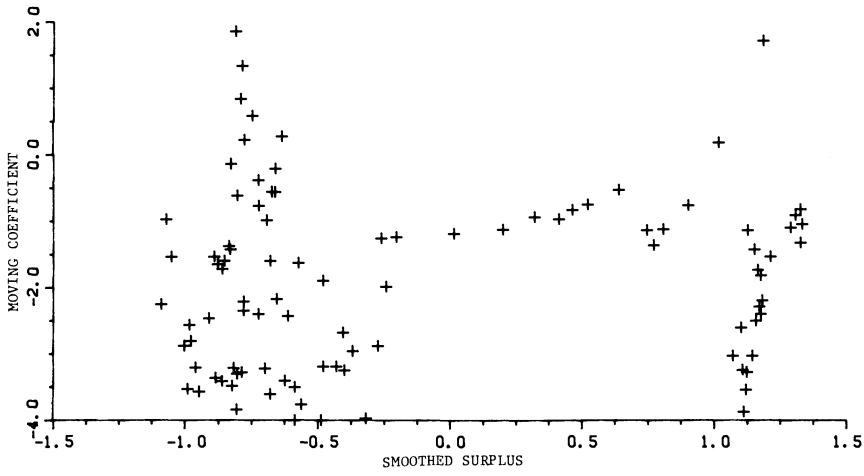
This still does not provide any theory about when the Fed will accommodate to fiscal policy; however, it shows that Frey and Schneider's (1981) hypothesis that the central bank must accommodate does not hold for the United States. One reasonable hypothesis is that the Fed is more likely to provide tight monetary policy when fiscal policy is also tight. This hypothesis assumes that central banks prefer tight policy; when fiscal policy is also tight there will be few strong political pressures from the central government to force the bank to ease policy.

To test this hypothesis a dummy variable was created which is 1 when fiscal policy is easy (operationalized as the high employment budget being in deficit). This dummy variable was multiplied by the surplus, and the interactive term was added to the reaction function presented in table 1. The coefficient of this interactive term can be used to test whether the Fed is more likely to adjust monetary to fiscal policy when fiscal policy is tight. The estimated interactive coefficient is both small and statistically insignificant; consequently, we cannot reject the hypothesis that the Fed

reacts to fiscal policy in the same way regardless of whether fiscal policy is easy or tight.[15] Figure 2 helps show why the interactive term is not significant.

FIGURE 2

MOVING SURPLUS COEFFICIENT VS. SMOOTHED SURPLUS



That figure plots a moving average of the high employment surplus against the moving regression surplus coefficient. When fiscal policy is tight (the right-hand portion of the graph) monetary policy is almost always tight (there are no points in the upper right-hand corner of the graph); when fiscal policy is easy, monetary policy, while usually easy, is sometimes tight (there are points in the upper left portion where the Fed is leaning against easy policy). Most of the points in the upper left-hand portion of the graph correspond to the first half of the 1970s.

As Frey and Schneider suggest, the Fed generally makes monetary policy to agree with fiscal policy; from time to time it will lean against easy fiscal policy. The data cannot determine whether this leaning is the Fed's flexing its political muscle or whether it is acting at the behest of a government that wishes to combine tight monetary with easy fiscal policy. Fiscal policy is a good cue to the direction of monetary policy, but it is not the only cue and it cannot be interpreted in an overly simple manner.

[15] The interaction was fit with a constraint that the two half lines joined when the budget was in exact balance, so the reaction function estimated under the alternative hypothesis contained only one additional parameter. The coefficient on surplus when fiscal policy is tight is 1.5; when fiscal policy is easy it drops to 1.2. The *t*-ratio on the interactive term is only .2.

Summary and Conclusions

Several findings emerge from this study. First, in general, the Federal Reserve does not change policy before elections to help incumbents get reelected. This conclusion, which agrees with most prior findings, does not mean that the Fed is apolitical. Rather, it suggests only that it is either unwilling, unable, or too cautious to become involved in preelectoral manipulation of the economy.

This should not be surprising. Much of the Fed's power rests on its perceived legitimacy, a legitimacy based on its performing a technical task in an apolitical manner which could easily be lost were it to gain a reputation for acting in a partisan manner. Also, the Fed's capability of implementing policies that often impose serious costs on the economy rests on its ability to explain policy (to the financial community) in what appears to be the politically neutral, technical language of economics. The Fed would lose much of its power if it came to be perceived as an agency similar to most other, partisan, agencies.[16]

The second finding is that party matters; when a Democrat is in the White House monetary policy is easier than when a Republican is there. Not all Republican presidents are associated with tight monetary policy nor are all Democratic presidents associated with easy policy; neither Kennedy nor Nixon fits this simple description. On the basis of monetary policy we can group the Eisenhower, Kennedy, Ford, and Reagan administrations as conservative and the Johnson, Nixon, and Carter administrations as liberal. This classification overlaps a classification based on party but is not identical to such a classification.

The Fed is not more liberal under Democratic presidents because it is more responsive to business cycle downturns and less worried about inflation than it is under Republicans; these factors cannot explain liberal monetary policy under Richard Nixon. Nor can appointment of a Fed chair explain this finding; Martin served under Democrats and Republicans and Burns was chair during the administrations of both Nixon and Ford.

The war in Vietnam can explain some of the results about fiscal ease. Wars are often financed by inflationary means, and the war in Vietnam was no exception. Monetary ease under both Johnson and Nixon may have been due more to the war in Vietnam than to any domestic policy preferences of those presidents. Figure 1 suggests that monetary policy eased some time after Johnson took office and that it tightened toward the

[16] Martin believed this so strongly that he avoided making any major policy changes in the preelection period. It must be stressed that this paragraph is about appearances and not necessarily about reality; no claim is being made that the Fed is in fact apolitical. See Woolley (1984) and Beck (1984c) for a more extended discussion of this issue.

end of the Nixon regime; this is consistent with an inflationary financing of wars, rather than an administration explanation of easy monetary policy.

These conclusions indicate that the party control theory of Hibbs is too simple. It cannot account for either the Kennedy or Nixon administration nor can it account for the Fed's shift towards monetarism and highly restrictive monetary policy during the latter part of the Carter administration. The party explanation of policy is a good first step, but it is no more than that.

The third finding is that in general there is covariation between fiscal and monetary policy; when fiscal policy is tight so is monetary policy. However, by the 1970s easy fiscal policy was often associated with tight monetary policy. This may have been caused by the Fed's independence or it may have been caused by presidential attempts to deal with the unpleasant problems of inflation through less visible monetary policy, while they attempted the politically pleasant task of cutting unemployment through more visible fiscal policy. Frey and Schneider's model of central bank dependence, like Hibbs's model, is only a good first step.

Why has the combination of tight monetary and easy fiscal policy become more common over the last decade? The conventional argument (see Calleo, 1982; and Kane, 1980) is that tight fiscal policy is politically costly to implement (from the perspective of both the president and Congress); for short periods of time, at least, tight monetary policy can be implemented. This is because the Fed enjoys political insulation which allows it to undertake policies that hurt; in addition, given the presumably technical nature of monetary policy, many people (and politicians) do not wish to devote enough resources to understanding monetary policy.

Why not always pursue tight monetary policy? The standard argument continues that through the 1960s the United States had enough power to pursue easy fiscal policy without tight monetary policy; the costs of America's easy economic policy were paid by foreign holders of dollars. Moving into the 1970s, however, the decline of American power made this policy impossible; we attempted to find a politically palatable mix of tight money and easy fiscal policy.

This view fits well with the modern theory of delegation (see Fiorina, 1982) which holds that Congress keeps to itself tasks that generate electoral benefits and delegates tasks that may cause electoral harm; the broadness of the delegation is directly proportional to the political harm that the delegated task may cause. Thus monetary policy, which may cause great political harm, leads to an extremely broad grant of authority from Congress to the Fed—so broad that the Fed is not even dependent on

Congress for its operating budget. No matter how broad the delegation, however, it is clearly from a superior to a dependent political body.

This position may be too simple.[17] It depends heavily on fooling the citizens. After all, Congress and especially the president can control monetary policy. Presumably, as monetary policy causes more pain then more political leaders will find it in their interest to understand how the Fed operates; it can hardly be accidental that in the recent past the Fed has become more and more the leading item in the daily news. Thus, it is possible that the combination of easy fiscal and tight monetary policy, which gives the appearance of a benevolent president combined with economic "soundness," may be inherently short lived; as political actors learn, blaming the Fed begins to lose some of its political advantage.

Second, this view assumes that monetary policy generates only bads; this is of course not true (or at least no more true than the statement that fiscal policy generates only bads). It also appears to assume that monetary policy can provide only collective, rather than particularistic, benefits; members of Congress, on the other hand, are interested in programs that can generate particularistic benefits. Monetary policy provides collective benefits at present because that is the way we have decided to conduct monetary policy. One could easily imagine a monetary policy based more on credit allocation (such as in France); at that point members of Congress could clearly benefit from becoming more active in the making of monetary policy.

It might be predicted that this seeming "independence" of the Fed in the 1970s and early 1980s will be a short-lived phenomenon, short lived because its political benefits will be eroded through learning and because there are other ways of making monetary policy that confer political benefits on members of Congress. Of course, this creates a new problem: domestic political pressures will then lead to both easy fiscal and monetary policy while international pressures will push in the opposite direction. In the absence of a politically invisible Fed, how will we resolve this dilemma?

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[17] See Beck (1984c, 1984d) for a more extended discussion of these issues.

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