COWLES FOUNDATION FOR RESEARCH IN ECONOMICS
AT YALE UNIVERSITY

Box 2125, Yale Station
New Haven, Connecticut 06520

COWLES FOUNDATION DISCUSSION PAPER NO. 1187

MONETARY POLICY: RECENT THEORY AND PRACTICE

James Tobin

July 1998

Monetary Policy: Recent Theory and Practice

by

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Abstract

The paper reviews the major developments of the last three decades: the rise and fall of monetarism as theory and as targeting of intermediate monetary aggregates; targeting of nominal GDP in order to escape volatility of velocity of money; the abandonment of intermediate targets as superfluous; the use of money-market interest rates as operating procedure, except in the U.S.; their replacement by reserve aggregates in 1970–82; inflation stability and price level stability as policy objectives, often exclusive of other macro-economic goals; the U.S. Federal Reserve as aiming successfully at both low inflation and low unemployment, goals mandated by law; the rules–discretion debate; the necessity for rules conditional on economic states and the impossibility of anticipating all circumstances, thus the inevitability of discretion but in the spirit of rules; John Taylor's algebraic rule for the Federal Reserve, relating Federal Funds rate to inflation and unemployment deviation from goals.

The Demise of Monetarism

Milton Friedman's monetarism provoked hot debates on the conduct of monetary policy from the 1950s through the 1970s. The monetarists wanted the central bank to stop setting interest rates and instead to target growth in a monetary quantity, a stock of money by one or another definition, from the monetary base to intermediate aggregates as inclusive as M2 and M3. For hitting at least some of these monetary targets setting a money-market interest rate might be the operating mechanism. (The alternative could be quantitative control of the bank reserves portion of the monetary base, as practiced by the Federal Reserve 1979–82.)

Monetarist proposals differed in the horizon over which a money stock growth rate would be fixed. Friedman himself sometimes advocated setting it permanently, once for all at the estimated growth rate of the real economy. In practice, numerical money stock growth targets were reconsidered every year or even every quarter. The Full Employment and Balanced Growth Act of 1978, the "Humphrey-Hawkins" Act, required the Fed to report them to Congressional committees every six months. Thus they could themselves be intermediate instruments designed to achieve the broader economic goals of the legislation. The use of money stock targets spread throughout the central banks of the world. The main purpose was to overcome the inflationary bias alleged to result from operating by discretionary movements of interest rates.

In the last two decades the sway of mechanical monetarism of this kind faded away. A principal reason was institutional change, which made the velocities of the various M's even more variable and uncertain than they already were. Money substitutes multiplied, and definitions of M's couldn't keep up. Regulatory reforms and market developments allowed market-determined interest to be paid on deposits that had formerly been interest-free or subject to legal ceilings.

One proposal to avoid the problems created by volatility of money velocity V was to target nominal Gross Domestic Product, that is M times V, instead. The implicit terms of trade between rates of growth of price level P and real GDP Y, in responding to a shock to MV would then be one percent to one percent, and this might result in excessive short-run volatility of Y and P. This whole approach to monetary policy seems to have lost support, as it came to be understood that central banks did not need the discipline of intermediate M-growth targets to achieve more fundamental goals, including the control of inflation.

Current Orthodoxy in Monetary and Fiscal Policy

The dominant trend in the theory and practice of monetary policy over these last two decades has been its dedication to price stability. Central banks from New Zealand to the Finland have undertaken this commitment, either by mandates of their governments or by exercises of independent discretion granted them by their governments. Now the new European central bank will be bound by its charter to maintain the purchasing power of the *euro*, the coming single currency of the European Union (EU).

It is significant that these targets are stability of the price *level*, not of the rate of inflation. Inflation is not to be stabilized at a positive rate, by holding unemployment at the "natural rate" or the NAIRU (the "Non-Accelerating-Inflation Rate of Unemployment") — or at a negative rate either. No, it is to be stabilized at zero. This implies that any inflation that occurs as a result of supply or demand shocks, domestic or foreign, must be sooner or later expunged. A less draconian monetary strategy would accept price level increases resulting from big shocks as permanent and seek to avoid subsequent inflations. Even if inflation stability were accepted as a target, it is likely to be asymmetrical. That is, monetary policy would oppose a shock increasing the rate of inflation but would welcome a disinflationary shock.

The corollary to dedicating monetary policy to price stability is official indifference to real macro-economic outcomes — employment and unemployment, real domestic product and its growth rate. These are likely to be ignored or drastically subordinated in the priorities of most central banks today. At best, they will suffer from lexicographic ordering. That is, real outcomes become a policy concern only after the central bank, and the government too, are confident that the price stability target is met.

Fiscal policy, reflecting the same values and priorities, and the same macro theory, is also unavailable to stabilize real national output against cyclical fluctuations. The same orthodoxy that minimizes the role of real economic performance in monetary policy insists on fiscal discipline regardless of the state of the economy. Indeed, not only is active fiscal stimulus to reverse cyclical recession and promote recovery outlawed, but also active fiscal contraction is required to overcome

deficits that arise endogenously from recessions and feeble growth. Formal rules to enforce fiscal as well as monetary austerity in the coming *euro* regime of the EU are provided in the Treaty of Maastricht.

Under the Treaty the member states will have no autonomous macro policy instruments, not monetary policy, not exchange rate depreciation or appreciation, not budgetary policy. Their governments' debt interest rates will be those of the EU central bank plus allowances for maturities and risks reflecting judgments of rating agencies and financial markets. Absent the governmental, political, and fiscal institutions possessed by the authorities of federations like the United States, Canada, and Germany, the EU's macro policy will be limited to its central bank's tough stance. There are bound to be both Europe-wide and inter-regional shocks, both demand and supply. The architects of the new regime are placing extraordinary faith in the flexibility, mobility, and resourcefulness of the peoples of the continent.

The Bank of Japan has long followed monetarist policies, pursuing price stability via intermediate targets for non-inflationary growth of monetary aggregates. At the same time, the Japanese Ministry of Finance is extremely allergic to budget deficits, even those produced by economy-wide slowdowns. The Ministry especially disdains Keynesian counter-cyclical fiscal policies. Thus Japan, like Europe, eschews macro policy, in faith that the economy will achieve optimal results on its own.

Orthodox Macroeconomic Doctrine

The macroeconomic theories underlaying these policy rules are those of the anti-Keynesian counter-revolutions, Monetarism and the New Classical Macroeconomics. The fundamental proposition of these new orthodoxies is that real outcomes are invariant to price levels and inflation rates. Actually this was a pre-Keynesian old classical proposition, though more modestly interpreted to refer to long-run tendencies rather than to be literally true every day of the year. The old "classical dichotomy" is now read to mean not only that real outcomes cannot be improved by monetary policies that increase prices and inflation — you can't ride up Phillips's famous curve — but also to imply that counter-inflationary austerity will be costless in real income, consumption, and social welfare.

Acceptance of New Classical doctrine in official financial policy-making circles was mightily promoted by the unhappy macro-economic history of the 1970s. Prices accelerated first as a consequence of demand shocks from the Vietnam war, then as a result of supply shocks, the two oil price boosts of 1973–74 and 1978–79. Counter-inflationary monetary policies led to four recessions, in 1969–70, 1973–75, 1979–80, and 1981–82, and to postwar record highs in United States unemployment rates in 1975 and 1982. "Stagflation," the simultaneous occurrence of high unemployment and high inflation seemed to be a 180-degree refutation of Keynesian Phillips-curve predictions. In the New Classical version of these events, easy monetary policy — notably Federal Reserve expansionary measures in the election year of 1972 — received the blame. The supply shocks, unprecedented in peacetime, are completely omitted from the ideological histories of the period. Yet the deep and lengthy recessions that accompanied the central banks' concerted attacks on

inflation, beginning in 1979, were scarcely confirmations of the New Classical claim that disinflation is costless.

The United States, an Exception in Monetary Policy and in Results

The United States is a striking exception to the fashion of designating price stability as *the* target of monetary policy.

Faced with inflation rates above 10 percent in 1979, it is true, the Federal Reserve shifted its tactical operating instrument from money-market interest rates (the Treasury bill rate, and the market rate on overnight interbank loans of "federal funds" — bank reserve accounts in Federal Reserve Banks), to bank reserve aggregates. For three years 1979–82 the ultimate policy target of the "Fed" was to bring down inflation. By mid-1982 inflation had fallen to 5 percent and unemployment had risen from 6 percent to 10.5 percent. At this point the Fed under Chairman Paul Volcker reversed course, returned to its previous interest-rate operating procedure, and initiated and managed a six-year recovery, which reduced unemployment below 6 percent while inflation continued to decline.

Under Volcker's successor Alan Greenspan, United States monetary policy has continued to be balanced and pragmatic. It has been directed to reduction of unemployment rates and of the "gap" between potential and actual GDP, as well as to stabilization of inflation. Indeed Congress has mandated such an approach. The Employment Act of 1946 commits the Federal government, including the Federal Reserve System, to pursuit of "maximum employment, production, and purchasing power." The "Humphrey-Hawkins Act" specifically directs the Fed to aim at both unemployment and inflation goals. This Act's numerical targets, 4 percent for each, were long ignored as impractical, but now they don't seem so outlandish. Radical Right Republicans have in recent years introduced legislation to repeal these Acts and to replace them with a pure price stability mandate. The proposal has supporters within the Federal Reserve System and in private financial circles. However, it seems unlikely to be adopted, anyway so long as the economy's macro performance in the present regime continues to be so spectacularly successful.

In contrast to the United States, European and Japanese central banks and governments did not try to return to the high growth rates, with low unemployment and inflation, which characterized their spectacular quarter century of postwar reconstruction and prosperity 1947–1972. They did not even try to recover the real economic ground they lost in the 1970s and early 1980s. Instead they concentrated on eliminating the slightest chance of any resurgence of inflation. European unemployment has risen to 12 percent in 1997, compared to 4.7 percent in the United States. Inflation in Europe is no lower than in America.

Japanese unemployment numbers are chronically low, because redundant workers are kept on payrolls; but the increase in under-utilization of workers is comparable to Europe. Indeed Japan has managed to have a full-blown depression for the past four years, with periods of negative growth and negative inflation. As a result of lack of demand, not because of deliberate expansionary monetary policy, short interest rates have fallen virtually to zero. Thus monetary policy has become impotent,

even if the central bank should want to use it to rescue the economy. Thus has Keynes's *liquidity trap*, thought even by Keynes himself to be an anomalous and rare curiosity confined to severe depressions, come to life once more. The Finance Ministry, unwilling to fill the breach in aggregate demand and distressed by the fiscal cosmetics of a stagnant economy, acts perversely to raise taxes and cut spending. Japanese savers move the funds no one wants to borrow at home into dollars, causing the yen to depreciate (losing 40 percent of its dollar value since 1995), generating an ever larger trade surplus, welcome within Japan as needed demand but unwelcome to the U.S. and other trading partners. It would be hard to find a case of worse macro-economic policy. As terribly costly as it has been to Japan itself, it has been much more disastrous to other economies of East Asia, as events in late 1997 have shown.

Applying Rules with Discretion

"Rules versus discretion" in monetary policy has long been a topic of debate and research. In Tobin (1983), I argued that a mechanical rule blind to actual economic events and outcomes could not work, and for that reason alone would not be tolerated by central bankers, governments, and electorates. Any rule would have to be responsive to observed economic information. However, it would be impossible to anticipate all events that might require policy adjustments and to specify in advance the correct direction and size of the response to each. Actual responses would have to depend on the best estimates and judgments of the policy makers at the time — in that sense discretion. For this reason, I stressed, as I have here, the prime importance of choices of targets and operating procedures for monetary policy, rather than "rules," counting on the central bank to find, in varying circumstances, the ways of pursuing the goals.

According to John Taylor (1993), "If there is anything about which modern macroeconomics is clear. . . — and on which there is substantial consensus — it is that policy rules have major advantages over discretion in improving economic performance." At the same time Taylor interprets "rules" in a way that allows, indeed requires, large doses of discretion in their application. Starting from the side of the debate opposite to mine, he seems to arrive at the same place. Follow the spirit, the intent, of a rule, he says, and do not be bound by a particular quantitative formula. Use such a formula perhaps, but as just one element in the set of indicators considered in periodic decisions on settings of the operating variables of monetary policy, whether quantitative aggregates or interest rates.

A major reason for the modern consensus for rules over discretion, as Taylor remarks, is to sustain the "credibility" of the policy-makers, specifically avoiding "dynamic inconsistency." I have never believed that monetary policy makers are organically vulnerable to such irrationality or addicted to playing a deceitful game to override public preferences. I am sure that they do not consciously seek to mislead the public into expecting future price stability in order to fool workers into working more than they really wish to. On the contrary, central bankers are obsessively concerned with the future consequences of their actions and the possibility that something they do now will set a bad precedent. Anyway, Taylor agrees that formal rules are not essential to credibility.

Taylor suggests a simple monetary policy formula for the United States:

$$r = p + .5y + .5(p - 2) + 2$$

where r is the federal funds rate in percent per year.

p is the rate of inflation (of the GDP deflator) over the past four quarters.

y is the percent deviation of real GDP from target. Target GDP would be its value at full employment, i.e., NAIRU. Potential GDP in this sense has been growing at 2.2 to 2.5 percent per year. This "rule" embodies the balanced pragmatic two-goal policy I above attributed to the Fed since 1982. Taylor shows that his "rule" fits actual data quite well. As he recognizes and illustrates, nevertheless, its message has to be modified in case of observed or expected exogenous shocks, and the formula itself has to be corrected as new data accumulate. In fact, if the Fed had implemented his equation from 1993 through 1997, the economy would have suffered unnecessarily high unemployment and lost about two percent of GDP per year. The reason is that in 1993 and indeed until 1996 the NAIRU defining Potential Output was thought to be at least 6 percent, whereas in the event it turned out to be at most 5 percent and probably lower. Greenspan was right to use discretion, as new observations suggested that more output could be produced without inflationary danger.

The Mystery: Why and How Does Monetary Policy Rule the Economy?

The interest rate on overnight loans of federal funds is, as explained above, the Fed's instrument of policy. It is a market rate, which the Fed controls by buying or selling Treasury bills (in usual practice with agreements to repurchase them) at its intervention rate, nowadays publicly announced. At scheduled meetings eight times a year — and occasionally at other times — the Federal Reserve System's "Federal Open Market Committee" (FOMC) reconsiders and sometimes changes the intervention rate, generally by 25 or 50 basis points, rarely by more.

The tail wages the dog. By gently touching a tiny tail, Alan Greenspan wags the mammoth dog, the great American economy. Isn't that remarkable? The federal funds rate is the shortest of all interest rates, remote from the rates on assets and debts by which businesses and households finance real investment and consumption expenditures counted in GDP. Why does monetary policy work? How? It's a mystery, fully understood by neither central bankers nor economists.

There are two lines of explanation: substitution chains and policy expectations. Expectations are very powerful, but they cannot work unless chains of asset substitution really do occur. That is, FOMC actions today, in conjunction with other economic observations, convey information about future monetary policies and future federal funds rates and thus affect the entire current spectrum of interest rates and asset prices. The process involves reshufflings of portfolios in response to changes in market interest rates and asset prices, actual and expected: banks' reserves and loans; bank deposits, bonds, and equities; debt instruments, equities, and real properties.

It would do portfolio managers, entrepreneurs, and consumers no good to understand Alan Greenspan if his actions really do not matter — unless they matter *just* because everyone thinks they

do. We think we know that monetary policy is not just a bubble. We think we know from experience, as in 1931–33, 1973–74, 1979–83, that the Fed can if it wants take really big actions with immense consequences, and these demonstrations support the belief that even its modest everyday measures are important. That belief makes the central bank's job much easier. But it does not permit us, or the central bank, to expect precision from formula rules like Taylor's, as good as his is.

Why do the Federal Reserve and other central banks intervene only in financial markets for the shortest and most liquid nominal assets, those closest to the monetary base, far from the frontiers between financial markets and economic agents' expenditures on GDP goods and services? It was not always thus. In the past, central banks have discounted illiquid commercial loans, and even brokers' customer loans, and have conducted open market operations in long-term government bonds. In the present free-market mood of capitalist democracies, central banks want to be as unobtrusive and neutral as possible.

However, there are times when interventions closer to the real economy would be desirable. The present impasse in Japan is an example. Central bank operations in short safe liquid assets are mired in the "liquidity trap." Because of the unfavorable and risky business outlook and the unsound balance sheets of the banks, loans to businesses and households are expensive or unavailable. The Bank of Japan has operated in the stock market in the past, and maybe the time has come again for bold moves.

More generally, operations in long-term bonds could help get cyclical recoveries going when lenders are slow to reflect easing of short-term rates. Inflation-indexed government bonds are desirable instruments for open market operations, because they are closer to real goods and services than are nominal bonds. With fiscal policies no longer eligible for counter-cyclical stabilization, and with the globalization of financial markets threatening national financial sovereignty, innovative thinking about the tactics and structure of monetary operations is urgently needed. This is especially imperative in Europe, given the novel challenges facing the new EU central bank.

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