Behind Closed Doors:
The Political Economy of
Central Banking in the United States

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BEHIND CLOSED DOORS: THE POLITICAL ECONOMY OF CENTRAL BANKING IN THE UNITED STATES

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1. INTRODUCTION

Since the failed attempt to control inflation by targeting the growth of monetary aggregates in the late 1970s and early 1980s – the infamous Monetarist Experiment – the Federal Reserve ('the Fed') has explored the use of various policy guides, including price indices, gold prices, indicators of future price levels (e.g. P-star), surveys of expected inflation, Taylor rules and equilibrium "real" interest rates (Wray, 2004). Each was used, with varying degrees of success, to assist the Fed in carrying out its dual mandate – the promotion of price stability and maximum employment.[1] The purpose of this paper is to examine the central bank's changing philosophy regarding how best to pursue these objectives during the 1990s.

[1] Other central banks – e.g. the Bank of Canada, the Bank of England and the ECB – have hierarchical mandates, which single out price stability as the principal objective and allow other objectives to be pursued only once price stability has been achieved. Many countries pursue price stability through a framework characterized as inflation targeting (IT). See Fontanta and Palacio-Vera (2002) or Le Heron and Carre (2004) for more on the (IT) framework.

Two questions are of central importance. First, what kinds of institutional reforms (i.e. changes in instruments and practices) affected the way in which the Fed crafted policy during this era? Here, the focus will be on two key changes, implemented in the 1990s, as a means of enhancing the effectiveness of the central bank's policy. Second, we ask whether the central bank's changing practices were driven by changing economic conditions or by a greater acceptance of a common intellectual framework regarding what central banks can and should do as well as how best to achieve their goals. Our concern here is with the tension between the 'New Consensus' and the 'New Economy' and the manner in which the Fed crafted policy during a period in which supply-side improvements appeared to be changing the rules of the game.

To gain insight into the above, we rely on the Fed's own ruminations and policy deliberations, as captured in the published transcripts from its secret closed door meetings.[2] Thus, rather that attempting to *infer* its motivations from observed policy actions, the focus will be on the direct testimony contained in transcripts of the Fed's deliberations. The testimony contained in these transcripts provides a behind-the-scenes look at the Fed's own assessment of economic conditions, the models it uses to predict future conditions (e.g. inflationary pressures) and the justification (theoretical or instinctual) for its ultimate policy moves. It is presumed that, short of acquiring a seat on the Board of Governors, the best way to understand the political economy of central banking is to proceed *as if* we sat "behind closed doors".

[2] The Fed releases these transcripts with a five-year lag.

2. THE FED'S THEORETICAL APPROACH TO POLICYMAKING IN THE 1990s

During the 1990s, the Fed's own philosophy regarding monetary policy operations underwent several changes.[3] Specifically, the Fed made three important changes to the way in which it communicates with the public. The first two changes occurred in 1994. First, the Fed began to release transcripts and other materials from the closed-door meetings of the Federal Open Market Committee (FOMC).[4] By releasing these transcripts, which provide a complete record of the dialogue that takes place during the Committee's policy deliberations, the FOMC increased the transparency of its policy actions.[5] Second, the Fed became more forthcoming about the precise degree of interest rate pressure sought by the Open Market Committee. From 1983, the Committee issued operating instructions, known as the "directive," to the Open Market Trading Desk at the Federal Reserve Bank (FRB) of New York. Prior to 1994, the directive would simply indicate whether the Fed sought to increase or decrease the "degree of pressure" on the overnight lending rate, never specifying a precise target for the federal funds rate (FFR). Beginning in 1994, the Fed became more forthcoming, telling the public the *exact* funds

[3] Wray (2004) argues that the Fed implemented at least one of these changes in response to pressure by legislators – especially from Representative Henry Gonzalez – who thought the Fed's operations had become too mystifying.

[4] The FOMC, the Federal Reserve System's (FRS) principal monetary policy-making body, consists of the seven members of the Board of Governors of the FRS and all twelve Federal Reserve Bank (FRB) presidents. The chairman of the Fed serves as chairman of the FOMC, and the president of the New York Fed serves as its vice chairman. The vice chairman is a permanent voting member, while the voting rights of the other Bank presidents rotate among them on a fixed schedule – only four of the remaining 11 Bank presidents have voting status at any time.

[5] The Fed insists on delaying the release of these transcripts for five years so that it is not possible to discern, for example, exactly how the FOMC arrived at its most recent policy decision(s). The Fed insists that the lagged release is necessary to prevent markets from overreacting to any particular line of discussion, thereby interfering with current policy objectives.

rate the central bank sought to target. The last important change in the Fed's operating procedures occurred in 1999, when the central bank sought to further enhance its communication with the public by once again changing its disclosure procedures. To better transmit its outlook to the public, the Fed agreed to convey its "policy tilt" or "policy bias" in order to indicate whether the Fed perceived a greater chance of a rate hike or a rate cut during the intermeeting period.[6] Below, we utilize the FOMC transcripts to evaluate the Fed's philosophy regarding the way in which its modified instruments – the announcement of a precise FFR and the policy "tilt" – should, in theory, be used to achieve its dual mandate of price stability and maximum employment.[7]

2.A. The Federal Funds Rate and the Macro Economy

After the failed "monetarist experiment" conducted by Chairman Volker in the late 1970s and early 1980s, the Fed returned to return to a policy of using the FFR as the dominant instrument of monetary policy. And, even though Federal Reserve Board Governor Laurence Meyer (2001) has conceded that there is no simple transmission mechanism through which aggregate demand responds to changes in the FFR, it is clear from the transcripts that the FOMC believes that the FFR primarily affects the macro economy through two important channels: the 'demand channel' and the 'expectations channel'

[6] In the fall of 1998, the Fed established a pattern of adjusting rates during the intermeeting period (i.e. the period between regularly scheduled meetings of the FOMC). When the Committee adopted the "bias" language in 1999, the objective was to convey to markets the *relative* chance of rate change during the forthcoming intermeeting period.

[7] In the United States, the legislature defines no precise target for inflation or (un)employment. This gives the Fed greater flexibility than banks that operate under a sole mandate (e.g. the Bank of England and the Bank of Japan) with a precise inflation target, but it also complicates the policymakers' job because multiple objectives often carry trade-offs, particularly in the short-run.

(Mosler, 2004; Arestis and McCombie 2005). Below, we examine the Fed's current thinking on interest rates.

The Fed believes that its interest rate policy can be accommodative, restrictive, or 'neutral.' An accommodative (restrictive) stance will generate (relieve) inflationary pressures as new borrowing and spending reduce (increase) the size of the output gap.[8] Working through this 'demand channel,' accommodative policy generates inflation by increasing aggregate demand and hence reducing the degree of slack in the economy.[9] As the Fed sees it, its job is to continually assess economic conditions in order to determine how much tightening/easing is needed to properly manage the degree of slack in the economy:

> How do we know when an economy is overheating? We cannot tell from the rate of economic growth by itself. . . . We cannot tell until we look at the combination of aggregate supply and aggregate demand. The reduced form view of this is whether or not we have slack in the product and/or the labor markets.
>
> If we have a situation in which effective demand exceeds potential supply, then prices rise. If it is the other way around, they fall (Greenspan, Transcript, June, pp. 85-86).

In the late 1990s and again beginning in late 2004, the Fed began gradually raising the FFR (¼ percent at a time) in order to reverse a policy stance that it believed had become too accommodative. In the late 1990s, as now, the goal was to gradually move to a more 'neutral' position. In practice, this has meant moving toward a FFR that was neither

[8] The output gap measures the difference between potential GDP and actual GDP. The output gap is often considered a proxy for the degree of 'slack' in the economy.

[9] According to Dalziel, "central banks around the world are self-consciously engaged in aggregate demand fine-tuning to a degree that was previously unimaginable, even during the golden age of Keynesian macroeconomics in the 1950s and 1960s" (2002, p. 519).

accommodative nor restrictive.[10] The Fed believes that once the FFR reaches its 'neutral' rate – a rate the FOMC readily admits it cannot know until it is discovered – price stability should prevail, and there should be no inflationary pressure working through the 'demand channel.'[11]

Similarly, the Fed believes that a 'neutral' rate of interest will prevent rising inflation via the 'expectations channel.' As Greenspan has defined it, price stability exists "when economic agents no longer take account of the prospective change in the general price level in their economic decision-making" (Greenspan, 2001, p. 2). As a counter example, consider what happens when the Fed adopts an accommodative stance. The Fed believes that inflation expectations respond to the degree of monetary ease so that an accommodative stance fuels rising inflationary expectations. Market participants incorporate these expectations into their decision-making process, sparking inflationary pressure as the anticipation of higher prices leads to the bidding up of wages and an attempt to make purchases before prices begin to rise. But the 'expectations channel' becomes impotent when the Fed's interest rate policy is 'neutral' as people no longer take inflation into account when making decisions.

In terms of the Fed's strategy for achieving 'neutrality,' it is clear from the transcripts that the Fed believes that "monetary policy is not unlike a military campaign. It involves strategy, tactics, uncertain information, and a rapidly changing environment"

[10] The Fed believes that a negative real rate (i.e. the FFR minus the core CPI) is always accommodative, though it offers no precise definition for the 'neutral' rate of interest, arguing that it varies across time and place.

[11] One critic of the Fed's 'neutral rate' strategy recently quipped, "[t]he Fed offers as justification for rate hikes an unknown neutral rate that is supposedly above the FFR, along with the promise that once the FFR gets to the neutral rate, the Fed will be able to recognize this achievement. Can policymaking become more convoluted than that?" (Wray, 2004, p. 3).

(Broaddus, Transcript, June, p. 99). In practice, this means that the Fed must begin moving interest rates several quarters before it desires to achieve neutrality because of the lags with which monetary policy operates. Thus, when the Fed believes that its policy has become too accommodative, it will begin a campaign of gradual rate hikes even before it has any actual evidence of increasing inflationary pressure. By raising the FFR preemptively, the Fed is attempting to coordinate the delay in the effects of its operations with forecasts of inflationary pressure so that markets react to its policy at the appropriate time:

> If there is little economic slack, as measured, say, by unemployment and discouraged workers, and if there are lags in monetary policy, the main way the Fed can control inflation is to control growth – that is, to keep the prospective growth in aggregate demand close to that of aggregate supply (Gramlich, Transcript, June 1999, p. 59).

Implicit in Governor Gramlich's statement is the theoretical construct known as the NAIRU – the Non-Accelerating Inflationary Rate of Unemployment. Here, the idea is that too much growth, as indicated by the existence of too little unemployment, will cause inflation to accelerate. Thus, just as there is some 'neutral' rate of interest that will stabilize inflation expectations, there is an implied level of unemployment (the NAIRU) that is 'neutral' with respect to the price level (i.e. neither inflationary nor deflationary).

In short, the Fed's philosophy regarding policymaking in the 1990s reflected a belief in the notion that inflation is "fundamentally a monetary phenomenon" (Greenspan, Transcript, February 1999, p. 78) and that with the appropriate degree of restraint in the FFR the Fed can achieve price stability.

2.B. The Tilt, the Markets and the Frustration of the Fed

It is clear from the transcripts that the Fed believes that monetary policy works not only through setting the *current* FFR but also through its impact on expectations regarding the *future direction* of its policy rate:

> Beyond the action you choose today, there are three mechanisms available to convey your message to financial markets: the wording of the accompanying announcement, the tilt to the directive, and the tone of Chairman Greenspan's Humphrey-Hawkins testimony in three weeks (Kohn, Transcript, June, p. 71).

It is also clear that "Fed watchers" will do whatever they can to extract information from policymakers' speeches, testimony, statements, etc. as they prognosticate about the direction of future policy moves. Indeed, as Governor Gramlich noted, only half tongue-in-cheek, Greenspan could "change long-term interest rates by 25 basis points, if he wanted to, by just frowning in a certain way!" (Transcript, March, 1999, p. 45). Of course, if financial markets read the signals incorrectly, the policy decision becomes complicated, as the Fed must decide whether to deliver the move that markets anticipate or run the risk of disrupting markets by surprising them, an action that can be particularly undesirable when financial markets are already wary.

An understanding of this dilemma led to the notion that policy effectiveness depends crucially on the central bank's ability to accurately communicate its policy goals and its outlook regarding the likelihood of future rate moves. In 1999, the Fed decided to immediately inform markets when it changed its view regarding prospective developments. The information was conveyed in a statement, released by the FOMC, in which the Committee indicated its "policy tilt" or "policy bias." The "tilt" was intended to prepare markets for future moves by indicating the Fed's estimation of the *relative*

chance of an increase (decrease) in the FFR in the period ahead. If, for example, the Fed believed that its next move was more likely to be a rate hike than a rate cut, it would announce an asymmetrical tilt (or bias) toward tightening.[12] If, in contrast, conditions were such that the Fed did not perceive the probability of a future move – in either direction – as relatively more likely, it would announce a symmetrical posture.

In sum, the Fed theorized that policy effectiveness was dependent on the degree to which the FOMC successfully communicated its outlook regarding the likelihood of future rate moves. In the late 1990s policymaking was guided by the belief that policy effectiveness could be improved by immediately announcing any change in the Committee's 'bias.'[13]

3. WHEN THEORY AND REALITY COLLIDE: THE 'NEW CONSENSUS' AND THE 'NEW ECONOMY'

Recent developments in mainstream economic theory have embraced the short-run non-neutrality of money, with a consensus forming around the idea that central banks can directly manage the economy by manipulating the rate of interest (Clarida et al. 1999; Svensson 1999). This intellectual convergence regarding both the goals (price stability) and methods (using the short-term interest rate as the main instrument of policy) of monetary policy has been dubbed the 'new consensus' by monetary economists.

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[12] For more on the use of the asymmetric directive, see Thornton and Wheelock (2000).
[13] The Fed used its new instrument twice in 1999 and, each time, markets overreacted to the announcement of a change in the "bias," causing long-term interest rates to move up in anticipation of an *imminent* Fed move. Confused and frustrated by the market's reactions, the Fed changed its announcement procedure in January 2000, extending its time horizon and offering a slightly more ambiguous assessment of "the balance of risks" with respect to the attainment of its dual mandate. With this change, the Fed hoped to retain the image of transparency without causing markets to overreact by attaching a high degree of immediacy and certainty to future actions.

According to this 'new consensus' view, inflation results when aggregate demand growth outpaces aggregate supply growth, something that can be prevented through adjustments in the short-term rate of interest. Thus, higher (lower) interest rates lead to less (more) borrowing and spending, which reduces (increases) the rate of inflation through the 'demand channel.' But inflation can also be propagated via the 'expectations channel,' as an accommodative stance fuels rising inflation expectations, which intensifies the demand for higher wages. The purpose of this section is to examine the way in which the Fed actually crafted policy during the so-called 'new economy' era.

3A. Taylor Rules and the Fed's Assessment of their Usefulness

With much of the intellectual community rallying around the 'new consensus' view, economists began searching for new rules to guide the implementation of monetary policy. The most influential of these has been the Taylor rule, which calls for changes in the short-term interest rate in response to changes of the price level or real income. Specifically, the Taylor rule holds that the nominal interest rate should be set in accordance with the following formula:

$$r = r^* + \pi_{-1} + \alpha_y(y-y^*/y^*) + \alpha_\pi(\pi-\pi^*),$$

where

r = the short term nominal interest rate (the FFR)
r^* = the "equilibrium" rate (assumed to be close to the steady-state growth rate)
π_{-1} = the rate of inflation over the past four quarters (considered a proxy for expected inflation)
α_y and α_π are the policy reaction coefficients
y = current output
y^* = trend level of output (or maximum sustainable output)
π = actual inflation
π^* = the target rate of inflation

With positive weights assigned to both α_y and α_π, the Taylor rule calls for an increase in the FFR whenever inflation increases above its target rate or real GDP rises above potential.[14] When the output and inflation gaps are nil, the Taylor rule asserts that the FOMC should set the FFR equal to the "equilibrium" real rate, which approximates the economy's steady-state growth rate.[15]

Although the FOMC does not allow the Taylor rule to dictate the course of its policy actions, the rule is routinely used by the Fed staff, which presents the Committee with forecasts that are based on the presumption that monetary policy responds to changing economic conditions according to the Taylor rule. The staff – the group of economists that presents an assessment/outlook at the beginning of each meeting of the FOMC – then informs the Committee how its recent interest rate decisions compare with the policy rule. In February 1999, the staff informed the Committee that based on the versions of the Taylor rule it calculates, the Fed's stance had become too accommodative (Transcript, February, 1999). While several members of the Committee sympathized with the staff's analysis,[16] most remained skeptical about raising the FFR, given that the output gap had been narrowing for several years without any evidence of rising inflationary pressure.

Those skeptical of the rule point to the experience of the late 1990s, when technological efficiencies brought surprising increases in the productivity trend and gave

[14] Taylor (1993) argued that the interest rate reaction function yielded better results when some weight was attached to real output (i.e. when a pure price rule was not followed).
[15] Dalziel (2002) uses UK data to argue against the use of the "output gap" in predicting inflationary pressures.
[16] Governor Meyer, for example, said, "I pay a lot of attention to the policy prescriptions from the Taylor rule . . . So, I ask myself: How have we ended up departing so aggressively from the Taylor rule prescriptions?" (Transcript, February 2-3, p. 65).

rise to the belief that the emergence of a 'new economy' was fundamentally altering many key economic relationships. For example, during the period 1996-1998, the U.S. experienced economic growth that was faster than most economists considered potential even as the unemployment rate remained below most economist's estimates of NAIRU. With the rules of the game apparently changing, Governor Ferguson asked and answered the following fundamental question: "What is [the economy's] maximum sustainable growth? We aren't really sure" (Transcript, March, p. 64).

The problem with the Taylor rule (and the Fed's own philosophy) was that it required policymakers to have a clear sense of the economy's potential so that demand growth could be kept at supply's capacity, which was considered *fixed*. But the sharp increases in productivity that took place during the 1990s called into question the concept of 'trend' (or fixed) supply capacity. Without a clear idea of the economy's supply potential (i.e. no real confidence in the value of y^*), many members of the FOMC expressed misgivings about the Taylor rule, arguing that it had become a causality of reality. Governor Gramlich had this to say:

> [It] needs precise point estimates of the inflation and unemployment targets. If the estimates are off, the advice is off. . . The Taylor rule . . . does not work well when it is difficult to define operating targets for inflation or unemployment. As we have discussed often in this room, this difficulty may now be showing up particularly with respect to the unemployment term, given the problems in identifying the NAIRU. One could make the case that the NAIRU is 6, 5, or 4 percent (Transcript, May, p. 45).

President Parry raised a similar concern, noting that "the existence of a supply shock makes it hard to judge inflationary risk by looking at real output growth, since such shocks tend to change the output/inflation mix in the economy" (Transcript, May, p. 28).

If sustained increases in productivity were indeed altering the economy's underlying trend rate of growth, the Taylor rule would offer bad advice.

And this is exactly what happened in the late 1990s, when the Fed staff presented its forecasts using estimates of the inflation and unemployment targets that did not account for the full effect of the supply shocks the U.S. economy had experienced. Based on the estimates the staff had chosen, their models called for sharp increases in the FFR. But President Boehne cautioned his colleagues against following the Taylor rule's advice:

> Credibly resisting inflation also means being a credible evaluator of the inflation threat. . . we need to be able to tell the difference between a wolf and the family dog. Let's be honest with ourselves: current and pipeline indicators of inflation look more like the family dog than a wolf, and our forecasting models have for several years cried wolf when there has been no wolf (Transcript, June 1999, p. 44).

Ultimately, President Boehne argued, the Fed must be a judicious arbiter, weighing its own evaluation of economic reality against the prescriptions offered by economic theory, adding, "when reality tells us something different from the models … we ought to take a new look at the models" (Boehne, Transcript, February 1999, p. 116).

Thus, despite the fact that a handful of members were amenable to the implementation of policy following (some version of) the Taylor rule,[17] the majority insisted that flexibility was essential and that rules must not be permitted to displace

[17] Governor Meyer has suggested an "incremental asymmetric Taylor rule," which would call for an increase in the FFR when unemployment fell below the NAIRU but held off on reducing the FFR in the face of modest increases in the unemployment rate (Transcript, February 1999, p. 66). Similarly, he proposed that the Fed respond to increases in the core CPI with "more than proportionate increases in the nominal funds rate," while modest reductions in inflation should be passively accepted (ibid.).

judgment.[18] Indeed, several members of the Committee argued that if policy had been implemented in accordance with the Taylor rule, the longest expansion in recent history may well have been compromised.

3.B. The High-Growth, Low-Inflation Dilemma: The Elves vs. the Wolves

Concerned that the Taylor rule was dispensing the wrong policy advice, the FOMC embarked on a campaign of rate *reductions* that resulted in a total drop of 75 basis points during the fall of 1998.[19] When the Committee convened for its first meeting in 1999, it considered its policy stance to be accommodative, and several members believed that the Fed's task was to determine "whether, when and how fast the policy actions of last fall should be unwound" (Hoenig, Transcript, February, p. 59). The key issue was to determine whether there had been a structural change, as suggested by the combination of declining inflation together with a declining unemployment rate[20], or whether the favorable supply shocks would soon dissipate and inflationary pressures would emerge. The FOMC debated these questions at its February and March meetings.

During this time, members generally fell into one of two categories: the 'optimistic elves' or the 'pessimistic wolves.' The former, who were open to the possibility that the U.S. economy might indeed have undergone a structural change,

[18] President Broaddus voiced concerns about the rigidity of the Taylor rule, since it requires the Fed to move the funds rate *only* in response to the emergence of an inflation gap or an output gap. In the absence of such gaps, it requires the Fed to show restraint – a requirement that does not appeal to the more activist members of the Committee, who believe that the Committee's "main policy successes in the 1980s and 1990s have come when we have acted more preemptively" (Broaddus, June 29-30, p. 99).

[19] The FOMC made three moves in 1998, cutting the FFR by 25 basis points in September, October and November. After the November move, the FFR stood at 4 ¾ percent.

[20] This was also the central question in March, when the Committee again faced unexpected strength in output and weakness in inflation.

preferred to let the experiment unfold, refusing to assume that the future course of inflationary pressure must be upward. Though they were not inflation "doves," they preferred to adopt a wait-and-see approach, giving the economy the chance to surprise them, but indicating their willingness to pounce at the first sign of inflation. In contrast, some members expressed a penchant for preemptive action, preferring to begin the unwinding process before the "inevitable" occurred. Below, we examine the arguments presented by members from each camp.

The Elves

Governor Rivlin recognized the difficulty of setting policy in a high-growth, low-inflation environment, referring to a set of "cheerful little elves who run the U.S. economy and get their kicks out of proving the cautious forecasters wrong" (Transcript, February 1999, p. 61). While she considered their work impressive – she credited the elves with controlling the weather, keeping productivity growth increasing, and maintaining unemployment below what even the most optimistic NAIRU enthusiast considered possible, all the while containing inflation and decreasing wage pressure – she recognized the dilemma this posed for the Committee, asking the following question of her colleagues: "Have the elves run out of tricks or can they beat the game one more time?" (ibid., p. 62).

President Boehne seemed willing to see what the elves could do:

> If one goes back, for example, to the 1960s there was a lot of talk that we could have price stability and unemployment rates of 3 ½ percent or certainly 4 percent. . . I believe if any of us had been asked two or three years ago if we thought we could have a 4 ½ percent unemployment rate and inflation falling, we would have said that was a pretty nutty idea. How do we know the string has run out? How do we know that we can't have a still better world? (Transcript, February 1999, p. 101).

Though apparently convinced that the good times would not continue to roll, Greenspan agreed that a better understanding of the underlying relations was needed before any action should be taken:

> [W]e are at the tail end of a series of years in which, by all our historic measures, growth has been above trend. Price pressures should be mounting at this stage, but instead they are going in the other direction. This involves, in my judgment, a major issue that we need to understand before we move forward with a policy shift (Transcript, February 1999, p. 104).[21]

Presidents Boehne and Gramlich concurred, arguing:

> I think we need to see something in the pipeline, even very preliminarily, that suggests that the economy is beginning to experience a buildup in inflationary pressures that puts sustainable economic growth in jeopardy. Or we need to see something, even if it is very preliminary, that suggests that we have the beginning of boom conditions. Neither strong growth alone nor a low unemployment rate alone is a reason to tighten monetary policy (Boehne, Transcript, March 1999, p. 60).

> We have to move quickly. But we don't have to move in advance of real evidence of inflation which, as I said, is not available yet (Gramlich, Transcript, February 1999, p. 70)

Finally, Vice Chairman McDonough stressed that a rate hike was both unjustified and damaging to the Fed's public image:

> I think an announcement of a tightening in policy at the present time would make us seem oblivious of what it going on in the world. But perhaps even more seriously, with a complete absence of inflation, it would put the Committee on record as being opposed to economic growth (Transcript, March 1999, p. 59).

Thus, in the absence of any evidence of a detrimental shift in the inflation-output mix, the elves opposed a preemptive rate hike, preferring instead to see just how long the good times might continue to roll.

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[21] The Fed was particularly interested in discovering why, in an environment in which labor markets were considered exceedingly tight, wage increases had actually decelerated.

The Wolves

Those who worried that the favorable supply shocks that had prevented inflation from rising would soon dissipate expressed a desire to move sooner rather than later:

> I think the balance of risks is on the upside. I would illustrate that point by comparing the following two options: One option is to raise rates now and have it turn out ex post not to have been necessary; the other option is to hold rates steady now and have it turn out after the fact that we should have tightened. I would much rather deal with the former situation than the latter because I believe it would be much easier to reverse a tightening than to have to catch up if it turns out that we are behind (Poole, Transcript, March 1999, p. 59).

President Minehan also expressed a desire to act preemptively, maintaining:

> Arguably, monetary policy is stimulative, given the available liquidity in markets and the reduction in real interest rates brought about by the 75 basis points of easing in the fall. The question we have to ask is whether we really want to stimulate the economy right now or whether it might be prudent to bring policy closer to neutral . . . stimulative policy right now seems to run a greater risk of making things worse later on … (Transcript, February 1999, pp. 50-51).

President Jordan echoed her call for action, arguing that:

> The longer we wait to start to rein in some of the nominal aggregate income growth and spending growth, the longer we are subsequently going to have to endure a period of very weak growth in output and employment in order to lean against the rise in inflation. So, at some point we have to contemplate an adverse transitory tradeoff, and I think the sooner the better (Transcript, February 1999, p. 53).

Governor Meyer also believed it might be necessary to make some short-run sacrifices in order to reap the longer-run benefits of price stability:

> [R]ecent economic developments have been exceptional. It has been a wonderful ride, and we have all enjoyed it. But we will ultimately be graded – and indeed we will grade ourselves – on the effect of current policy on the inflation trend in coming years. Might we not achieve a higher grade on the final exam by accepting a less exceptional growth performance in the near term? (Transcript, February 1999).

But Governor Ferguson spelled out the risks most candidly:

> The risks seem to be mainly to the upside. It is easy to determine what those risks are and what may drive economic growth above the forecast: plentiful jobs, accommodative credit conditions, and upbeat consumers (Transcript, February, p. 70).

Thus, there were a range of opinions about the prospects for continued growth and the risks associated with delaying an increase in the FFR. But, in the end, the Committee supported the recommendation of its Chairman, Alan Greenspan, who argued that it was appropriate to refrain from moving until there was something concrete to justify a move. With that, the gap was bridged and the Committee voted – at the conclusion of both its February and March meetings – to maintain the FFR at 4 ¾ percent.

3.C. The April CPI Report: The Wolves Begin to Circle

After many months of prolonged weakness in the various measures of U.S. inflation, April's core CPI jumped four-tenths of a percentage point, a rise that garnered much attention during the FOMC's May deliberations. Although the jump provided the Committee with evidence of only a single month of heightened inflationary pressure, some members began to worry that the day of reckoning had finally arrived. President Hoenig, for example, confessed, "I have become … increasingly worried about the current stance of policy and our ability to maintain low inflation going forward" (Transcript, May 1999, p. 34). President McTeeter's confidence was also shaken by the news, adding, "[t]he blockbuster, of course, was Friday's CPI report. I will have to concede that it was only one month's data; however, the risks have shifted upward" (ibid., p. 35). However, not everyone agreed that the inflation-output mix was beginning to move in the old familiar way.

If the Fed were following the Taylor rule, the proper response would be straightforward – the FOMC should vote for a sharp increase in the FFR. But the Fed did not follow a Taylor rule (or any other rule, for that matter), so their May deliberations relied "less on a future as predicted by models and more on inferences, both quantitative and qualitative" (Ferguson, Transcript, February 1999, p. 71). And, as usual, this resulted in a range of differing assessments and policy preferences. Some believed that the increase in the core CPI necessitated an immediate policy response, articulating their positions using tactics ranging from carefully crafted forecasts to anecdotal evidence and impassioned commentary. Others continued their pleas for restraint, preferring to wait for further evidence that the good times were indeed coming to an end. The following excerpts provide a sense of these deliberations.

President Broaddus, relying on instinct, was the first to cry wolf:

> I know I have been crying wolf around this table for a long time and my fears have not been realized, but we have to take each day as it comes, I guess. So wolf! (Transcript, May 1999, p. 26).

Others relied on their own economic analyses and the forecasts prepared by the Fed staff to bolster their arguments that the output-inflation mix was indeed shifting in a way that required a policy response. Vice Chairman McDonough focused on the April increase in the core CPI, suggesting that it may be an indication of coming inflationary pressure:

> [W]e've tried to take apart the data statistically . . . and we've come to the conclusion that the statistical probability is sufficiently high that the increase actually is telling us something important that I believe we definitely have to take it into consideration in our discussion of policy (Transcript, May, p. 44).

President Moskow also suggested that inflation might be on the verge of accelerating, pointing to the likelihood of a slowdown in productivity growth:

> [I]f productivity growth remains as rapid as it has been for the past few quarters, then this projected real growth rule would be sustainable. But if, as my somewhat pessimistic staff keeps telling me, trend productivity growth has not picked up as much as the Greenbook asserts, we could face a substantial increase in inflation by the end of next year. Thus, I think the risks have become tilted decidedly to the upside, and I think the time has come to reevaluate our policy stance (Moskow, May 1999, p. 27).

Finally, Presidents Broaddus, Jordan, and Hoenig offered a variety of anecdotes to justify their support for policy action:

> [W]e are hearing from experienced bankers, anecdotally at least, that the competition for loans is very, very strong – probably excessive – which may be laying the foundation for problems down the road (Broaddus, Transcript, May 1999, p. 24).

> People from Pittsburgh say the city is in the early stages of a major construction boom that will last five years . . . people from western Pennsylvania had been saying that they were lagging considerably behind Ohio and Kentucky but now they claim that they have closed the gap. . . A contact from one of the community banks in southwest Pennsylvania said that a significant employer for their community decided to go out of business and laid off 200 workers . . . and . . . we still hear references to, in one person's words, 'outrageous prices' being paid for farmland (Jordan, Transcript, May 1999, p. 30-31).

> Based on talking with business people in our region, . . . there is a hint of a different attitude toward price increases" (Hoenig, Transcript, May 1999, p. 33)

In contrast, Governor Rivlin remained optimistic about the prospects for non-inflationary growth ahead, opposing any adjustment in the FFR. While Vice Chairman McDonough agreed that a rate hike was unwarranted, arguing that "[s]uch a move would be taken as a knee-jerk reaction to the CPI number regarding which all of us have some questions," he did believe that the Fed should adopt an asymmetric directive toward tightening in order to demonstrate to markets that the Fed wasn't asleep at the wheel (Transcript, May 1999, p. 58). Governor Rivlin opposed the announcement of a tilt,

asserting, "I do not see strong economic reasons for not waiting another month before making your proposed change even though only a tilt is involved. After all, the only really disturbing economic news is the core CPI for one month" (ibid., p. 59). Finally, President Broaddus, who did not believe Vice Chairman McDonough's recommendation went far enough, argued that the Fed needed to "show the flag, get back in the ballgame . . . and to do so more decisively than by just moving to a tilt" (ibid., p. 60).

At the close of the meeting, Chairman Greenspan put the three recommendations – stay the course, issue an asymmetric tilt toward tightening but leave the FFR unchanged, or raise the FFR and issue an asymmetric tilt toward tightening – before the Committee. In the end, the FOMC voted to maintain the FFR at 4 ¾ percent but included the following statement in its directive:

> [T]he Committee believes that the prospective developments are more likely to warrant an increase than a decrease in the federal funds rate operating objective during the intermeeting period (Transcript, May, p. 69).

And with that the Fed initiated its first experiment with the asymmetric tilt.

3.D. Crying "Wolf!" Forces the Fed to Bite

At its May meeting, the Fed prepared markets for a rate hike that it never intended to result in an inevitable move when it announced the bias toward tightening. But the FOMC did end up raising the FFR in June, despite the fact that April's jump in the core CPI appeared to be a one-off event rather than an indication that inflation had begun to accelerate. So why did the Fed act?

As the transcripts reveal, the Fed's new instrument failed to affect markets in the way the Fed anticipated:

> I was startled by the extraordinary market talk after we announced an asymmetrical directive following the May meeting. . . We might as well have raised rates at that point as far as I am concerned. . . . Indeed, what we are looking at is a long-term interest rate that is moving up because market participants think the Fed is going to move (Greenspan, Transcript, June, p. 88).

Thus, because markets were anticipating a rate hike, some saw the increase as preordained, arguing that raising the federal funds rate was "largely a foregone conclusion" (Boehne, Transcript, June, p. 44). Others, such as President McTeeter and Vice Chairman McDonough believed that conditions did not merit an increase and that the Fed should show restraint until such time as inflation appeared to resurface:

> [T]he public and markets everywhere are waiting for us to pounce on growth and job creation and stifle them. Since I do not believe we should do that, I believe that our challenge is to clarify out strategy – first to ourselves, then to the public and the markets. . . . we should not be in a tactical position of being constantly poised to attack an enemy that does not appear visible to me. We need to find a way to tactical symmetry – to a position where we, the public, and the markets think we are watchfully waiting but not looking for windmills to knock down (McDonough, Transcript, June, p. 48).

Thus, while some felt compelled to validate the market's expectations in order to maintain credibility, others believed that a rate hike was unwarranted in the absence of troublesome news on the inflation front. After much deliberation, the FOMC felt compelled to move, voting to raise the FFR 25 basis points at the close of its June meeting.

To justify the June increase, members argued that despite a drop in the core CPI, there were reasons to believe that inflationary pressures were mounting. Some truly strange anecdotes were offered as "evidence" of these pressures. For example, President Broaddus relayed the following story:

> One of our economists [from the First District] has a close friend who has a house in the Boston area. The friend got an estimate last year for an addition to his house but didn't have the work done. He got an estimate again just recently, a year later, and it's up about 30 percent. That's really extraordinary!" (Transcript, June 1999, p. 40).[22]

And President Minehan shared the following:

> The job market for summer teenage employment is strikingly good if my 17-year old and his friends are any indication of that market" (Transcript, June 1999, p. 37).

No one offered any tangible evidence of pipeline inflation. Yet the majority – many of whom felt 'boxed in' by the May directive – clearly wanted to raise the FFR. Ultimately, they justified their move for the record by offering anecdotal evidence and impassioned commentary about the importance of credibility and the need to fulfill market expectations.[23]

When the Committee reconvened in August, it was presented with a Greenbook[24] analysis that forecasted heightened inflation risks and recommended further increases in the fed funds rate. As its authors noted, the recommendation seemed counterintuitive, given that "real GDP growth was surprisingly weak in the second quarter, and the core CPI increased only a tenth-and-a-half per month on average in June and July" (Transcript, August 1999, p. 36).

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[22] This kind of "evidence" is truly dumbfounding, as anyone who has ever solicited bids for construction or repair work knows. Indeed, this kind of variation is common when even when several contractors are bidding the same job on the same day!

[23] This is an on-going problem for the Fed, which "now realizes that adoption of transparency and gradualism means that it surrenders a degree of discretion to market expectations. Policymakers must continually take the pulse of the market to ensure that these expectations are not disappointed" (Wray, 2004, 4).

[24] The Greenbook contains the staffs' summary of recent economic information, a baseline economic forecast and scenarios based on possible alternative future events.

President McTeeter was opposed to a further rate increase, noting that "[w]ith inflation low and with the economy strong, I am concerned that any tightening today would be interpreted as a vote against prosperity (McTeeter, Transcript, August, p. 61). When Chairman Greenspan began his remarks to the Committee, it appeared as though he, too, was making a case *against* a further increase in the FFR:

> I agree with the Vice Chair in that I believe we have arrived at price stability by any measure we can employ . . . we don't have any real evidence that inflation has risen (Transcript, August, pp. 74-76).

But he went on to argue *for* an additional increase of 25 basis points:

> The truth of the matter is that we have a very strong economy with very marginal indications of any slowing. But the question that is still up in the air is whether, in fact, it is an overheating economy. An important element of that, obviously, is what is going on in the supply and demand for labor. There is no question that the pool of people seeking jobs is continuing to erode. . . My bottom line is that I think we have to tighten by 25 basis points. (ibid., p. 77)

Vice Chairman McDonough was the first to support Chairman Greenspan's recommendation, reasoning:

> Since I believe that we are enjoying price stability and since I believe very firmly in the rather brilliant analysis that you have just presented, one might ask: Why are we tightening at all? In my view, the reason is that the domestic economy can certainly bear it.

President Poole also spoke out in favor of the increase, suggesting, "the market expects it and not to move at this point would confuse the market" (Transcript, August, p. 80). Thus, despite the fact that the Chairman and Vice Chairman of the Fed agreed that *price stability had already been achieved*, the FOMC voted 9-to-1 in favor of a 25 basis point increase in the FFR.[25]

[25] President McTeeter cast the dissenting vote.

The Fed resisted the temptation to raise rates at its October meeting, in part due to the strongly-worded remarks offered by Vice Chairman McDonough. Since an admonishment of this sort is rare, it is worth quoting at length:

> It seems to me that some people look at the current situation and say: We are experiencing the soon-to-be longest economic expansion ever, we have a 4.2 percent unemployment rate, we have the unemployable being employed, and isn't that terrible! I don't think its terrible at all. I think it's great and wonderful, especially if we remember that our goal in monetary policy is to promote sustainable economic growth and that the tool we are supposed to use is price stability. With a year-over-year rate of 1.9 percent in the core CPI at the end of August, I think we surely have price stability.
>
> The forecasting models of all the Reserve Banks and of the Board's staff have been consistently wrong in that they have forecast inflation increases. The same models predict that there will be inflation increases in the future. . . Perhaps we should realize that these forecasts . . . are likely to stay wrong and that, therefore, the inflation we are concerned about is rather like Don Quixote's windmills – a fiction of our own minds.
>
> We've also been very worried about tight labor markets and yet tight labor markets have not in fact been resulting in inflation, even though we continue to worry about them. . . If we continue to talk about tight labor markets as if that is a truly evil phenomenon, we are going to convince the American people that what we believe in is not price stability, which is for the good of everybody, but a differentiation in income distribution that goes against the working people.
>
> . . . In my view we should declare victory on what has been a very good piece of work and stop worrying ourselves into believing that we have to stand in the way of something that I think is very positive (McDonough, Transcript, August, pp. 35-36).

Although the Fed left the FFR unchanged in October, it raised rates another 25 basis points at the conclusion of its November meeting, arguing that a final increase was necessary before the end of the year.[26]

[26] The Fed believed that it would be imprudent to move rates at its December meeting, since markets would already be skittish about the potential fallout from Y2K.

In sum, the FOMC went from playing a highly inactive role – it moved the FFR just five times from January 1995 through November 1998 – to playing a highly active role – announcing an asymmetric tilt toward tightening in May 1999 and then raising the FFR three times before the end of 1999. The Fed announced the 'tilt' on the heels of the jump in the April core CPI figure, but it never intended to prepare markets for a series of imminent policy actions. And yet it became clear that markets interpreted the 'tilt' in this way, betting that the Fed was preparing to embark on a series of gradual rate hikes. Ultimately, the FOMC fulfilled these expectations, even though virtually everyone on the Committee agreed that price stability had been achieved by June.

CONCLUSION

The Federal Reserve was posed with a unique dilemma in the late 1990s – one in which growth was robust, the stock market was booming, unemployment was low and inflation was nowhere to be found. The Fed struggled to make sense of the changing economic environment and to fit what was happening in the U.S. into some kind of theoretical framework. It had long given up any attempt to control monetary aggregates and was using the overnight lending rate as its primary means of managing the economy. But the Fed wasn't convinced that tighter labor markets and sharp increases in aggregate demand necessitated an increase in the FFR, as recommended by conventional theory (e.g. the Taylor rule). Instead, the FOMC decided that the U.S. was experiencing a technology-driven productivity boom that was allowing that economy to grow faster than anyone thought possible without setting off inflation. The rules of the game appeared to be changing, and the Fed responded by changing some rules of its own.

The changes were designed to align policy with the new reality, but they were also intended to make the Fed's actions and intentions more transparent to markets. The Fed began announcing its precise FFR target and also announcing any policy shifts at FOMC meetings immediately upon changing their bias regarding future rate moves. The Fed also changed its philosophy regarding the use of preemptive rate adjustments, moving the FFR just five times in forty-six months (January 1995 – October 1998).

In May 1999, the Fed resisted a rate hike but issued a policy tilt toward tightening when a jump in April's core CPI shook its confidence in the 'new economy.' Markets reacted strongly to the announcement, believing that the Fed was preparing them for a series of gradual rate hikes. When the subsequent months' CPI figures showed no sign of an upward shift in the inflation trend, many members of the FOMC spoke out against the need for an actual increase in the FFR. But a majority of its members argued that the Fed needed act in order to validate market expectations, and the FOMC voted to raise the FFR three times during the last half of 1999. The transcripts of the FOMC meetings reveal a strong deference to the will of its Chairman, who oversees the fairly ad-hoc process of prescribing policy under a dual mandate without formal rule(s) to constrain its actions.

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