

Selecting Monetary Targets in a Changing Financial Environment

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In the years since the Accord, the worlds of financial-intermediary competition and Federal Reserve **policymaking** have changed in many ways. But an awakening Rip Van Winkle would find one thing unaltered: the Fed's steady adherence to a **policymaking** strategy of intermediate targeting.

Such a strategy has three basic elements: policy instruments, intermediate policy targets, and policy goals. In principle, policy instruments are variables that the Fed controls absolutely, while policy goals are socially desirable developments that Fed officials are statutorily assigned to promote. Fed goals relate to various dimensions of good macroeconomic performance: low unemployment, price stability, a strong dollar, sustainable economic growth, and an improved distribution of income. The Fed's major macroeconomic instruments are reserve requirements, discount procedures, and securities transactions, but it controls a host of supplementary (and less broadly focused) instruments. These include regulation of deposit terms (shared since 1980 with the Depository Institutions Deregulation Committee), stock-market margin requirements, oversight of bank **holding-company** activities, and credit-allocation powers under various pieces of fair-credit legislation and the just-expired Credit Control Act. Mention should also be made of Fed officials' open-mouth policy: well-publicized declarations concerning the aims and future consequences of current policy actions.

As the name *intermediate* target implies, targets stand somewhere between instruments and goals. Target variables differ from goals in that hits are supposed to have little *direct* social benefit and misses are simpler to monitor and correct. A goal variable is an index of one aspect of macroeconomic welfare, such as the unemployment ratio or

the average rate of inflation in consumer prices. Hard information on goal variables becomes available infrequently (once a month or once a quarter) and even then observations lag behind events and remain subject to subsequent revisions in value. Because information on goal variables is dated, sparse, and unreliable, policymakers tend to identify alternative indices that can be tracked closely and that theory and empirical evidence agree should move in a predictable and forward-looking way with goal variables. The presumed linkage between movements in targets and current and future movements in goal variables lets targets serve as proxy variables. They are conceived as sighting devices that aid policymakers to take indirect aim on hard-to-track goals. This conception is illustrated in cartoon fashion in Figure 1, which is reproduced from Kane (1980). The policy instrument is portrayed as a cannon that aims proximately through the center of an intermediate-target tube that wheels and pivots to track a heat-seeking missile (intermediate target number two), which itself follows the tiny goal variable (more accurately, the current flock of goal variables) as it wings through the clouds. For those of you familiar with the video game *Missile Command*, the Fed may be said to manipulate its second target much as a *Missile Command* player uses the game's little blue airplane to plot a proper trajectory for rocket launchings from the player's missile base.

For its policy strategy to be complete, it is not enough for the Fed simply to list its instruments, targets, and goals. It must take two more steps: (1) it must spell out differences in the projected linkage between its targets and goals over time spans of different length, and (2) it must explain the feedback processes that lead it to alter the current settings [Brunner and Meltzer (1964), Guttentag (1966)] and even the *identities* of the intermediate targets it uses. But the Fed steadfastly refuses to traverse these additional steps. Only the first step in the feedback loop that links the three types of variables is laid out and this only for *very short* control periods and acknowledged current targets. Because it seems counterproductive economically, an incomplete control strategy must be politically useful to Fed officials (Kane, 1980). First, as Maisel (1973) explains, an incomplete strategy makes it easier to paper over internal dissent. Second, it minimizes the embarrassment Fed officials might feel in rapidly adapting Fed policy priorities to the ebb and flow of external political pressure.

This paper represents an attempt by an outsider to make sense out of

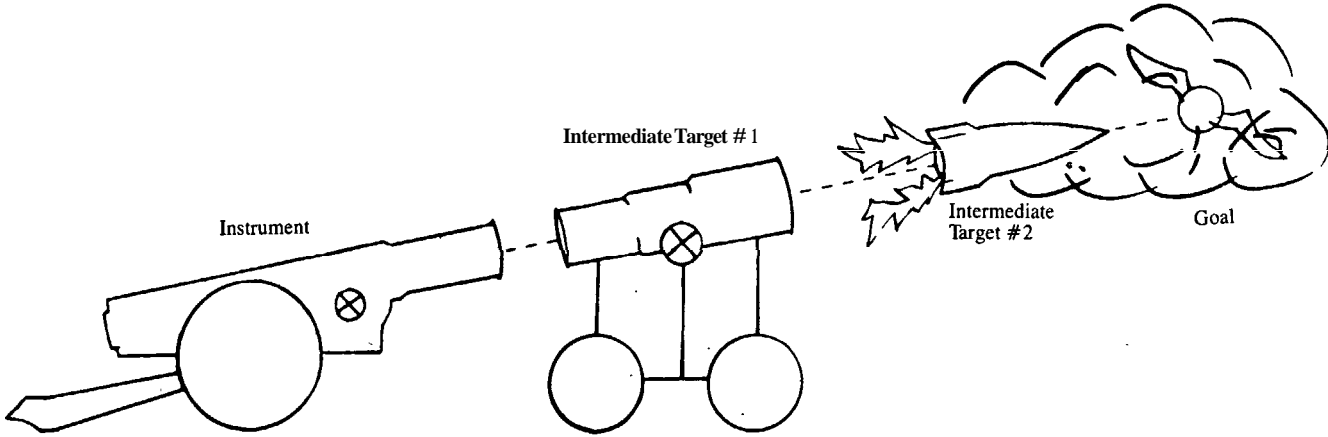


Figure 1
Aligning Instruments With Goals In a Policymaking
Framework That Uses Intermediate Targets

the nature and timing of revisions the Fed has made in the set of intermediate targets it pursues and in the operating procedures by which it pursues them. When only *economic* goals and constraints enter the formulation of the Fed's policy optimization problem, observed changes in Fed operating procedures typically seem overdue and at least mildly maladapted. Introducing *political* goals and constraints into the picture lets us portray changes in the framework of monetary policy as optimizing behavior by savvy but beleaguered agency managers.

Some readers may find the argument clearer if I cast it in algebraic terms. Let \mathbf{g}_e and \mathbf{g}_p stand for vectors of the Fed's economic and political goal variables, respectively. Let \mathbf{x} stand for the vector of Fed instruments and intermediate targets. Finally, let the matrices E and P express applicable economic and political constraints on the use of instruments and targets in pursuit of the respective goals. Traditional economic formulations of the Fed's decision problem hold that it should set \mathbf{x} to maximize an objective function $U(\mathbf{g}_e)$. This objective function is defined on purely economic goals, and the maximization is subject to economic constraints $E\mathbf{x} = \mathbf{g}_e$, given by the structure of the macroeconomy. I maintain that the Fed's decision problem has the following more complex structure:

$$\text{Maximize } U(\mathbf{g}_e, \mathbf{g}_p),$$

Subject to:

$$E\mathbf{x} = \mathbf{g}_e,$$

$$P\mathbf{x} = \mathbf{g}_p.$$

Efforts made in this paper to infer the identity of specific goals and constraints in particular eras are frankly speculative.

I. Desirable Properties for Intermediate Targets

For readers uncomfortable with analogies that aim weapons of mass destruction at animate targets, I can shift the metaphor to video games and to basketball. For what it's worth, basketball — which features a fixed goal, a moving shooter, and defensive reactions — is the context in which I first encountered intermediate targeting. In one gym our high school team visited, our opponents repeatedly swished shots through the basket from the half-court circle by aiming at a light fixture

in the ceiling. This temporarily disorienting experience taught me four important lessons about intermediate targeting. Targets are most helpful when they meet four conditions:

1. They replace a hard-to-sight or distant target by a "nearer" one.
2. They reduce the dimensionality of the sighting problem.
3. They remain in a fixed relation to the marksman's ultimate goal.
4. They open up an angle of fire against which opposing forces cannot easily defend.

For the intermediate targets proposed historically for use in U.S. monetary policymaking, these four characteristics are never simultaneously met. Choosing an intermediate target means accepting a particular set of tradeoffs among the four characteristics. Poole (1970) and Friedman (1975), along with many others, model the considerations that policymakers should examine in choosing between alternative target frameworks.

Tradeoffs actually made by Fed officials have to be inferred from the changes they make in the set of operative targets from time to time. They have regularly targeted at least two of the following three elements:

1. A measure of commercial-bank reserve positions.
2. The level and volatility of one or more short-term interest rates.
3. Since 1966, growth rates in various monetary and credit aggregates.

Given that random disturbances act upon macroeconomic relations, these three types of targets differ sharply in their "sightability" or nearness to Fed instruments. Excellent data on *nominal* interest rates are available instantaneously, while passable data on bank reserve positions (which for small deposit institutions are largely estimated) are available daily. Preliminary data on growth rates in monetary and credit aggregates develop weekly, but these figures contain substantial amounts of noise.

In addition, the linkages assumed are subject to instability in the short run and may change permanently with financial innovation. Over time; linkages between any instrument and specific economic goals vary both in lag structure and in cumulative magnitude.

We cannot rule out the possibility that, with expanded and well-designed sampling programs, goal variables such as actual and expected rates of growth in GNP, the rates of actual and expected price inflation, and the unemployment rate could be tracked more accurately

from week to week than growth rates in money and credit can. The central bank ought to devote more resources to investigating opportunities for replacing a system of intermediate targeting with a system that produces more-accurate current information on goals and on their expected future values.

Advocates of targeting monetary-aggregate growth rates typically lay claim to high scores on the second and third criteria: reduced dimensionality and predictable linkage to macroeconomic goals. Targeting monetary aggregates reduces the dimensionality of the FOMC's sighting problem in that it resolves policymakers' perennial dilemma as to whether to aim their instruments at inflation or unemployment in the short run. Monetarist economic models hold that well ordered monetary growth leads over time to convergence toward virtually every reasonable macroeconomic goal. In addition, monetarists have amassed a considerable body of empirical evidence on the sightability of alternative aggregates. Johannes and Rasche (1981) indicate that shifts in relations between monetary aggregates and an *appropriate* reserve instrument, such as the monetary base, are in practice easy to allow for. Finally, monetary growth rates are far less strongly defended politically than interest rates.

Targeting nominal interest rates or net unborrowed reserve positions scores poorly on linkage and defendedness. Economic and political adaptation to policymakers' use of these targets changes their economic significance. This adaptation illustrates the need to pay attention to the fourth criterion. Much financial change is contingent upon the particular policy actions initiated by the Fed. Microeconomic adaptations are undertaken defensively by any firm, government, or household that finds itself to be heavily burdened by the Fed's pursuit of a particular choice of targets (Kane, 1974). At the same time, these same parties also direct political pressure toward the Fed to give them a break in some way. In the aggregate, these adaptations scale back substantially the net linkage between given movements in the set of nearby targets and in the Fed's distant targets and ultimate goals. Defensive adaptations to actions framed proximately in terms of high *nominal* interest rates tend over time to induce procyclical movements in monetary growth and in the inflation rate, converting high nominal interest rates into low (or even negative) *real* rates. This occurs because discrepancies between actual and targeted monetary growth lead speculators to anticipate a change in FOMC interest-rate targets. The

Fed's temporary defense of its pre-existing targets produces preadjustment spurts in monetary growth rates. Before October 1979, the Fed was unwilling to force subsequent monetary growth rates low or high enough to offset such spurts.

Similarly, defensive adaptations to unborrowed-reserves or free-reserve targets tend, by greatly affecting the optimal level of borrowing from the Fed, to make initially plausible target levels consistent ultimately with procyclical movement in various monetary and credit aggregates (Gilbert and Resler, 1980). Finally, because of extensive tax and subsidy interventions into the process of producing money — differential reserve requirements, restrictions on explicit rates of interest payable on traditional forms of money, and inadequacies in the pricing of federal deposit insurance — the growth rate of substitutes for components of a targeted monetary aggregate tends to *surge* when growth in that aggregate is curbed and to *retreat* when growth in that aggregate is unleashed (Kane, 1979). Since 1965, the pace of institutional change alternately accelerated and decelerated with market rates of interest. Interacting with technological change, deposit-institution regulatory paradigms and Fed policies have hurried and shaped much of the financial change observed during the 1970s (Kane, 1981).

II. Evolution of Specific FOMC Targets During the 1960s and 1970s

Announcements concerning Fed targets are products of deliberations undertaken by the Federal Open Market Committee (FOMC). Until 1966, FOMC domestic-policy directives to the manager of the System Open Market Account targeted so-called money-market conditions. Monthly directives instructed the Account manager to buy or sell securities to control movements in a subset of target money-market variables: typically, an alleged index of the degree of slack in commercial-bank reserve positions and one or more short-term interest rates.

In effect, open-market operations aimed at developing and maintaining optimal money-market conditions. The rub lay in officials' inability either to establish predictable linkages between their money-market targets and recognized goal variables or to verify the optimality (ex post or ex ante) of the specific targets they chose to pursue. In addition, the tasks of determining both the current state of money markets and what open-market transactions were appropriate

passed in practice largely into the hands of the Account manager in New York. Critics charged that this bureaucratic division of labor resulted in "money-market myopia:" an obsessive concern for smoothing the cyclical course of short-term interest rates, leading to the neglect of slower-developing but more-important macroeconomic goals.

A. The Beginning of a Transition to A Monetary-Aggregates Strategy

Transition to what was advertised as a monetary-aggregates strategy began in June 1966. From a hard-headed perspective, this widely heralded transition has yet to be completed. The first step taken was the addition of a "proviso clause" to the FOMC directive. Reminiscent of still-another video game (*Breakout*), this clause informed the Account manager that prevailing money-market targets would need to be recalibrated if total bank credit (as proxied by member-bank deposits) broke out of an agreed-upon range of growth. Between formal FOMC meetings, recalibration was accomplished more or less at the discretion of the Account manager after telephone contact with various members of the FOMC. An intermeeting notification procedure was not yet a part of the directive.

In 1970, growth rates in designated monetary and credit aggregates officially graduated to the position of a trajectory-setting distant target. The Account manager was instructed to seek money-market conditions "consistent with" an objective of achieving modest growth in these aggregates. By 1972, target money-market conditions were expressed in terms of a reserve aggregate and the federal-funds rate (FFR). When cumulative daily figures on the reserve aggregate broke out of an assigned tolerance range, interim telephone meetings of the FOMC were called at the discretion of the Chairman of the Board of Governors to consider recalibrating the FFR target. Effectively, the first-line reserve aggregate (whose interpretation was greatly complicated by the Fed's reliance on lagged reserve accounting) functioned as a daily proxy for unobserved intraweekly growth in designated monetary aggregates that were themselves seen as proxying longer-term movements in goal variables.

I doubt that a video game whose targeting procedure was this complex could provide enough hits to satisfy an arcade owner's client

base. So it proved for the FOMC, who responded in the middle-1970s by steadily de-emphasizing the reserve-aggregate link between its FFR and monetary-growth targets. During the era, the Fed's game plan was to hold the FFR within a narrow range that according to staff research would prevent growth in *money demand* from breaking out of the latest target range set by the FOMC for growth in the supply of money (see Lombra and Moran, 1980).

In 1974, the FOMC began to report two-month target ranges (dubbed "tolerance ranges") for monetary-aggregate growth rates. Starting in May 1975, the Fed Chairman was requested (under House Concurrent Resolution No. 133), and later required, (under the **Humphrey-Hawkins Act**) to make a semiannual report to the House and Senate banking committees on the FOMC's target monetary growth rates over the next 12 months. It is widely understood that monetarist forces in Congress hoped that forcing the FOMC regularly to frame and defend its monetary-growth targets relative to a one-year policy horizon would serve as therapy against recurrence of FOMC money-market myopia. Between May 1975 and February 1981, Fed Chairmen presented semiannual reports at quarterly intervals, appearing before the House and Senate Committees in different calendar quarters. Since February 1981, Chairman Volcker has given what is essentially the same report to both committees in the same months. Target ranges selected by the FOMC are summarized in Table 1.

If one supposes that the midpoint of each range represents an acceptable point estimate of FOMC targets, one is led to suspect that outside forces frequently interfere with the Fed bureaucracy's ability to concentrate on its targets. Perhaps the equivalent of a video-arcade owner regularly pulled the plug on the Fed's machine whenever the FOMC threatened to accumulate a decent score.

B. October 1979 Change in FOMC Targeting Procedures

A special October 6, 1979 meeting of the FOMC reoriented the focus of subsequent policy directives as dramatically as a fateful trip to Damascus long ago altered St. Paul's attitude toward Christians. The FOMC's previous strategy combined tightly targeted bounds on the FFR with loose confines on monetary-aggregate growth rates. As shown in Table 2, the new strategy widened targeted bounds on the FFR and greatly narrowed them on monetary-aggregate growth rates. Subsequently, "reserve aggregates" elbowed the FFR out of its place

Table 1: Reports of 12-Month Target Ranges on Monetary Growth Rates First Requested by House Concurrent Resolution No. 133 (Quarterly through 1980, Semiannual Thereafter)

Reporting Date	Reported 12-Month Target Range (in percent)		
	MI	M2	M3
May, 1975	5.0 to 7.5	8.5 to 10.5	10.0 to 12.0
August, 1975	4.5 to 7.5	7.5 to 10.5	9.0 to 12.0
November, 1975	5.0 to 7.5	7.5 to 10.5	9.0 to 12.0
February, 1976	4.5 to 7.5	7.5 to 10.5	9.0 to 12.0
May, 1976	4.5 to 7.0	7.5 to 10.0	9.0 to 12.0
August, 1976	4.5 to 7.0	7.5 to 9.5	9.0 to 11.0
November, 1976	4.5 to 6.5	7.5 to 10.0	9.0 to 11.5
February, 1977	4.5 to 6.5	7.0 to 10.0	8.5 to 11.5
May, 1977	4.5 to 6.5	7.0 to 9.5	8.5 to 11.0
August, 1977	4.0 to 6.5	7.0 to 9.5	8.5 to 11.0
November, 1977	4.0 to 6.5	6.5 to 9.0	8.0 to 10.5
March, 1978	4.0 to 6.5	6.5 to 9.0	7.5 to 10.0
May, 1978	4.0 to 6.5	6.5 to 9.0	7.5 to 10.0
July, 1978	4.0 to 6.5	6.5 to 9.0	7.5 to 10.0
November, 1978	2.0 to 6.0	6.5 to 9.0	7.5 to 10.0
February, 1979	1.5 to 4.5	5.0 to 8.0	6.0 to 9.0
May, 1979	0 to 5.0	4.0 to 8.5	6.0 to 9.0
July, 1979	1.5 to 4.5	5.0 to 8.0	6.0 to 9.0
November, 1979	3.0 to 6.0	5.0 to 8.0	6.0 to 9.0
	MI-A	MI-B	
February, 1980	3.5 to 6.0**	4.0 to 6.5**	6.0 to 9.0
May, 1980	3.5 to 6.0	4.0 to 6.5	6.0 to 9.0
July, 1980	3.5 to 6.0	4.0 to 6.5	6.0 to 9.0
October, 1980	3.5 to 6.0	4.0 to 6.5	6.0 to 9.0
February, 1981	3.0 to 5.5	3.5 to 6.0	6.0 to 9.0
July, 1981	...	3.0 to 5.75#	6.0 to 9.0
February, 1982		2.5 to 5.5	6.0 to 9.0
July, 1982		2.5 to 5.5+	6.0 to 9.0+

Source: "Record of Policy Actions of the Federal Open Market Committee" in *Federal Reserve Bulletin* and *Annual Reports of the Board of Governors of the Federal Reserve System*.

Notes

*In 1978, Chairman Miller's testimony was delayed until March 13 by difficulties in clearing his appointment through the Senate Banking Committee.

**MI-A is the sum of two components. (1) demand Deposits at commercial banks other than those due to domestic banks, the U.S. government, and foreign banks and official institutions, less cash items in process of collection (CIPC), and (2) currency holdings outside the banking system and U.S. Treasury. (This definition parallels the previous definition of MI.) Separate tolerance ranges for MI-A were discontinued with the July, 1981 report.

MI-B collapses to MI in midyear 1982. It is defined as MI-A plus negotiable orders of withdrawal (NOW) accounts, automatic transfer service (ATS) accounts, credit-union share-draft accounts and demand deposits at mutual savings banks.

#This is calculated as the average of ranges set for 1981 and 1982.

TABLE 2

Short-Run Targets in the FOMC's Domestic Policy Directive
Between October, 1979 and December, 1981
(data in percentage points unless otherwise indicated)

FOMC Meeting Date	FOMC Short-Term Horizon for Monetary Control (in months)	Percentage Growth Targeted For				Intermeeting Range Targeted for Weekly Average FFR (in percent per annum)
		M1	M1-A	M1-B	M2	
October, 1979	4	4.5	—	—	7.5	11.5 to 15.5
November, 1979	2	5.0	—	—	8.5	11.5 to 15.5
January, 1980	3	4.0 to 5.0	—	—	7.0	11.5 to 15.5
February, 1980	3	—	4.5	5.0	6.5	11.5 to 18.0 ^a
March, 1980	6	—	4.5	5.0	7.75	13.0 to 20.0
April, 1980	6	—	4.5	5.0	6.75	10.5 ^a to 19.0
May, 1980	2	—	7.5 to 7.5	7.5 to 8.0	8.0	8.5 to 14.0
July, 1980	3	—	7.0	8.0	8.0	8.5 to 14.0
August, 1980	4	—	7.0	9.0	12.0	8.0 to 14.0
September, 1980	5	—	4.0	6.5	8.5	8.0 to 14.0
October, 1980	4	—	2.5	5.0	7.25	9.0 to 15.0
November, 1980	4	—	2.5	5.0	7.75	13.0 to 18.0 ^a
December, 1980	4	—	4.25 ^c	4.75 ^c	7.0	15.0 to 20.0
February, 1981	4	—	2.0 ^b	2.75 ^b	7.0	15.0 to 20.0
March, 1981	4	—	—	5.5	10.5	13.0 to 18.0 ^a
May, 1981	3	—	—	6.0	6.0	16.0 to 22.0
July, 1981	4	—	—	7.0	6.0 to 9.0+	15.0 to 21.0
August, 1981	4	—	—	7.0	6.0 to 9.0+	15.0 to 21.0
October, 1981	4	—	—	7.0	10.0+	12.0 to 17.0
November, 1981	3	—	—	7.0 ^c	11.0	11.0 to 15.0
December, 1981	5	—	—	4.0 to 5.0	9.0 to 10.0	10.0 to 14.0

Source: *Annual Reports*, Board of Governors of the Federal Reserve System

Notes

^aIndicates changes made in telephone votes taken subsequent to meeting date

^bAt an intermeeting telephone conference, the FOMC agreed to accept "some shortfall" in the growth of these aggregates.

^cIndicates beginning and end dates for undertaking "shift adjustments" in targets to abstract from the effect of introducing NOW accounts nationwide

as intermediate target number one, knocking it all the way into a subordinate proviso clause. Also, the FOMC lengthened the formal horizon within which short-run control is conceived and, consonant with this longer horizon, went on in 1981 to schedule its meetings at slightly less frequent intervals.

C. What Difference Has the Post-1979 Targeting Framework Made?

With continuing changes in the microeconomic structure of financial competition and with important regulatory and political changes taking place soon after, available data cannot support unambiguous inferences about the effects that the new targeting framework has had on national economic performance. Depending on which economic indices one emphasizes and on how one takes into account other potentially relevant developments, the change in FOMC policy framework can be portrayed as spectacularly successful, relatively unimportant, or absolutely disastrous in its effects.

From the vantage point of midyear 1982, we can only say that the change in targeting procedure has been followed by five macroeconomic developments:

1. Higher interest rates and growth in substitutes for traditional forms of money
2. Generally slower growth rates in the monetary base, M1, and real GNP.
3. An increase in the volatility of interest rates and in the growth rates of monetary aggregates and GNP.
4. Higher unemployment, bankruptcy, and foreclosure rates.
5. A substantial reduction in average rates of inflation.

To go on to attribute these developments to the FOMC's adoption of a new policymaking framework is to commit the logical fallacy of *post hoc*, ergo proper *hoc*. All good economists know better than to fall into this trap, but in the absence of a well-developed alternative theory it is permissible (by Occam's Razor) to employ an unsophisticated perspective simply as a working hypothesis. This paper maintains that changes in FOMC procedures cannot be the ultimate cause of anything. Changes in the Fed's targeting framework are best viewed as administrative responses to changes in economic and political pressures felt by

Fed officials.' In this view, the forces that account for the Fed's differential macroeconomic performance before and after October 6, 1979 emanate from its previous record of policy failure and from the sphere of national and international politics.'

III. The Fed and Political Pressure

A. The Fed Has Political as Well as Economic Goals

Since Congress and the President have been content *not* to force the Fed to adopt a complete strategy, one can infer that they too find advantages in incompleteness. The advantage that I see is that by leaving the Fed high command a substantial amount of ex ante discretion, elected officials leave themselves room to blame the Fed ex post for things that go wrong. This is what I call the "scapegoat theory of the Fed" (Kane, 1975 and 1980). Overseeing a complete strategy would undercut Fed 'independence' and implicate incumbent elected officials in monetary policy before the fact. Looking always toward the next election, holders of elective office prefer to position themselves so that they can choose after the fact which policies to claim and to disclaim. I maintain that the Fed is given just enough autonomy to serve as a plausible scapegoat for elected politicians and that this limited autonomy is bureaucratically desirable enough to make Fed officials work to preserve it. Fed leaders can protect themselves most easily by cultivating good relations with the President, because in a bind he has the power to veto Congressional attempts to attenuate Fed autonomy.

The Fed's autonomy gives it standing and credibility as an institutional force in the nation's political life. Since Fed officials draw personal prestige (both in and out of office) and job satisfaction from this standing, it is natural for these officials to value it. Although through time the Fed's success in promoting consensus economic goals largely determines its political standing, tradeoffs exist for Fed officials between future political standing, bureaucratic autonomy, and current macroeconomic performance.

Chairman Volcker is well aware that, in ten years under Chairmen Bums and Miller, the Fed squandered much of the credibility it had

1. I do not allege that these responses develop as a consequence of explicit calculation. External conditioning and subconscious calculation of costs and benefits are sufficient.

painstakingly built up during 18 years under Martin's stewardship. Burns' and Miller damaged the institution's credibility by overly "open-mouthing" the open-market operations the Fed perennially delivered. Strong pledges that the Fed will steadfastly continue to fight inflation are received too skeptically today to have much impact on rational expectations of inflation. Rational observers look with virtually X-ray vision through Fed promises and react instead to the potentially inflationary economic and political consequences that reside in the federal budget deficits projected for current and future years. They hypothesize that the growing national debt these deficits imply will be monetized if and when elected politicians become convinced that such a course would prove beneficial to them.

B. Political Pressure and Monetary-Policy Targeting

The need to promote its political goals makes Fed monetary-policy targeting a *political* as well as an economic exercise. In choosing its intermediate targets, the Fed acts under definite political constraints. In a sense, Fed targets choose themselves, when they emerge as variables into whose movements elected politicians and vocal interest groups read Fed errors of commission and omission. Fed officials show their sensitivity to public criticism in many ways, particularly in friction between the Board of Governors and presidents and research staffs of maverick Reserve banks. Any article scheduled to appear in a Reserve Bank's economic review must undergo a prepublication screening by the Board's staff. This screening focuses on a paper's economic and political content. Toma and Toma (1981) cite some regression evidence indicating that in the 1970s the *timing* of relative budgetary cutbacks at the St. Louis and Minneapolis Reserve banks is consistent with the hypothesis that officials of these banks may have been disciplined for publicly criticizing the dominant FOMC conception of how monetary policy works. However, this explanation needs to be tested against specific alternative hypotheses about changes in the division of labor across Reserve banks.

Economic variables that the White House, the Congress, and various interest groups believe that Fed officials *should* target cannot help but appeal to Fed officials as targets to monitor and pursue. Economic analysis (e.g., Friedman, 1975, and Gordon, 1982) has traditionally evaluated Fed targets in terms of the *firmness* and predictability of

hypothesized linkages between System instruments, System targets, and System goals. But to explain shifts in the targets actually used, the political costs and benefits of alternative targets desperately need to be brought into the analysis. Changes made in the operative set of intermediate targets are hard to explain without bringing their effects on popular and political support for the Fed as an institution (Mayer, 1982).

The Fed's policymaking environment may be conceived as an evolving set of economic and political constraints within which the agency's leadership seeks to maximize a stationary objective function. Changes in the set of operative constraints either may be *exogenous* to the Fed or may be the *intended* or *unintended result* of the policies it follows.

Among the most relevant exogenous changes are autonomous shifts in macroeconomic parameters and changes in the external and internal political environment:

1. Changes in the President or in his economic-policy priorities.
2. Changes in the composition of Congress, especially in the leadership of the Senate and House banking committees.
3. Changes in the Fed Chairmanship and, to a much lesser extent, in the membership of the Federal Open Market Committee.
4. Changes in the statutory powers and duties of the Fed.

Descriptions of the instruments and intended effects of Fed policy may be found in any money-and-banking textbook. Chief among the *unintended* effects of monetary policy are qualitatively predictable defensive adaptations in individuals' financial accounts and activities that serve in the aggregate to undermine the effectiveness of the specific policy actions the Fed takes. These adaptive reversal or *undoing effects* emerge as the cumulative result of reactive economic and political behavior by individual financial-services firms and their customers. This reactive behavior is designed to lessen the burdens that adjustments in policy instruments would otherwise thrust upon them. Undoing effects often greatly reduce the intended net impact of movements in Fed instruments. Of course, the precise pattern of undoing effects that unfolds differs according to the specific policy instruments the Fed uses and the particular intermediate targets through which it pursues its ultimate goals.

To model this dialectical process of doing and undoing, it is necessary to consider changes in the Fed's political and financial **environ-**

ment as components of a larger process of financial change. Changes in political restraints (such as the 1980 extension of Fed reserve-requirement powers to nonmember deposit institutions) change the optimal set of Fed targets. In turn, changes in Fed targets condition the nature of the undoing effects that take place. Finally, undoing effects that develop take their place as elements in the Fed's policy performance as this is perceived by those able to alter the political constraints imposed on the Fed.

I emphasize the existence of this general dialectic to clarify that, although money-supply targeting greatly speeds up growth in money substitutes (such as overnight and retail repos, money-market funds, and Eurodollars), neither the fact of such growth nor its limited predictability establishes a presumption against money-supply targeting. Arguments to this effect are often disguised statements of political opposition to the *distributional consequences* of money-stock targeting. Only by showing that undoing effects on goal variables would be lessened by using a specific alternative target (such as a credit aggregate or real interest rates) can a proper economic case be made.

C. Sources of Continuing Political Pressure for Targeting Interest Rates

Political restraints faced by the Fed reflect the current outcome of an ongoing *sectoral* struggle over the distribution of the costs and benefits of Fed policies. To sort out winners and losers in the game, it is necessary to make conjectures about the current attitudes of principal players toward the major macroeconomic changes that have occurred since October 6, 1979. My loose decoding of the flow of rhetorical statements appearing in the financial press supports the conjectures embodied in Table 3.

To me, the most striking aspect of the table is the correspondence between Reagan Administration attitudes and views expressed by Chairman Volcker in testifying before Congress. The two parties agree even to the extent of self-protectively blaming the deficit for unpopular macroeconomic developments. One also sees that, except for the President and a monetarist minority in Congress and academia, every sector listed would prefer a monetary policy that would immediately lower and stabilize (i.e., target) real interest rates. Builders and thrift


Table 3: Matrix of Conjectural Mid-1982 Attitudes of Affected Parties Toward Macroeconomic Developments Since October, 1979

<i>Affected Parties</i>	<i>Macroeconomic Developments</i>					
	<i>Cumulative Rise in Level of Real Interest Rates</i>	<i>Increased Interest Volatility</i>	<i>Lower Inflation Rare</i>	<i>Jumps in Unemployment, Bankruptcy, and Foreclosure Rates</i>	<i>Stronger Dollar</i>	<i>Larger Federal Budget Deficits</i>
Reagan Administration	Accept as a short-run cost for slowing inflation in long run	Dislike	Greatly like	Accept in short run for long-run benefits	Like	Like in part
Bulk of Congressional Incumbents	Dislike	Dislike	Like	Fear Greatly	Like	Like better than alternatives
Academic and Congressional Monetarists	Accept in short run for long-run benefits	Blame largely on defects in Fed operating procedures	Greatly like	Accept in short run for long-run benefits	Like	Dislike
World Central Bankers	Liked for awhile	Greatly dislike	Greatly like	See as a source of long-run benefits	Liked for awhile	Dislike
Thrift Institutions	Greatly dislike	Greatly dislike	Like	Dislike	Like	Like in part
Builders	Greatly dislike	Dislike	Unsure	Dislike	Dislike	L i e in part
Consumers	Dislike	Dislike	L i e	Dislike	L i e	Fear
Labor	Dislike	Dislike	Like	Greatly dislike	Dislike	Like in part

institutions complain loudly and tirelessly, as exemplified in the advocacy advertisements reproduced as Figures 2 and 3. The rational-expectations hypothesis implies that sponsors' willingness to expend resources to solicit letters to the Fed Chairman testifies to their belief that acts of political protest influence Fed policy choices. Even world central bankers — reputed to be the major players in the October 6 shift in FOMC priorities and procedures — would prefer now that the Fed shift to a combination of interest-rate and exchange-rate targets.

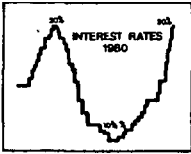
FIGURE 2

POISON · WARNING



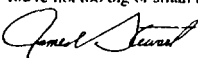
The interest rate policy of the Federal Reserve System
is driving the economy of the United States into self-destruction

You can help!
Write or wire your feelings to
The Honorable Paul A. Volcker
Chairman
Board of Governors
Federal Reserve System
Washington, D.C. 20551



And to your Congressman. Send us a copy if you can.

Speak up — if yw don't, nobody else will
You're not too big or small to count!



James Stewart is a member of the Board and Executive Officers
of the Lone Star Bank. He is not responsible for the views or opinions
expressed in this advertisement.


LONESTAR 
Member One in Central Serving America's Great Builders

FIGURE 3

"GOOD NEWS—

The Cost of Living is down!

The Fed's High-Interest-Rate Policy works!

Now you can all go back to work!"



**"HEY—
YOU'RE NOT
LISTENING!!!"**

Like you, Lone Star believes in fighting inflation—but not by starving the economy to death with high and erratic interest rates.

It takes a strong economy to achieve our national goals—to pay for our social programs and strengthened military defense. High interest rates have depressed our economy, and have kept it from reviving.

You Can Help

Write your own views on interest rates to your Congressman and Senators, and to The Honorable Paul A. Volcker, Chairman, Board of Governors, Federal Reserve System, Washington, D.C. 20551. Send us a copy if you can.

Your opinion—and your letter—are important.

James G. Thompson, Chairman of the Board and Chief Executive Officer
Lone Star Industries, Inc., One Corporate Plaza, Commerce & Cambridge City, TX 75426
Representing a group of over 1000 employees in a public utility industry.

LONESTAR

Member Chamber of Commerce Serving America's Great Business

To quiet a companion who was raving about the impressiveness of Niagara Falls, Oscar Wilde remarked that the scene would be far more impressive if the water flowed the other way. Many observers put just such a twist on the Fed's post-1979 de-emphasis of nominal interest rates. It would impress capital markets a good deal more if it did not hinge on the continued support of a President whose views on macroeconomic policy diverge sharply from those representative of Congress and of the pool of recognized aspirants to the oval office in 1984.

If the President were to withdraw his support for the current thrust of Fed policies, greater emphasis on targeting nominal interest rates would emerge soon **thereafter**.² **Lacking** either markets in indexed bonds and price-level futures or an in-place sample survey framework to collect timely information on market participants' expectations of inflation, **ex ante** real interest rates are not yet feasible targets.

IV. Contemporary Monetary-Policy Puzzles

When contemporary Fed watchers get together, two questions dominate the discussion. First, why have U.S. monetary aggregates proved so volatile under unborrowed-reserves targeting? Second, why have interest rates — particularly *short* rates — failed to decline substantially as the rate of price inflation has slowed?

A. Volatility of Monetary Growth Rates

Widespread political opposition to the interest-rate consequences of monetary targeting puts continual **political** pressure on the Fed to smooth at least day-to-day movements in interest rates. This pressure is reinforced by clientele pressure from banks to ease the particular cost burdens that monetary-stabilization actions place on them. Although banks' clout has been substantially lessened by the resolution of the Fed's membership problem established in the Depository Institutions Deregulation and Monetary Control Act of 1980, it remains an important source of political constraint on operating procedures the Fed may wish to adopt (Kane, 1982b). Taken together, these twin pressures account for the FFR proviso in the FOMC directive, for the Fed's targeting of *unborrowed* rather than total reserves, for its predominant setting of below-market discount rates, and for the Fed's reluctance in the face of prolonged Administration and Congressional criticism to jettison lagged reserve accounting³. These elements in the Fed's operating framework protect the **banking** industry from bearing on a day-to-day basis a larger share of uncertainty costs associated with changes in macroeconomic policy instruments. But spreading these

2. It might be observed that, when then-President Carter attacked Fed monetary targeting in **October** 1980, Fed watchers such as David Jones claimed to see a temporarily increased "**concern**" for interest-rate movements.

3. In July, the Board of Governors quieted this criticism by proposing to move toward contemporaneous accounting, but only after allowing still-another year for comment and analysis. Because this action only loosely constrains future Fed **reserve**-accounting procedures, this approach effectively tables the issue.

costs onto other sectors increases the amplitude of the temporary undoing effects in reserve and monetary-aggregate growth that develop when the Fed acts either to inject or to absorb unborrowed reserves.

Seeing a bureaucratically self-interested response to the specific political pressures exerted on the Fed is consistent with careful observers' description of the Fed's re-targeting exercise as one of "de-emphasis" rather than "abandonment" of interest-rate targets. The Fed's post-1979 strategy can be interpreted as one of focusing on not-yet-politicized reserve and monetary targets to create political room for itself to let real interest rates rise sharply. By widening the permissible band of variation in interest rates, the Fed importantly increased its ability to drive real interest rates high enough to act as an effect restraint on future inflation. Taking this perspective, Governor Henry Wallich was quoted in the November 14, 1980 issue of the *Wall Street Journal*, as specifically crediting the Fed's de-emphasis of its interest-rate targets with making it politically easier for the Fed "to rally determination" to push interest rates "as high as was necessary."

B. What Keeps Short-Term Interest Rates So High?

It turns out that the answer to the first question forms part of my answer to the second. To construct a satisfactory answer, one must first identify the multifold elements that observed interest rates actually price. Contemporary financial theory conceives of the *ex ante* nominal interest rate applicable to a particular financial contract as composed of at least five component elements:

1. An anticipated real after-tax rate of return (the *adjusted* interest rate or A-RATE) on the shortest available instrument free of default risk.
2. An allowance for anticipated inflation over the life of the contract.
3. An allowance (which can, in principle, be positive or negative) for the longer maturity of the given contract (an allowance whose value is greatly influenced by the perceived volatility of future interest and inflation rates).
4. An allowance for the risk that the issuer may default (an allowance whose value is also greatly influenced by the perceived volatility of future interest and inflation rates).
5. An allowance for the anticipated **tax** bite on the nominal return.

It is obvious that nominal short-term interest rates are historically very high. But this does not imply that the A-RATE is historically high as well. Evidence exists that several of the add-on allowances are extraordinarily high, too. We can see this by focusing on how recent macroeconomic events should have affected these premiums.

1. *Inflation Premiums.* Why might anticipated inflation subside at a much slower rate than observed disinflation? It is easy to explain the resistance of investor expectations to observed disinflation. After being misled repeatedly between 1965 and 1980 by elected and Federal Reserve politicians about the strength of governmental anti-inflation efforts, the average U.S. citizen has become exceedingly skeptical. He (and she) finds it hard to regard the recent slowdown in the rate of inflation as a permanent adjustment. Market participants are afraid to accept at face value the anti-inflationary policy promises being made by President Reagan and Chairman Volcker, especially in the face of intragovernmental disarray over the size of future budget deficits. Today, premiums for anticipated inflation almost surely increase with maturity. Given the distribution of political pressures, a good chance exists that, even if these gentlemen slavishly stick to their promises, they could be replaced by traditionally short-sighted politicians before very long.

'2. *Maturity Premiums.* Empirical research on term-structure theory is consistent with the view that maturity premiums represent allowances for lender portfolio risk and illiquidity, each of which ordinarily increases with maturity. However, increased interest-rate volatility and the possibility that permanent disinflation might actually be underway makes the maturity pattern of borrower and lender risks unusual today. If the Fed keeps its promises, more disinflation would occur than is rationally expected, so that long lenders would gain at the expense of long borrowers. Depending on how the odds sort out for marginal borrowers and lenders, the term-premium structure might currently have a negative slope. Corporate fears of loading up with long-term debt — debt that disinflation might subsequently reveal to be embarrassingly high-priced — puts short-term borrowing in great demand today.

3. *Volatility and Default Premiums.* We have already seen that interest volatility affects the maturity premium. Abstracting from default, a short-term loan may be conceived as an option purchased by the lender to roll his investment over at fresh rates at the next opportunity.

When the possibility of default is allowed, a loan may be regarded as an option sold by the lender that allows a borrower either to deliver a series of promised payments or to accept the penalties associated with default. Option pricing theory indicates that the value of such an option is positively related to the variability of the interest-sensitive and inflation-sensitive capitalized value of enterprises that the borrower may be called upon to forfeit. This effect has been reinforced by added protection against seizure of debtor assets provided under the **Bankruptcy Act of 1978**, which first went into effect in (you guessed it) October, 1979. The default premium impounded into a given interest rate may be conceived as the value of this option pro-rated over the life of the loan.

4. **Tax Premiums.** For otherwise equivalent securities, ratios of yields on tax-exempt and fully taxable securities rise with maturity (Fortune, 1973). This occurs because long-term securities must offer the same anticipated after-tax risk-adjusted yield as a pure capital-gains asset and effective (i.e., discounted) tax rates on capital-gains income fall with the length of the holding period (Kane, 1982a; Kormendi and Nagle, 1982). The interest-rate ratio is particularly low for short maturities. This occurs because favorable **capital-gains** tax treatment does not apply to any investment held less than a year (six months for commodity futures contracts). Data on short-term tax-exempt yields are hard to come by, but weekly yields on tax-exempt money-market funds are published weekly. We examined data for the four weeks ending June 18 and 25 and July 2 and 9. Over this period, seven of the shortest tax-exempt funds averaged about 9.5 weeks in maturity and 7.35 percent in yield. Even if investors expected inflation to average only 6 percent over subsequent 9.5-week periods, 7.35 percent converts (before adjustment for differential exposure to state and local taxes and for default risk) to an A-RATE of just 1.35 percent.

I also compared the 7.35-percent yield on tax-exempt MMFs with the average yield on five well-established MMFs whose asset maturities (which averaged 5.5 weeks) proved consistently longer than the typical taxable MMF. The ratio of average **tax-exempt** to taxable MMF yields was 53.5 percent. Abstracting from potential differences in inflation, maturity and default premiums, we may interpret this ratio as implying an effective tax rate of 46.5 percent on short-term investments. As an order-of-magnitude check for maturity effects, we may substitute yields on 60-day dealer-placed commercial-paper or CDs

into the denominator. This leads to even higher estimates, suggesting a marginal tax rate of 50 percent.

Using the 46 percent tax rate, a 16 percent prime rate promises only 8.64 percent after taxes. Next, we assume conservatively that the consensus estimates of per-quarter expected inflation cannot be less than 6 percent, and that prime borrowers (who are on average a good deal less creditworthy than they used to be) have at least a bit more default risk than issuers of dealer-placed commercial paper and funds composed of short-term tax-exempts. These assumptions produce what I regard as an upper-limit estimate of 2.5 percent for the three-month A-RATE.

This decomposition of market interest rates suggests that the question conventionally posed is misconceived. The problem is *not* that short-term A-RATES are high today, but that they were so low in the decade and a half prior to October 6, 1979. These low rates produce a legacy of **sectoral** distortions (especially in housing, consumer **durables**, and business inventories) that dominate the national economic scene today. The relevant analytic question is to explain how previous Fed policies of targeting a single nominal interest rate managed to hold the A-RATE so *low* for such a long time.

V. Summary

I doubt very much that systems that employ a multiplicity of intermediate targets constitute efficient ways to organize decisions about monetary policy. But if intermediate targets are to be used, it is hard to argue that U.S. experience since October 6, 1979, favors targeting nominal interest rates rather than reserve, credit, or money-supply aggregates. In any case, anyone who believes that Fed selection of intermediate targets turns principally on criteria of economic efficiency has an unsophisticatedly narrow view of the Fed's institutional decision problem.

Policy choices embody *political* compromises between goals desired by different sectors. Discretionary use of intermediate targets fuzzes over these compromises and lets them be made in a politically less stressful manner. Fed leaders' most important compromises are made between their need to respond to short-run political pressures and their desire to improve the long-run performance of the national economy. In a representative democracy, the tradeoffs monetary

policymakers must respond to the relative political influence of contending **sectoral** interests (Hetzel, 1982).

Fed spokespersons have continually affirmed their belief that the economic and political worlds change too rapidly for monetary policymakers to rely on an unchanging policy rule, or even to commit themselves to an explicit model of future linkages between instruments, targets, and goals. Nondiscretionary policy rules are brute-force ways to reduce the force of short-run political pressures. As a mechanism for ensuring consistent decisions over time, policy rules have clear economic appeal. **However**, a policy rule establishes time consistency only by boxing in the legitimate reaction of **sectoral** interests to incompletely foreseen policy burdens that such rules thrust upon them. The implied quasi-disenfranchisement of unanticipated losers could impose substantial long-run political costs on all players.

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