

INTEREST-RATE TARGETING DURING THE GREAT MODERATION: A REAPPRAISAL

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In the era that has come to be known as the “Great Moderation” (dating from the mid-1980s), the Federal Reserve’s policy committee (the Federal Open Market Committee or FOMC) pursued what has to be called a “learning-by-doing” strategy. The data that counted as relevant feedback—the unemployment rate and the inflation rate—seemed all along to be suggesting that the Fed was doing the right things. Even when the Fed lowered the Fed funds target to 1 percent in June 2003 and held it there for nearly a year, the economy appeared to be on an even keel and U.S. interest rates were in line with those in other countries. The historically low interest rates were attributed not to excessive monetary ease in the United States but to a worldwide increase in savings.

But then came the two-year-long ratcheting up of the Fed funds target from 1 percent on June 20, 2004 to 5.25 percent on June 29, 2006, to stave off inflation. The FOMC reversed course, in response to softening labor markets and increasingly troubled credit markets, and began an even steeper ratcheting down on September 18, 2006, so that by April 30, 2007, the Fed funds target was at 2 percent. Subprime mortgages revealed themselves as being particularly troublesome, after which it became increasingly clear that the cumulative effects of deep-rooted financial innovations in mortgage markets had been leveraged into an unsustainable boom.

Cato Journal, Vol. 29, No. 1 (Winter 2009). Copyright © Cato Institute. All rights reserved.

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The bust involved problems of illiquidity and insolvency for the whole financial sector. The full-blown financial crisis that is still unfolding provides ample evidence that the underlying weakness in credit markets had been developing for a number of years and that the learning part of the learning-by-doing policy formulation had been seriously degraded—most dramatically by the financial innovations in the business of mortgage lending and mortgage holding.

The initial response by Washington was not surprising. The goal was to cobble together some bold sequence of stopgap measures to keep the crisis—whatever its ultimate causes—from feeding on itself. We should have serious doubts, however, that Congress, whose legislative acts have made the financial sector (and particularly the secondary mortgage markets) so crisis-prone, is somehow able to deal effectively with the crisis's self-aggravating potential. There are also doubts that even the self-aggravating aspects of the crisis can be effectively countered by legislators who have no understanding—or, worse, a profound misunderstanding—of the nature of the problem. Claims that jumbo-sized bailouts will deal with the debilitating uncertainties in the financial sector ring hollow in view of the open-ended uncertainties about just how the bailouts will be financed and just how they will be administered. Claims that just “doing something” may counter the fear factor and cure the economy's financial-sector woes (as if “we have nothing to fear but fear itself”) are to be dismissed out of hand. In fact, the uncertainties about the timing, size, and particulars of the government's next “do-something” measure can only intensify the real fears that are immobilizing credit markets.

A meaningful response to our financial crisis will require a full understanding of the nature of the crisis and a willingness to follow through with institutional reforms. An essential part of those reforms should be based on a complete rethinking of the Federal Reserve's learning-by-doing strategy. The key issues here are (1) the Fed's ability—or inability—to pick the right interest rate target and (2) the appropriateness of relying on the unemployment rate and the inflation rate as the dominant indicators of the macroeconomic health of the economy.

The unemployment rate did not break out of the conventionally accepted 5–6 percent full employment band until August 2008 and the (year-over-year) inflation rate has stayed in the low-to-mid single digits. In ordinary times—or, at least, in times past—an unemploy-

ment and inflation scorecard like the one that characterized the Great Moderation could be displayed by the Federal Reserve with great pride. So dominant was this two-dimensional metric that one prominent economist (Phil Gramm) could look at the numbers in July 2008 and conclude, “We have become a nation of whiners.” Whatever economic concerns had somehow provoked the whining, the economy seemed to him to be fundamentally sound.

A Brief Flashback to an Earlier Crisis

A rethinking of Federal Reserve policy during the Great Moderation can benefit from some reflection on earlier times. Many macroeconomists of my generation cut their teeth on the question of “rules versus discretion” as applied to monetary policy. In the 1970s, the central bank seemed to have a genuine choice between (1) adopting a money-growth rule, as suggested by Milton Friedman’s monetarism, and (2) exercising discretion over interest rates, as prescribed by textbook Keynesianism. It could do one or the other but, of course, not both. The Fed had a firm grip on the supply of bank reserves, and almost as firm a grip on M1, the narrowest and most crisply defined monetary aggregate. In tranquil times, it could adjust reserves to get a desired change in the money supply or a desired change in short-term interest rates.

But tranquil times didn’t last. The monetary crisis of the late 1970s was a game-changer. Under the guidance of Fed chairman G. William Miller, the discretionary changes in credit conditions had culminated in a steep uphill race between inflation and nominal interest rates, ending ultimately with negative real rates and a regime change in October 1979. During the early years of the Volcker Fed, interest-rate targeting was out and money-supply targeting was in. As was expected, both nominal and real interest rates rose to unprecedented heights during the monetary tightening. They eventually came back down but not before bringing market forces and interest-rate regulations into serious conflict. Market-clearing rates of interest were dramatically higher than banks were allowed to offer to depositors. The legislative response to this stalemate between markets and regulators was the Depository Institutions Deregulation and Monetary Control Act of 1980. DIDMCA phased out the Federal Reserve’s Regulation Q, which, dating from the 1930s, had set interest-rate ceilings (zero percent for checking accounts) on bank deposits.

In retrospect, we see that the money-growth excesses during the Miller years led to legislative changes that effectively precluded the adoption of a viable money-growth rule. I have elsewhere (Garrison 2001) used the phrase “the irony of monetarism” to characterize the circumstances that gave meaning to (and hope for) Friedman’s monetary rule. The economy performs at its *laissez-faire* best if the money supply is made to grow at a rate that matches the economy’s long-run real growth rate. But this monetary rule cannot be implemented without one critical deviation from *laissez faire* (hence the irony). Essential to an operational monetary rule was the Fed’s Regulation Q, which ruled out the paying of interest on checking accounts as well as the writing of checks on savings accounts. Only with this artificially sharp distinction between no-yield money and no-check savings could the Federal Reserve define and control the money supply.

Deregulation had blurred the critical checking-savings boundary. With an indistinct money-supply target and with chronic misses on the high side, the Volcker Fed soon abandoned hopes for a Friedmansque money-growth rule; it reverted to interest-rate targeting in the early 1980s. Significantly, interest-rate targeting was not a matter of choice at that point; Volcker’s monetarist thinking had not been abandoned in favor of Keynesian thinking. But short of some major institutional reform, such as a decentralization of the money supply process (and, hence, a “market rule” instead of an interest-rate or money-growth rule), there simply was no alternative to interest-rate targeting. And almost unavoidably, monetarist thinking combined with interest-rate targeting gave rise to what I am calling a learning-by-doing approach to monetary policymaking.

By the time Alan Greenspan replaced Paul Volcker, the prospects for a viable money-growth rule had receded even further. An increasingly globalized economy meant increasing difficulty in determining just how much of the U.S. money supply was actually in the United States. The money-growth rule owes its significance to the equation of exchange, $MV=PQ$, where the quantity of money (M), the overall price level (P), and the economy’s real output (Q) all must pertain to the self-same economy. The fact that a large-but-unknown portion of the money supply, much of it currency, is abroad robs the equation of its usefulness as a ready guide for policy formulation. The substantial increase in variability of the calculated velocity of money

(DeLong 2000) suggests substantial variation in the degree of incommensurability of M and PQ, rather than increased variation in the actual frequency with which the U.S. dollar circulates through the U.S. economy. Arguably, the equation of exchange during the Great Moderation was more useful as a means of calculating, on the basis of an *assumed* stability of in-country velocity, the portion of the money supply that has left the country.

The difficulties of an indistinct definition of money along with the just-mentioned incommensurability problem has shifted focus from M1 to M2 or to even more inclusive Ms (so as to minimize the effect of the changing currency component), but there seems to be no monetary magnitude that allows the Federal Reserve's policy formulation to be guided in any meaningful way by money-supply considerations. When criticized by Richard Darman (budget director for Bush 41) for not following a monetary rule, Greenspan simply replied that his critic had some sadly out-of-date notions (Woodward 2000).

This retrospective is intended to suggest a certain parallel between the Miller-Volcker episode and the current (Greenspan-Bernanke) period. Just as the blurring of the money-supply definition virtually destroyed the viability a money-supply rule, the federal government's housing policy and attendant financial innovations during the Great Moderation have virtually destroyed the viability of interest-rate targeting.

The Era of Learning by Doing

Operationally speaking, there can be no interest-rate rule that stands with equal footing as an alternative to a (pre-DIDMCA) money-supply rule. Centralizing the business of money creation in an otherwise decentralized economy takes the money supply—or, at least, the monetary base—outside the nexus of the marketplace. Markets, then, must adjust themselves (no doubt with some adjustments involving much pain and suffering) to the centrally controlled money supply. By contrast, there is no way to effectively centralize the intertemporal aspect of an otherwise decentralized economy. Interest-rate determination remains in the province of the marketplace and, inflation premia aside, will tend toward the “natural” rate of interest, so named by Knut Wicksell ([1898] 1962). It is true, of course, that deviations from the natural rate can be induced by monetary policy, but such deviations are accompanied by a constellation

of market forces whose eventual consequence is to restore the natural rate.

The so-called Taylor Rule is an interest-rate rule in name only. The equation on which this rule is based was introduced by John Taylor (1993) as a data-based description of Federal Reserve policy. Tracking changes in the macroeconomy and the Federal Reserve's reaction to them, Taylor was able to demonstrate that the Fed's reactions were almost wholly determined by two very broad measures of macroeconomic maladies—namely, the shortfall, measured as a percentage, of the economy's actual output from full-employment output and the inflation rate over and above some mild inflationary trend of, say, 2 percent. We can symbolize the two maladies here as GAP_Q and GAP_P —the first gap reflecting the idleness of labor and other resources, the second gap being simply the actual inflation rate (P) minus the 2 percent target inflation rate. We can then write the equation for the Fed funds target:

$$(1) \text{ FED FUNDS TARGET} = P + 0.5(GAP_Q) + 0.5(GAP_P) + 2.$$

The final term in this equation recognizes—and locks in—an underlying real Fed funds target rate of 2 percent. (This rate is presumed to reflect the underlying natural rate of interest.) The first term is the inflation premium, which is simply the current inflation rate. Hence, for an economy that is currently gap-free—meaning full employment and 2 percent inflation—the Taylor-based nominal Fed funds target is $2 + 0 + 0 + 2 = 4$ percent.

Starting with this no-gaps baseline of 4 percent, the actual Fed funds target can be adjusted in the light of positive or negative gap terms. Straightforwardly, if only one of the gaps is non-zero, the Taylor Rule policy would be qualitatively consistent with principles-level Keynesianism: raise the rate to counter inflation; lower the rate to counter unemployment. If both gaps are non-zero, then it is the algebraic sum of the gap terms that drives (or, at least, describes) policymaking. On the basis of the relative sizes of the gaps together with the relative weights given to the two macromaladies (0.5 and 0.5 in the original Taylor equation), the Fed may move toward monetary ease or monetary tightening.

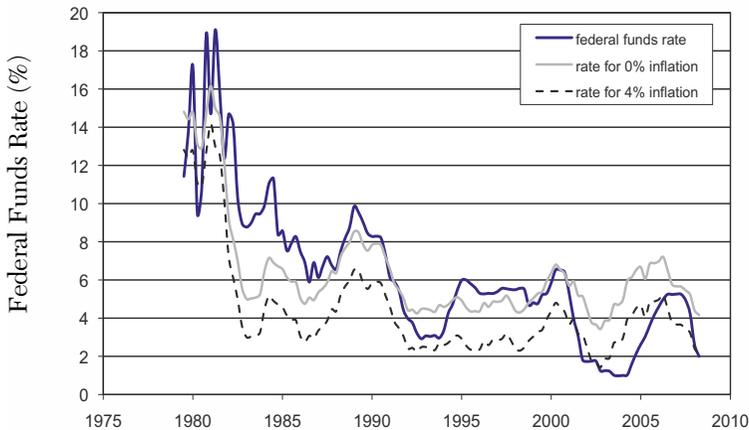
Significantly, Taylor introduced his equation not as a prescription for setting Fed policy but rather as a description of the Fed's past policy moves. Of course, if we can assume—from the vantage point of 1993—that the Fed would likely keep doing what it had been doing,

then the equation yields a prediction about future Fed policy. But how can the description and contingent prediction be transformed into a prescription? The transformation Taylor (1993: 208–9) suggested is revealing: “If the [Taylor Rule] comes so close to describing actual Federal Reserve behavior in recent years and if FOMC members believe that such performance was good and should be replicated in the future even under a different set of circumstances, then [such a] policy rule could become a guide for future discussions.”

In short, the Taylor Rule becomes the baseline for a learning-by-doing strategy. With enough confidence on the part of the Federal Reserve that its past decisions qualify collectively as a “good performance,” the Taylor Rule becomes a ready formula for it to keep doing what it has been doing.

We should recognize that the Federal Reserve has never explicitly endorsed the Taylor Rule. At most, we can say that, to a large extent, the Greenspan Fed behaved up through 1993 and for much of the next decade *as if* it were following the Taylor Rule. (Figure 1 tracks the end-of-quarter Fed funds rate together with a Taylor Rule band whose upper bound allows for no inflation and whose lower

FIGURE 1
ACTUAL FEDERAL FUNDS RATE RELATIVE TO THE TAYLOR
RULE BAND ALLOWING FOR 0–4 PERCENT INFLATION



SOURCE: St. Louis Federal Reserve Bank, *Monetary Trends*.

bound allows for a 4 percent inflation.) Though the FOMC may well have been engaged in some free-form weighing of labor-market conditions and inflationary pressures, it must have found some comfort in its conformity, by and large, with the Taylor Rule.

The greater issue is the appropriateness of a learning-by-doing strategy in controlling the intertemporal aspect of a market economy. From the vantage point of late 2008, the longer-run aspects of the economy's intertemporal dimension can be put in play in judging the merits of this or any other interest-rate rule. It may well have been that the Federal Reserve judged its performance as "good" in the pre-1993 period and hence set about to keep doing what it had been doing. But in a longer-run reckoning, the phrase "learning by doing" conceals a critical flaw in the strategy. A better term to describe the Federal Reserve's evaluation of its own policymaking would be "so far, so good" or even "whistling in the dark." The problem is that the "doing" occurs about once every six or seven weeks (when the FOMC decides anew about the Fed funds rate target), but the true learning happens maybe once each decade, when the cumulative effects of a centrally controlled interest rate disrupts the economy's market mechanisms on an economywide basis.

The Natural Rate of Interest and Risk Premia

As we have seen, the Taylor Rule or any other such interest-rate rule adopted by the monetary authority must allow for an underlying natural rate of interest. The natural rate, however, is a market-determined rate. In a decentralized market setting, it simply emerges as borrowers and lenders interact. Centralizing this aspect of the market economy puts the natural rate into eclipse (see Garrison 2006). As a Big Player sitting atop the credit-market pyramid, the Federal Reserve loses sight of the natural rate in the same way that a nationalized steel industry loses sight of the (natural) market prices that would otherwise guide the production of steel.

If the natural rate really is 2 percent and is (somehow) not subject to change, then the Taylor Rule, as set out above, takes adequate account of it. But, of course, the natural rate can change and, hence, can cause the Federal Reserve to choose the wrong Fed funds target. Accordingly, whether the Fed's aim is too low, too high, or just right is subject to various interpretations of the data in the light of a possibly changed natural rate.

As interpreted by Greenspan himself, the low rates of interest—and hence the low Fed funds rate—in 2003 and 2004 were attributable to a worldwide increase in saving (Greenspan 2008: 510). Income earners in developing parts of the world were enjoying rising incomes and had relatively high saving propensities. The flood of new saving put downward pressure on the (natural) rate of interest. Arguably, then, the clear departure of the Fed funds rate from the Taylor-rule during those years might plausibly be accounted for in terms of an adjustment by the Greenspan Fed for an exceedingly low natural rate. With this interpretation, Greenspan was simply following the market rates down. But this understanding would suggest that the altered market conditions (plentiful savings and a corresponding low natural rate) would prevail for some time. We would have expected those low rates and the corresponding rate of economic growth to be more-or-less sustainable. The subsequent increases in market rates suggest that they were not sustainable and cause us to look elsewhere for our understanding. As it turns out, an alternative interpretation is implicit in Greenspan's own discussion of the crisis.

The increase in world saving caused interest rates to fall. Investors, unsatisfied with low-yielding assets became increasingly tolerant of substantial risks in order to increase the yield on their investment dollars. To Greenspan (2008: 507), it was obvious the risks being borne, especially the risks associated with mortgaged-backed securities, were systematically underpriced. This view is integral to Greenspan's storyline. What, then, would be the consequences of at least some investors becoming concerned about the generally underpriced risks? Surely there would be a counter-movement, an increased willingness to hold less-risky securities—despite the fact that such a counter-movement would depress even further the yield on low-risk securities. As long as high-risk securities still reflect a general underpricing of risk, the Federal Reserve would be ill-equipped to make a timely distinction between the downward movement in Treasury bill rates due to revised risk perceptions on the part of some investors from a downward movement attributable to increased world saving. In other words, it would have been difficult for the Federal Reserve to know whether it was following the natural rate down or feeding a boom.

The difficulty is at least implicitly acknowledged by Greenspan himself. As he has repeatedly claimed, you don't know that you're in

a bubble until the bubble bursts. Yet, throughout the ascent of real estate values, claims made to this effect were interspersed with the contrary claim that he had tried (through a very modest monetary tightening) but failed to deflate the housing bubble (Fleckenstein 2008). Further, Greenspan (2008: 523) now suggests that the Fed was reluctant to end the boom (presumably with a bolder monetary tightening) because of the likely severe consequences for the financial system and for the macroeconomy generally. These circumstances created in the late stages of the housing bubble are memorably described by F. A. Hayek. The Fed's strategy of "learning-by-doing," "so-far-so-good," and "whistling in the dark" (my phrases) eventually ends with the Fed holding a "tiger by the tail" (Hayek 1972).

Greenspan's assortment of views (you don't know if you're in a bubble; you can't deflate the bubble; you shouldn't deflate the bubble) serve collectively as strong evidence of an internally conflicted Federal Reserve chairman. And they are also a direct reflection of an unnatural rate of interest and an internally conflicted economy.

It is the old Austrian story of boom and bust. For several years the low interest rates, including a year-long period with the Fed funds rate at 1 percent, were at odds with the underlying natural rate of interest. Interest-sensitive markets, and particularly the mortgage and housing markets, were driven by the extra-market stimulation. The economy generally was set off on an unsustainable growth path. Market mechanisms that could have corrected the growth path to better conform with economic realities were held in check by a central bank that was pursuing its learning-by-doing strategy and maintaining low interest rates that were in accord with obvious political realities. The learning process was guided primarily by the economy's overall performance as measured by such summary data as the inflation rate, the unemployment rate, and total output. But it was the market itself that issued the final grade on the quality of the learning during the Great Moderation—by its dramatic demonstration of the unsustainability of the Fed-led boom.

Legislation Set the Stage

The focus on the Federal Reserve as a basis for declaring the boom unsustainable and hence the crisis inevitable is not to downplay the significance of housing-related legislation in our understand-

ing the particulars of this cyclical episode. It was the legislation that set the stage on which the dynamics of the boom and bust episode played themselves out. Key features of the institutional and legislative environment were the government-sponsored enterprises Fannie Mae and Freddie Mac (created in 1938 and 1970) and the Community Reinvestment Act of 1977 (enacted during the Carter administration) as amended in 1995 (during the Clinton administration). Increasingly lax policies of the Federal Housing Administration (created in 1934) figure in as well.

Many business cycle theorists and historians have noted that each cyclical episode differs from all the earlier ones while there seem to be unmistakable similarities. The perspective provided here suggests that it is the central bank that is central to our general understanding of business cycles and that the particulars of any given episode are reflections of the times. But even with changing particulars, there is a general pattern. Policy-induced booms tend to ride piggyback on whatever economic developments are underway. In the 1920s, it was innovations—the mass production of automobiles; the development of chemicals, including cosmetics; rural electrification and hence the mass marketing of home appliances and the introduction of processed foods. In the 1990s, it was the many facets of the digital revolution. In this most recent episode, it was the overriding of the creditworthiness criteria for mortgage lending and the securitization of government-guaranteed mortgages. In each of the different episodes, the easy-money policies of the Federal Reserve leveraged—overleveraged—these developments, which otherwise would have been kept in bounds by market forces.

Lessons Learned

Legislative interventions that nullify market mechanisms for the sake of achieving social goals have perverse consequences. This is a lesson can be learned many times over whether well-meaning or ill-meaning interventions are in play. The current crisis in the markets for housing and for mortgages is an especially dramatic illustration of such perversities. The solution to this circumscribed aspect of the economywide crisis is as easy to set out as it would be difficult to implement, given the state of public opinion and the scope for political opportunism. First, government-backed guarantees for mortgage loans or for any other loans should be a thing of the past. They

stunt the market's ability to constrain the risk-taking behavior of both borrowers and lenders. Fannie Mae and Freddie Mac should be permanently eliminated from the scene. Second, regulatory practices that override considerations of creditworthiness with other, supposedly more socially responsible criteria for making mortgage loans or any other loans should be no part of the housing industry's future. In the end, the impersonal forces of the marketplace have a much more credible claim to being socially responsible than do the political forces that produce the override.

Lessons as they relate to the central bank are more problematic. Given the very fact of heavily centralized credit markets, the Federal Reserve is precluded from knowing what interest rate would prevail in a decentralized market. The natural rate of interest is obscured by the Federal Reserve's apparatus for managing interest rates—all the more so when yields on securities only dimly reflect the underlying risks. In the future, post-crisis period, the FOMC will be ill-advised to resume some learning-by-doing strategy. Interest-rate targeting should be ruled out on the basis of the cumulative evidence—namely, the Federal Reserve's dramatically demonstrated inability to target a Fed funds rate that is consistent with sustainable growth.

As recounted in the retrospective, the Federal Reserve has long since lost the ability even to identify an appropriate money-supply target. Nominally, at least, the Fed has maintained control over bank reserves, but neither targeting some interest rate nor targeting some monetary aggregate provides timely and unambiguous feedback about the cumulative effects of these policy actions. Once the current recession—of whatever depth and length—is behind us, there can be no simple return to normalcy. Money-supply targeting is operationally nonviable, and interest-rate targeting will be seen (by the market and, it is hoped, by the Fed) as nonviable. It would be all too facile, of course, to recommend that the Fed target the natural rate of interest. That would be wholly analogous to recommending that an old Soviet-style central planner adopt market prices.

The broader lesson in all this is one that gives us a greater appreciation of the perils of centralization and the merits of decentralization. The old Mises-Hayek theory of the business cycle, which looks beyond the simple two-dimensional metric of inflation and unemployment, allows us to understand how risk-related distortions in mortgage markets were leveraged by the Federal Reserve into an economywide

unsustainable boom. Executive and legislative attempts to stabilize the economy after the bust have decreased rather than increased our confidence that the economy's problems can be fixed by centralized authority. Both theory and evidence would seem to suggest that economic stability lies in the direction of monetary decentralization.

The decentralization of money, as proposed by Hayek (1976) and explored by Selgin and White (1994), has an increasingly strong claim on our attention. Concerns with political feasibility should be separated from the more fundamental reconsideration of a market-based money supply. In the light of our continuing experience with a bubble-prone central bank, we might well anticipate that a comparative-institutions analysis would favor a market solution to our money and credit problems. At the very least, a better understanding of the workings of a decentralized monetary system would help identify the perils and pitfalls of continued centralization.

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