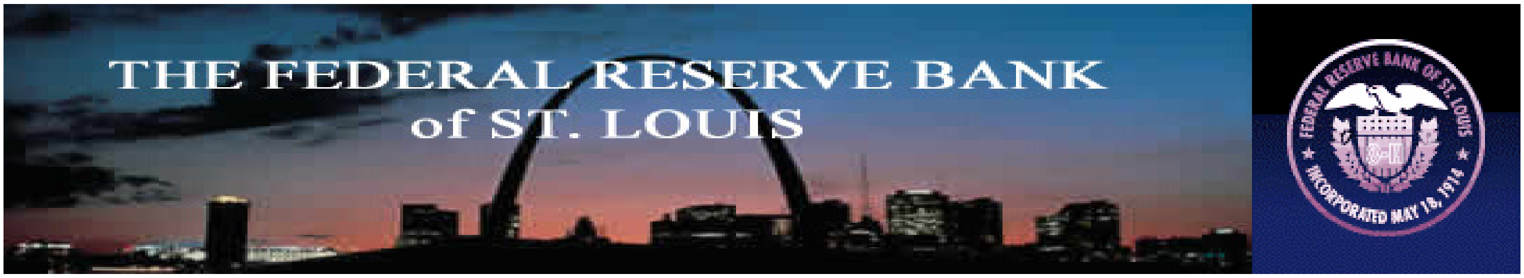

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When Did the FOMC Begin Targeting the Federal Funds Rate? What the Verbatim Transcripts Tell Us

Daniel L. Thornton

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FEDERAL RESERVE BANK OF ST. LOUIS
Research Division
411 Locust Street
St. Louis, MO 63102

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Daniel L. Thornton
Federal Reserve Bank of St. Louis
Phone (314) 444-8582
FAX (314) 444-8731
Internet Address: thornton@stls.frb.org

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Abstract

In October 1982 the FOMC deemphasized M1 and moved to what is commonly referred to as a borrowed reserves operating procedure. Sometime thereafter the FOMC switched to a funds rate targeting procedure but never formally announced the change. Given the close correspondence between a borrowed reserves operating procedure and a funds rate targeting procedure, Thornton (1988) suggested that the FOMC went immediately to a funds rate targeting procedure. Others date the switch to the funds rate procedure later. Meulendyke (1998) suggests the switch came in late 1987, while others suggest the change occurred later. This paper reviews the verbatim transcripts of the FOMC meetings to establish the timing of the switch. The verbatim transcripts suggest that the FOMC effectively switched to a funds rate targeting procedure in 1982. The documentary evidence is supported by an analysis of the spread between the funds rate and the funds rate target, which suggests that the differences in the behavior of the spread before October 1979 and after October 1982 are relatively small and economically unimportant.

JEL Classification: E40, E52
Key Words: federal funds rate target, monetary policy, operating procedure, borrowed reserves

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For some time now the Federal Open Market Committee (FOMC) has been implementing monetary policy by setting an explicit target for the federal funds rate. Surprisingly, the FOMC never formally announced that it had switched back to a funds rate targeting procedure, which it had used prior to the adoption of a nonborrowed reserves operating procedure in October 1979. The lack of a definitive announcement or acknowledgment that it was targeting the funds rate is puzzling. For example, on October 6, 1979, the FOMC formally announced "a change in the method used to conduct monetary policy to support the objective of containing growth of the monetary aggregates over the remainder of this year within ranges previously adopted by the Federal Reserve…This action involves placing greater emphasis in day-to-day operations on the supply of bank reserves and less emphasis on confining short-term fluctuations in the federal funds rate."[1] Over time, the FOMC revealed details of its nonborrowed reserves operating procedure.[2]

Following its October 1982 meeting, the FOMC announced that it would no longer set a specific objective for M1—the key component of its nonborrowed reserves operating procedure. It was unclear; however, about the effect that deemphasizing M1 would have on its operating procedure. While the FOMC never formally announced the *borrowed reserves operating procedure*, Governor Wallich outlined the procedure in a speech that was subsequently published in the Federal Reserve Bank of Kansas City *Economic Review* (Wallich, 1984). The procedure was subsequently analyzed by others.[3] Meulendyke (1998) suggests that "the FOMC targeted the borrowed reserve level

[1] Board of Governors of the Federal Reserve System (1979), p. 830.
[2] For example, see Board of Governors of the Federal Reserve (1981).
[3] See Gilbert (1985) and the references therein.

directly, instead of computing total and nonborrowed reserve levels linked to a money measure and deriving a level of borrowing that moved with deviations of that aggregate from target."[4]

Equally curious is the fact that the FOMC has never formally announced switching from the borrowed reserves operating procedure to its current funds rate targeting procedure. This elusiveness has resulted in some confusion about the timing of the FOMC's adoption of its current operating procedure. For example, Meulendyke (1998) states that the Fed began targeting the federal funds rate "sometime" before the stock market crash in 1987, noting that "the informal move away from borrowed reserves targets was speeded up by the stock market break on October 19, 1987."[5] Meulendyke states that after the crash the FOMC wanted to return to borrowed reserves targeting, but, finding no stable relationship between borrowing and the funds rate, "it *continued* to give primary weight to the federal funds rate in expressing its policy objectives."[6] While the precise dating is vague, Meulendyke implies that the FOMC was transitioning to a funds rate operating procedure prior to October 1987.

Others (e.g., Hamilton and Jorda, 2002; Kalyvitis and Michaelides, 2001; Nilsen, 1998) date the switch later. Indeed, the Federal Reserve Bank of New York appears to suggest that the switch occurred as late as 1992. The New York Fed first acknowledged that the funds rate was playing a significant role in the FOMC's operating procedure when it published a series on the *associated federal funds rate*, defined as "the federal

[4] Meulendyke (1998), p. 53.
[5] Meulendyke (1998), p. 55.
[6] Muelendyke (1998), p. 55, emphasis added.

funds rate trading area that is expected to be consistent with the borrowing assumption."[7] Hence, as late as the spring of 1992 (the publication date), the New York Fed seemed to be suggesting that the funds rate was a consequence of the FOMC's operating procedure rather than the objective of it.[8]

On the other hand, Greenspan (1997) appears to date the move to funds rate targeting much earlier, noting that "Increasingly since 1982 we have been setting the funds rate directly in response to a wide variety of factors and forecasts." If the Fed has been increasingly setting the funds rate directly since 1982, why is there so much confusion about the timing of the move?

This paper attempts to clarify the dating of the FOMC's adoption of a federal funds rate targeting procedure by examining the verbatim transcripts of FOMC meetings since the early 1980s. The evidence suggests that many Committee members believed that they began targeting the federal funds rate upon abandoning M1 targeting in October 1982. Chairman Volcker, however, steadfastly argued that the FOMC was not targeting the funds rate—at least not in the sense that it had during the period prior to October 1979. Chairman Greenspan reiterated this claim, albeit for different reasons. An analysis of the behavior of the funds rate relative to the funds rate target provides support of the chairmen's claim that the Fed was not targeting the funds rate precisely as it had prior to 1979. The distinction appears to be technical, however, with little, if any, economic or policy significance.

[7] Sternlight (1992), p. 81.

[8] While the report acknowledged the relationship between borrowing and the funds rate, it clearly states that the operating objective was borrowed reserves and not the funds rate, per se.

The FOMC was generally unaware that taped transcripts of FOMC meetings were being maintained until Chairman Greenspan was prompted to disclose this fact in October 1993 during hearings before the joint House and Senate Banking Committee. Because the participants had no expectation that their comments would be made public, these transcripts reveal much about the dynamics of FOMC deliberations prior to that realization. Consequently, the transcripts provide a unique and candid insight into why the chairmen and other Committee members were reluctant to acknowledge the role of the federal funds rate in its operating procedure. In addition, the transcripts suggest one reason why, generally speaking, Fed chairmen might prefer a less transparent operating procedure. The transcripts also demonstrate how insights from economic theory eventually are reflected in economic policy.

The outline of the paper is as follows. Section 2 briefly discusses the tension that the relationship between borrowing and the funds rate and created for the Committee. Section 3 then briefly reviews the FOMC's switch from a federal funds rate targeting procedure to the nonborrowed reserves (NBR) operating procedure in October 1979 and the abandonment of the NBR operating procedure in October 1982. The documentary evaluation of the new operating procedure is presented in Section 4. The empirical evidence is presented in Section 5. Section 6 takes up the issue of transparency and shows how theory eventually impacts policy. The summary and conclusions are presented in Section 7.

2.0 The Tension Between Borrowed Reserves and the Funds Rate

The analysis of the verbatim transcripts shows that there was tension between the chairman and Committee members who believed that they where targeting the federal funds rate. This tension stemmed directly from the fact that at this time borrowing was greatly affected by the spread between the federal funds rate, ff_t, and the discount rate, rd_t. The relationship between borrowing and the funds rate was expressed in terms of a borrowing function of the form, $B_t = \alpha + \beta(ff_t - rd_t) + \varepsilon_t$, where B_t denotes the level of borrowed reserves and ε_t is random error that reflects a variety of other factors that aggregate borrowing might respond to. Note that if the coefficients, α and β, were stable and if ε_t was a relatively small i.i.d. random error, targeting borrowed reserves or funds rate would be nearly identical.[9] While recognizing that the coefficients were not constant and that the funds rate–discount rate spread left a significant amount of borrowing unaccounted for, Committee members recognized that in setting the objective for borrowed reserves they were implicitly setting an objective for the funds rate. Tension arose when the stated objective for borrowing conflicted with the implied objective for the funds rate. As we will see, this led to some interesting discussions of the extent to which some Committee members believed that they were targeting the funds rate rather than borrowed reserves.

3.0 The End of the Funds Rate Operating Procedure

Prior to October 6, 1979, monetary policy was implemented by targeting nominal interest rates—from late 1974 to October 1979, the effective federal funds rate. This operating procedure was derided by monetarists who argued that, because neither the real rate nor inflation expectations are observed directly, it is impossible to determine whether monetary policy is easy or tight from the level of the funds rate. Monetarists argued that

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[9] See Thornton (1988) for the conditions under which funds rate targeting and borrowed reserves targeting are isomorphic.

it is misguided to associate high nominal interest rates with tight monetary policy, and warned that continued reliance on the funds rate targeting operating procedure could lead to further accelerations in inflation.[10]

Monetarists' fears appeared to have been confirmed by the inflation experience of the 1970s. After dropping from double digit rates to about 5 percent from 1975 to 1977, inflation once again began accelerating. Due to the persistent rise in inflation and the failure to quell inflation pressures despite increasing the funds rate target aggressively, the FOMC made a dramatic change in its operating procedure at an unscheduled FOMC meeting held on Saturday, October 6, 1979. The Fed announced actions designed to "assure better control over the expansion of money and bank credit, help curb speculative excesses in financial, foreign exchange and commodity markets and thereby serve to dampen inflationary forces." While the FOMC established growth rate objectives for several monetary aggregates, the NBR operating procedure was designed specifically to control the growth of M1.[11]

The seeds of the NBR operating procedure's demise were sown when Committee members became aware of the aberrant behavior of M1 velocity.[12] At the March 1982 meeting, Governor Gramley noted

> We really have something very, very unusual going on in the growth of M1 as it's currently measured. To put this point a different way: It is true that one could explain small or even moderate sized differences in growth rates of the various elements of M1 on the basis of differences in income and interest rate elasticities. But there's no way in the world that one can

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[10] This danger arises when policymakers fail to adjust the nominal interest rate target sufficiently in response to changes in the underlying rate of inflation—in the parlance of modern macroeconomics, if policymakers failed to follow the Taylor principle.

[11] See Federal Reserve Bank of St. Louis (2005) for an analysis of this period.

[12] See Stone and Thornton (1987) for an analysis of alternative explanations for the change in M1 velocity.

> explain the kind of divergences that we have seen between coin and currency, demand deposits, and OCDs except by reference to something very, very unusual happening to the demand for OCDs. **Transcript, March 1982 meeting, p. 42.**

As new data confirmed the aberrant behavior of M1 relative to GDP, the Committee became increasingly concerned about an operating procedure directed toward maintaining the growth rate of the narrow aggregate.

4.0 The New Operating Procedure

While the formal change in operating procedure is frequently dated as occurring at the October 6, 1982, FOMC meeting, the first break from the NBR operating procedure actually occurred at the June 30–July 1, 1982, FOMC meeting.[13] At that meeting, Governor Partee suggested that

> we would seek growth in the area of about 5 to 6 percent for M1 and about 9 percent for M2 provided that does not drive the funds rate above 15 percent. That's a really radical change compared to what we've done before, but it seems to me that the threat of higher interest rates is so great now that we can't tolerate it and we have to put that in as a limit. **Transcript, June-July 1982 meeting, p. 44.**

This suggestion was endorsed by Rice, Boehne, Teeters, Gramley, and Guffey. President Roos inquired as to how this would be different from the "pre-1979 practices of our Committee." President Ford interjected, "He said it would be similar." Governor Partee responded, "It's similar on the top side."[14]

The break in the FOMC's operating procedure was ratified at a conference call on September 24, 1982. After commenting on the global economic outlook, Chairman Volcker informed the Committee of his intentions, saying:

[13] The October 6 dating of the change can be attributed to Wallich (1984).
[14] This discussion can be found on page 55 of the Transcript of the June 30–July 1, 1982, meeting.

> To get to the point, in the end, I think this is a situation in which I would not find a mechanical application of the reserve provision rules suitable, given the certainty that that would lead to a decided change on the tightening side from recent money market conditions…I feel that at least for this brief period before we actually meet in a Federal Open Market Committee meeting, which is about a week and a half off, or seven working days off, we should not follow—and I would not intend to—a mechanical application of those reserve provisions but *rather stabilize market conditions somewhere close to where they are presently or even slightly below where they have been in the last couple of weeks*. **Transcript, September 1982 conference call, p. 1** (Emphasis added).

Several Committee members viewed this suggestion as a move to at least capping the funds rate at its then current level. For example, after a discussion of the recent behavior of M1 and borrowing, President Ford asked,

> What exactly does the policy change you are proposing for the next few days mean? Do you want to cap interest rates at 10-1/4 percent? What are you proposing? **Transcript, September 1982 conference call, p. 2.**

Then Chairman Volcker responded,

> I would not call it a policy change. I would say *the operational variable would essentially be borrowings* of around \$500 to \$600 million. **Transcript, September 1982 conference call, p. 2** (Emphasis added).

Hence, Chairman Volcker appears to have initiated the *borrowed reserves operating procedure*. In response to a suggestion by President Ford that the Chairman was capping the funds rate at 10-1/4 percent, Volcker responded "No. I'm not saying that. But…I am saying…that I think it would be a misguided policy to follow a direction right now that is likely to create a pronounced increase in interest rates."[15]

4.1 *The Operating Procedure—Volcker Era*

[15] Transcript, September 24, 1982, conference call, p. 3.

The operating procedure was specifically addressed at the October 1982 meeting. This time, in response to President Ford's suggestion that the Chairman wanted to cap interest rates at their current level or "better yet, to drive them down" (p. 33), Volcker responded "Drive them down? I'd like to see them a little easier, yes, if we can get by with that." President Ford went on to suggest that

> changing policy now in this context and saying overtly, as you said it, that we should hold interest rates where they are and try to push them down is going to make us extremely vulnerable to charges--unfounded I feel, because I don't question the motives of the people here who would vote for this. I think the repercussions of this are going to be terrible. **Transcript, October 1982 meeting, p. 33.**

Among others, Governor Wallich concurred with the Chairman's desire to push interest rates lower, but noted "We have to get there [lower interest rates] without sacrificing all that we've created in the last year in terms of credibility and a framework for giving people confidence. So, I think we should still have a money supply directive not, as this looks to me, a money market or interest rate directive."[16]

Shortly thereafter, President Roos made an impassioned warning, saying,

> I believe that what we're about to do today will unquestionably be viewed by those who watch what we do as a major change. I don't think it will be possible to explain away the fact that, albeit temporarily, we are moving away from [targeting] a narrow aggregate that has predicted prices and output better than other variables. It will be apparent, in spite of any disclaimers we may or may not make, that we are moving toward placing greater emphasis on controlling the fed funds rate. **Transcript, October 1982 meeting, p. 48**.

Speaking explicitly about the proposed operating directive, but responding to concerns by Roos and others Volcker said,

> I don't consider anything in here [the directive] very inconsistent with what we've been doing. We have said we are going to interpret the

[16] Transcript, October 1982 meeting, p. 42.

> aggregates somewhat loosely in effect—I'm now interpolating—in the light of our judgment as to whether there are unusual precautionary demands for money and liquidity. The market has assumed we are operating that way quite comfortably and this is an extension of that idea. What it does is to take out M1 for a very particular reason. **Transcript, October 1982 meeting, p. 53.**

After a lengthy discussion on the precise language of the policy directive, Volcker sought advice on language for the funds rate proviso.[17] "Okay," he asked, "What about the federal funds rate sentence? In or out?"[18] The Committee was generally indifferent. The decision was left to the Chairman who decided to keep it.

The issue of funds rate targeting was brought up in the November 1982 meeting by President Black who suggested "we went through the period that the old apparatus was rather out of date when we were using this particular kind of target and that maybe we ought to go directly to [targeting] the federal funds rate…"[19] A debate over this issue was quelled when Chairman Volcker noted that a paper was being prepared on targeting and that the discussion would likely take place at the first meeting in 1983. Nevertheless, the issue came up again at the December meeting. Volcker addressed the issue head on, stating,

> There was some question—Roger Guffey and some others may have touched upon it a little—of explicit interest rate targeting. I don't think we have to go to that. It's a *fine distinction* maybe, but there is a distinction between having an explicit interest rate target and having, as I'm sure a lot of people do around this table, some limits of tolerance on what interest rate change one wants and some general idea as to the direction one would like rates to go as one is interpreting the numbers and setting the targets and setting the borrowing levels and so forth. *And I think it's a distinction*

[17] During the NBR operating procedure, the Committee established a wide band for the federal funds rate, referred to as the proviso range. If the funds rate went outside of this range, the Chairman would initiate a conference call.
[18] Transcript, October 1982 meeting, p. 66.
[19] Transcript, November 1982 meeting, p 3.

worth preserving. **Transcript, December 1982 meeting, p. 41** (emphasis added).

4.2 *You Say Potāto, I Say Potäto*

Committee members understood that because the spread between the funds rate and the discount rate accounted for about half of the variation in borrowing, conflicts would arise between the stated objective for borrowing and the implied objective for the funds rate. How such conflicts were resolved was left up to the Desk and the Chairman. Given the extent to which the funds rate was considered in the policy discussion and its stability relative to borrowing, many Committee members believed that they were effectively targeting the funds rate in a manner not appreciably different from the pre-October 1979 period. Chairman Volcker, on the other hand, maintained that there was an important technical distinction between the current operating procedure and a funds rate targeting procedure.

As Chairman Volcker had promised, the issue of what to target came up in earnest at the February 8-9, 1983, meeting. Several members voiced concern about returning to interest rate targeting. For example, Governor Gramley suggested that it was important for the Committee to "continue using quantitative targets of some kind" (p. 22). He suggested that returning to an interest rate targeting procedure would signal that the Committee had changed its long-run objectives of policy and might encourage Congress to relax its fiscal discipline.

Other members clearly thought that the Committee had already returned to targeting the funds rate. Concerned that M2 "doesn't work very well," President Black suggested

> the truth of the matter is that even though we've gone through the motions, we really have not been doing any kind of reserve targeting during this period. In fact I argue that *we really ought just to admit we are pegging the federal funds rate, which is what I think we've done and I think that was appropriate during this period of uncertainty*. But if we're going to get back to reserve targeting, it has to involve something that is to a large extent reserveable. **Transcript, February 1983 meeting, p. 27** (emphasis added).

Governor Partee raised the issue again in a discussion with Vice Chairman Solomon, asking, "How do you answer Bob's [President Black's] point that we don't have any reserve targeting at all? We just target on net borrowed reserves—that is, the funds rate."[20] Vice Chairman Solomon responded, "Well, *we all know what we're doing*. The net effect of our monetary policy is still restrictive and the majority of the market perceives it as such because they look at the level of real interest rates."[21]

The discussion of aggregate targeting at this meeting focused on "flexibility," given the unusual behavior of the monetary aggregates. Governor Teeters also voiced concern about the Committee's ability to affect broader monetary aggregates, saying,

> I don't see that we can move to a very broad aggregate and have any influence on it because I don't know what the relationships are to GNP in these cases and I don't think we have the instruments through reserve management to affect to any marked degree the growth of those very large aggregates. So, I can live with monetary targeting for another year. But I do have one major plea. I agree with all the [comments] about wide ranges and flexibility. I'm not so sure we should hopscotch from one to the other, Emmett [Governor Rice], but if we have to we might…**Transcript, February 1983 meeting, p. 26.**

Governor Rice interrupted asking, "Why not?...I don't know why we can't, if we explain in the record why we are doing it."[22] Teeters responded:

[20] Transcript (February 8-9, 1983), p. 28.
[21] Transcript, February 1983 meeting, p. 28, (emphasis added).
[22] Transcript, February 1983 meeting, p. 26-27.

> Now that's my major point here. *I think we caused a lot of disturbances in the market last year that weren't necessary by not telling people what we were doing…*If we do go this flexible route, I think there is an increased responsibility to be very open about what we're doing and to make it public; it seems to me we should tell people exactly what we're doing or what we're trying to do and why we're trying to do it. **Transcript, February 1983 meeting, p. 27** (emphasis added).

President Horn underscored the issue of openness, saying "I very much agree with Nancy [Governor Teeters] that if we take an approach that is flexible with regard to targets, we must be *very open* in our communications with the markets. They must believe that we're engaging in an *honest flexibility* and I think that would be accomplished by frequent and fairly open communication."[23] Chairman Volcker asked if she would care to define "dishonest flexibility." She responded, "No. I'm going quickly onto the next subject!"[24]

President Black returned to the issue of openness and public disclosure, noting

> There are two or three people down this side of the table who in different ways all stuck to it. Karen [President Horn] almost jumped on the table and then backed off. Nancy said it. What we're doing is we are looking at the real economy, trying to manage it in real terms, and de facto we're using interest rates as the principal variable to attempt to do that. That's what we're doing…I'll offer a basic alternative [to the theme of flexibility, more targets, and wider bands], if for nothing else but the sake of discussion, *which is to stop all that stuff and tell people that we're trying to set interest rates* that will get us out of the recession and hope that it won't have side effects that will get us back into another round of inflation after it's over. **Transcript, February 1983 meeting, p. 32** (emphasis added).

To this Volcker responded

> I think you've put your finger on a point that I was going to make in summation. I would not carry it to the point that you carried it, but what I hear around the table—with maybe your exception—is unanimity on

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[23] Transcript, February 1983 meeting, p. 30, (emphasis added).
[24] Transcript, February 1983 meeting, p. 30.

> targeting, which is where we were before, and a lot of flexibility. I think those are fundamentally incompatible in a conceptual sense, if you push this far enough. In one theory of targeting, anyway, you'll go a long way toward undermining what you are targeting if you're very flexible in handling it. I detected a lot of nuances or differences, which gives us a job to reconcile. I wouldn't go all the way to targeting interest rates very firmly because I think there are targets other than interest rates that we could adopt instead of monetary targeting. We can look at a lot of things in addition to interest rates, which I think is probably what we're doing. But I did want to note that I think the Committee is on two horses: I'm not saying wrongly. But there are two horses: One is targeting and one is flexibility. And they have two different names. **Transcript, February 1983 meeting, p. 32**.

The Chairman appeared to view the Committee as following a flexible operating procedure that considered many factors, one of which is the level of the funds rate.

Despite the Chairman's claim that the Committee's operating procedure was eclectic, many Committee members appeared to believe that the short-run operating objective was the funds rate. Indeed, after several suggestions for the funds rate proviso, the Chairman suggested, "It might be consistent with the first sentence [of the proposed directive] to move it [the proviso range] to 7 to 9 percent or 7-1/2 to 9 percent or something." Governor Gramley responded: "Or 8-3/8 to 8-5/8 percent!" Following Governor Solomon's suggestion that it could be "left alone," Volcker said, "Well, unless somebody has a strong feeling, we might as well just leave it where it was [6 to 10 percent]."[25]

While the issue of funds rate targeting did not come up specifically at the March 1983 meeting, most Committee members expressed their short-term policy intentions in terms of a narrow band for the funds rate: Gramley, "nudged up to 9 percent" (p. 52); Teeters, "fluctuate between 8 and 8-1/2 percent rather than between 8-1/2 and 9 percent"

[25] Transcript, February 1983 meeting, p. 97.

(p. 52); Guffey, “the 8-3/4 or above range” (p. 55); Boehne, “the range of 8-1/2 to 8-3/4 percent would be satisfactory” (p. 59); and Rice, “[I would prefer] whatever level of reserves is consistent with an 8-1/2 percent funds rate” (p. 63).

The issue of public disclosure came up again at the May 1983 meeting when Governor Wallich asked Peter Sternlight, Manager of the Trading Desk, what the “market” thought the FOMC was targeting, asking whether “it is any part of the money supply or do they think it’s the funds rate or the level of borrowing or free reserves?” (p. 2). Sternlight suggested that the market believed that the FOMC was targeting free reserves. President Black followed up by asking, “Peter. Why don’t they think it’s a federal funds rate target?” (p. 3). Sternlight responded:

> Well, I don’t think they regard it as a federal funds target in the sense of pre-October 1979. I think they would feel, with some reason, that if we are aiming at free reserves or borrowing we are aiming at something that has a likely range of variation in the federal funds rate but not a federal funds target in that very narrow sense where the Desk pin-pointed within 1/8 point or so a particular funds level and intervened every time that there was ever so little a variation from that. **Transcript, May 1983 meeting, p. 3**.

President Black pressed this issue, suggesting that given the variation in borrowing relative to the funds rate that he was beginning to think that “we are putting more emphasis on the federal funds rate than on anything else” (p. 3). After further discussion President Black conceded that the market may not think that the funds rate range was “as tight as it was before October 1979” (p. 3), but acknowledged that he was “surprised” by Sternlight’s answer.

The concern that the FOMC was targeting the funds rate but framing its policy directive in terms of borrowing was evident. For example, during the discussion of the level of the borrowing assumption in the policy directive at the May meeting, Governor

Morris asked, “Why aren’t we talking about increasing the funds rate to 8-3/4 to 9 percent? Isn’t that really the issue?” (p. 53) Governor Teeters responded, “That’s what we’re really talking about; that’s right” (p. 53). Governor Partee interjected, saying, “We usually don’t say it that boldly” (p. 53). The Chairman responded, “I continue to welcome any suggestions as to how to word this [the policy directive], but I do not think the issue is *honesty*” (p. 54, emphasis added).

In light of Peter Sternlight’s suggestion that the funds rate was not being targeted within an 1/8th of a percentage point, as it was during the pre-October 1979 period, it is interesting to note what happened when the vote on the policy directive ended in a tie, 6 to 6—Volcker, Gramley, Keehn, Martin, Partee, and Wallich voting yes and Solomon, Guffey, Morris, Rice, Roberts, and Teeters voting no. The issue was the level of the borrowing assumption. Volcker said, “You know, for a $50 million difference [in the borrowing assumption], it’s ridiculous” (p. 60). To this, Governor Teeters responded, “That’s not what [I’m] against. That’s not what we’re voting for: we’re voting to raise the interest rates or not to raise them” (p. 60). Volcker responded, “Well, I’ll convert my statement: if you think there’s a great relationship, *you’re voting for an eighth of a percentage point on the federal funds rate*” (p. 60, emphasis added). “That’s what you told me last time too,” (p. 60) Teeters replied. Upon the Chairman’s suggestion that “we will sit here until somebody has a better idea” (p. 60), President Roberts capitulated saying, “I give in. I prefer a higher number but if we can’t get any more, I’ll go with the $350 million reluctantly” (p. 60). Another vote was taken and the directive passed on a vote of 7 to 5.

This and similar episodes reveal that many members were skeptical of the Chairman's insistence that they were not targeting the funds rate. One of the most entertaining episodes occurred at the July 12-13, 1983, meeting, when Chairman Volcker sought the Committee's views on whether the funds rate range should be 6 to 10 percent or 7 to 11 percent, indicating that he would be happy with either one. After a brief discussion, the Chairman asked for a show of hands. Finding that five members favored 6 to 10 and three members opposed it, the Chairman noted that "some people are not voting again." At this point an unidentified Committee member responded, "I don't care. As long as you're planning on somewhere between 9-1/4 and 9-1/2 percent, I'm for either."[26]

Concern about the Committee's representation of its operating procedure continued off and on for some time. For example, President Guffey brought up the issue at the August 23, 1983, meeting, saying,

> It isn't clear to me what establishment of a borrowing figure by the Committee really means…*It appears to me that what we're doing is simply pegging the funds rate at some level and turning over to the Desk and in a sense you, Mr. Chairman, where that funds rate will rest on a week-to-week basis.* I guess I'm raising a question on the operational procedures that are being followed. If we're following a regime of merely pegging the funds rate, then establishing a borrowing level isn't very meaningful because it all cues off of what Peter and Steve [Peter Sternlight and Steve Axilrod] believe will give us a 9-1/2 percent funds rate. And then it is adjusted from there depending on, I guess, their judgement and the Chairman's judgment. **Transcript, August 1983 meeting, pp. 22-23** (emphasis added).

The Chairman responded by saying

> How much weight you put on the funds rate is in our minds when we make the decision. And we're obviously constraining the funds

[26] Transcript, July 1983 meeting, p. 78.

> rate in some sense but *we're not aiming at a particular funds rate*. The funds rate came out a little higher—a quarter point maybe—than we anticipated at the last meeting. **Transcript, August 1983 meeting, p. 23** (emphasis added).

After some further discussion, the Chairman said,

> I think it's clear that members of the Committee, in varying degrees, have a level of the funds rate in mind when they think about the borrowing level. But we're not strictly adjusting the operations so that we are aiming *at a particular federal funds rate*. **Transcript, August 1983 meeting, p. 24** (emphasis added).

President Guffey then addressed Peter Sternlight: "Well, you try to hit a net borrowed reserve figure that will give you a [particular] funds rate, though, if I understand the way you've been operating most recently," to which Sternlight responded "Right."[27]

4.3 *The Effect of the Banks' Increased Reluctance to Borrow*

Borrowing declined in the wake of the unprecedented large discount window borrowing by the then-troubled Continental Illinois Bank in May and June of 1984. More important for the borrowed reserves operating procedure, borrowing became increasingly less sensitive to the spread between the funds rate and the discount rate.[28] The marked change in the demand for borrowed reserves refueled the debate over the extent to which the Fed was targeting the federal funds rate. For example, at the October 1983 meeting—more than a year after the change in the operating procedure—Governor Gramley brought up the issue by noting that the market was unlikely to believe that the Committee was targeting net borrowed reserves or borrowing in view of the fact that the

[27] Transcript, August 1983 meeting, p. 24.
[28] See Clouse (1992, 1994) and Thornton (2001) for the details about the change in both the level and interest sensitivity of borrowing.

borrowing numbers "are all over the map." In contrast, he noted that "the funds rate average[d] 9.4, 9.4, 9.5, 9.5, 9.5, and 9.0 percent [in recent weeks]."[29]

Somewhat later Vice Chairman Solomon suggested a change in the wording of the policy directive to which Chairman Volcker responded, saying, "I think by implication you're saying we are aiming at interest rates." Governor Martin quickly interjected, "Mention rates and they think we're targeting rates. Mention M1 rebasing and they think we're targeting M1."[30]

President Guffey returned to this issue in the discussion of the borrowing assumption (which was being stated in terms of a range), arguing that "it has no meaning" (p. 40). In the discussion that followed, Volcker said, "Let's be clear…My interpretation is that this directive says we ease if things are coming in low or we tighten if they're coming in high. I don't interpret that as staying within the range that was set, which is an operating…"[31] Guffey interrupted, "No, and that's my point. If it doesn't have any implication for staying within the range, why set a range?"[32] Volcker ended the discussion by saying that it was not a "big point" to him and that he did not believe that it made "much difference."

President Balles brought up funds rate targeting at the November 1983 meeting, noting that

> while officially we never did, if you wish, target real GNP and even interest rates. That has led us more often than not into a pro-cyclical monetary policy. And it was one of the reasons that the Chairman proposed to this group in October of 1979 that we get off our interest rate stabilization in the short run and onto monetary targeting. *I think what we*

[29] Transcripts, October 1983 meeting, p. 36.
[30] Transcripts, October 1983 meeting, p. 37.
[31] Transcripts, October 1983 meeting, p. 41.
[32] Transcripts, October 1983 meeting, p. 41.

really have been doing in the past year de facto is targeting interest rates, and I'm afraid that again that will lead us to some pro-cyclical monetary policy if we keep it up too long. **Transcript, November 1983 meeting, p. 55** (emphasis added).

Governor Wallich concurred, but with a qualification, saying,

Well, I've been troubled by the great deal of stability that we've had in the funds rate, which does seem to harken back to olden times. But the error that was committed in olden times was not that we became too tight as a result of holding the interest rate but that we became too easy. **Transcript, November 1983 meeting, p. 56.**

In the end, however, the broader issue of concern over the Committee's operating procedure was brushed aside as members debated the stance of monetary policy going forward.

The transcripts clearly show that many FOMC members believed that they had been, in effect, targeting the federal funds rate since the change in the operating procedure in late 1982. Moreover, there appeared to be fine distinction between what many members saw as the Committee's operating procedure and the Chairman's characterization of it. For example, in response to a statement by Guffey at the December 1983 meeting, suggesting that he preferred a funds rate of "something over 9-1/2 percent and certainly not greater than 9-3/4 percent," Volcker responded, "I don't think we can aim at the federal funds rate as closely as one quarter of 1 percentage point. We take our chances on that a bit."[33]

Chairman Volcker steadfastly maintained that the Committee was not targeting the funds rate, and the protests diminished in both frequency and intensity. But they never disappeared. At the May 1985 meeting, following a statement by Steven Axilrod that there was some disagreement among the staff on the relationship between borrowing and the funds rate, Governor Gramley suggested, "We ought to have an agreed upon target for the federal funds rate." "Oh, shame on you, Governor Gramley!" Governor Martin retorted. Gramley responded, "Not a written one. Let Steve translate that to whatever borrowing level is appropriate."[34]

Similarly, at the March 1985 meeting Governor Seger asked, "Is the borrowing target really a target or isn't it? I sit here and I hear these numbers; yet at the next FOMC meeting I see what we come in with…" (p. 33), at which point Peter Sternlight interrupted, saying, "Well, it is the number that's used in constructing the path for nonborrowed reserves, and the nonborrowed reserves are a target" (p. 33). Chairman Volcker suggested that Sternlight's description was not entirely accurate. Steve Axilrod elaborated, suggesting that it is very hard to control the distributions of borrowed and excess reserves. He noted that when borrowing would spike above the borrowing assumption, the Desk would account for some of the effect by adjusting its target for nonborrowed reserves, "but we won't take out all of it. So, to a great extent we're at the mercy of the market in that distribution" (p. 33).[35]

Also, at his first meeting in February 1986, Governor Angel observed that "it seems to me that we have been pegging the federal funds rate," to which the Chairman responded, "I wouldn't interpret our policy as a peg…" (pp. 54-55). In response to Governor Angel's request to explain what the Committee has been doing, the Chairman indicated that there had been no significant changes in economic growth or inflation, and

[33] Transcript, December 1983 meeting, p. 57.
[34] Transcript, May 1985 meeting, p. 43.
[35] Thornton (2001) documents the Desk's practice of offsetting the effect of shocks to borrowed reserves on total reserves and shows that this practice is consistent with funds rate targeting.

in these circumstances there is no pressure for interest rates to change much. Despite the Chairman's explanation, Angel concluded by saying he was against "standing pat" if that "means that we peg interest rates at the current level" (p. 56).

At the July 1986 meeting, in response to the question of whether the proviso range for the funds rate should be 4 to 8 percent or 5 to 9 percent, President Melzer interjected, "How about 3 to 10 percent?" (p. 68). Somewhat later President Parry asked, "How would a narrowing of the range be interpreted?"—to which President Black responded, "That we are moving closer toward a federal funds target" (p. 69). Governor Seger exclaimed "Typographical error!" and Govern Angel interjected, "I don't think we ought to tell anybody what we are doing!" (p. 69).

A particularly interesting series of discussions followed Governor Johnson's suggestion, at the May 1987 meeting, that the deteriorating relationship between borrowing and the funds rate made it more difficult to use the borrowed reserves operating procedure. Volcker disagreed, suggesting it was a positive benefit because the tighter the relationship, the closer the procedure is to interest rate targeting. Volcker argued that "It [the deteriorating relationship] is only unacceptable if you are very sensitive to where the federal funds rate is—that this might be a mistake. That's what the argument is all about" (p. 45).

Volcker's interpretation was questioned at the July 1987 meeting during a discussion of a staff report on the declining interest sensitivity of borrowing prompted by the discussion at the May meeting. Following a staff analysis of recent changes in the demand for borrowed reserves, Vice Chairman Corrigan concluded, "what is a little troubling about it to me is that it [the report] comes pretty darn close to saying that, despite all our protestations to the contrary, we're really operating on the federal funds rate" (p. 13), which President Parry affirmed. Chairman Volcker then reiterated the point he had made at the May meeting, indicating that "the relationship is so loose that we're not doing that" (p. 13). Governor Johnson noted that his experience on the daily morning call was that

> Many times the funds rate is used as a check to gauge whether the reserve estimates are correct. If the funds rate starts to move off from where we would have expected, given the reserve estimates, we seem to second guess our Treasury balance numbers and our excess reserve numbers and naturally assume that our reserve estimates are off because the funds rate is strange. Therefore, the Desk tends to do more or less in the open market. **Transcripts, July 1987 meeting, p. 13**.

Johnson went on to add that

> I'm just saying that even if we were trying to target the funds rate, the question still remains: Are we targeting the funds rate to affect the aggregates or reserves or are we just trying to stabilize the funds rate? In other words, we could target the funds rate at various levels over short periods that would affect the aggregates, and I think that's basically what we're doing…" **Transcripts, July 1987 meeting, p. 13**.

The Vice Chairman concurred, saying he too always thought that this is what the Committee was doing.[36] Johnson then suggested that there were longer-run implications of his analysis, suggesting that, "If you let the funds rate drift off somewhere, over the long run it's eventually going to affect the aggregates. So you can't really look at one without the other" (p.14). President Black responded by saying, "The most important argument for using the borrowed reserve target is that it gives us a certain amount of

[36] Despite Governor Johnson's questioning and Vice Chairman Corrigan's assertion that the Committee was targeting the funds rate to control monetary aggregates, there is little suggestion elsewhere in the transcripts that this is what the Committee believed it was doing. Indeed, there are a number of statements by members to the effect that the broader aggregates could not be controlled well and that the demand for M1 had become increasingly interest inelastic.

political insulation so that we can let the federal funds rate move more than we otherwise would be able to do. That to me is the important decision" (p. 14). Chairman Volcker ended the discussion, saying,

> Well, there are all kinds of interesting questions and implications toward operating techniques which I will declare after this discussion will not be acted on at this particular meeting…I assume that the operating techniques will remain the same, for this meeting anyway. **Transcripts, July 1987 meeting, p. 14**.

Officially at least, the deteriorating relationship between borrowing and the funds rate produced no change in the operating procedure.

4.4 *The Operating Procedure—Greenspan Era*

The issue of the close correspondence between the Fed's operating procedure and funds rate targeting arose at Greenspan's first FOMC meeting in August 1987. Responding to a discussion of narrowing the proviso range for the funds rate target, Greenspan began to ask, "If you narrowed it [the funds rate proviso range], you are really saying that you're targeting…" Governor Angell interrupted, saying, "the federal funds rate," and suggested that this would send the "wrong signal."[37]

At least for a time following the stock market crash, the Desk appears to have completely abandoned any semblance of borrowed reserve targeting. There were conference calls each business day between October 19 and October 30; however, the transcript exists only for the October 20 call. At this call the Committee endorsed "maximum flexibility" in the use of the operating procedures during this period.

Not surprisingly, the issue of funds rate targeting arose in earnest at the November 1987 meeting. Consistent with Meulendyke's (1998) characterization, Chairman

[37] Transcript, August 1987 meeting, p. 35.

Greenspan indicated that the Desk had been accommodating the demand for excess reserves in recent weeks and, thereby, directly targeting the funds rate. Some members suggested that the Committee announce that it had changed its operating procedure. For example, in response to Governor Angel's suggestion that the proviso range for the funds rate be reduced from 5 to 9 percent to 4 to 8 percent, Governor Morris suggested that he did not believe that it made sense to talk about ranges and suggested that "we ought to admit that we have temporarily changed the operating procedures; and that would imply that we ought to get rid of that last sentence (the proviso range) and not talk at all about ranges that way."[38] In his characteristic frank manner President Black noted,

> Mr. Chairman, I don't think it's all that different from what we have, in fact, done. We have had this wide range but it has been understood that we have had a borrowing number that was associated with a much narrower federal funds range. And we didn't change that [sentence] then. **Transcript, November 1987 meeting, p. 37**.

Governor Angel opposed announcing a "narrow funds rate target," suggesting that the Committee should be cautious about the "semblance of returning to a 1970s style."[39]

In response to President Boehne's desire for a 6-3/4 funds rate and to accept whatever level of borrowings its takes to achieve this, Greenspan sought the views of the others. To varying degrees all of the members endorsed Boehne's suggestion but opposed narrowing the proviso range. Greenspan made it clear that the funds rate was the operating objective, noting that, "Everyone is talking, essentially, 6-3/4 to 6-7/8 percent on the funds rate, but I presume, to depict it in the usual wider range."[40]

There was a lengthy discussion of the demand for borrowed reserves at the December 1987 meeting. Several Committee members expressed concern over Peter

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38 Transcript, November 1987 meeting, p. 37.
39 Transcript, November 1987 meeting, p. 37.

Sternlight's observation that the market perceived the Committee as targeting the funds rate more narrowly, expressing a desire to "return" to the borrowed reserves operating procedure. Governor Angel suggested that the key question was: "How do we best get away from this situation in which the market is in danger of interpreting our actions as pegging the fed funds rate?"[41] Chairman Greenspan corrected Angel, noting that it is not a danger, but a reality. In the end, the Committee adopted an operating directive, similar to that adopted at the previous meeting, which included the sentence "The Committee recognizes that still sensitive conditions in the financial markets and uncertainties in the economic outlook may continue to call for a special degree for flexibility in open market operations."[42] This phraseology, which was first used in the November directive, was code for implementing policy by directly targeting the funds rate in a narrow range.

The staff suggested that the demand for borrowing was looking more normal at the February and March meetings and the wording was adjusted accordingly. However, it was not until the May 1988 meeting that the wording was dropped. In response to further evidence that the funds rate/borrowing relationship was returning to "normal," President Black suggested that he would "like to get rid of that language about the unusual flexibility."[43] Chairman Greenspan took a straw poll. Two members (Seger and Johnson) favored retaining the language, while seven members (Corrigan, Angel, Heller, Kelley, Forestall, Parry, and Hoskins) favored deleting it. The language was deleted—formally, the Committee had returned to a borrowed reserves operating procedure.

[40] Transcript, November 1987 meeting, p. 44.
[41] Transcript, December 1987 meeting, p. 6.
[42] Transcript, December 1987 meeting, p. 81.
[43] Transcript, May 1988 meeting, p. 8.

Tension between the Committee's nominal and effective operating procedure continued to emerge from time to time in the early part of Greenspan's tenure. For example, in response to the reading of the funds rate proviso by the secretariat at the February 1988 meeting, Governor Seger interjected, "6-1/4 to 6-1/2 percent." Vice Chairman Corrigan responded, "You're calling a spade a spade." President Boehne interjected, "You at least would pass a lie detector."[44]

At the June 1988 meeting, President Boehne suggested some language that Don Kohn took to suggest that the Committee was "really going to a funds rate target" (p. 64). In response to Kohn's allegation, Boehne responded, "That's where you are anyway…You want the funds rate at 7-1/2 percent--that's what people are saying" (p. 64). After a brief discussion, Greenspan reminded the Committee that, "No, we have decided on going to a borrowing target." President Parry responded, "We're on a borrowing target?"[45] Greenspan replied, "We're on a borrowing target, yes."[46]

President Boehne reiterated his concern for the operating procedure at the August 1988 meeting, but suggested that the procedure was useful when the Committee wished to tighten policy, noting,

> But I think that if we look back over our history, if you have an approach that--as we had with the borrowing figure- -…avoids the trap of pegging a federal funds rate. *Now, I know that there is no one around this table who would ever, ever get caught up in the problems of pegging the federal funds rate.* However, that risk is there for lesser mortals and I think one has to keep that in mind. The other thing is that…There's no trouble for a central bank to ease; that's very easy. The hard part is what we've been doing the last few months, to tighten. We need all the help that we can get when we find ourselves in that situation. And I think that the give that the borrowing approach allows in that procedure has been very helpful in the

[44] Transcript, February 1988 meeting, p. 73.
[45] Transcript, June 1988 meeting, p. 64.
[46] Transcript, June 1988 meeting, p. 65.

> snugging up that we've been doing since March. And I think the more we move over to a federal funds rate, the more difficult it would be to follow that kind of snugging up…I think this technique was helpful for us to get out in front of the inflation curve earlier than I ever recall doing it. And I think this procedure helped. **Transcript, August 1988 meeting, p. 33** (emphasis added).

Following a brief discussion, Greenspan concluded that it "proves that…it's easier to move a borrowing target than it is to move fed funds," to which President Black responded, "That's basically a political argument."[47] Boehne attempted to clarify his point with the following example,

> If the Chairman calls up and says I've upped the borrowing $50 or $100 million that's one thing. If he calls up and he says I've upped the federal funds rate a quarter percentage point, there's a difference. **Transcript, August 1988 meeting, p. 34**.

Governor Johnson claimed to be confused by the argument; however, most embraced it. Governor Angel concurred that, from a "political perspective," the two actions are different. President Black endorsed the argument, saying, "I think that's the strongest argument that Ed (President Boehne) has made for the borrowing target. And I think that's why we stuck with it."[48] President Guffey concurred, saying,

> I agree with the proposition that moving the borrowing target is much easier, much more acceptable, and perhaps of some greater comfort to the Chairman, than moving the federal funds target. But I don't think we ought to be deluded. What we are doing when we are moving the borrowing target is targeting what we believe to be a federal funds level. **Transcript, August 1988 meeting, p. 35**.

President Melzer also endorsed this view saying,

> I'll simply say I really feel strongly that it's in our interest to define our business as being in the business of reserves and not rates. I understand the linkage between the borrowings target and the funds rate, but…as soon as the public and politicians attribute to us having control over interest rates,

[47] Transcript, August 1988 meeting, p. 34.
[48] Transcript, August 1988 meeting, p. 34.

> I think we are on dangerous ground. **Transcript, August 1988 meeting, p. 36**.

The discussion ended and the short-run policy discussion was in terms of the borrowing objective, with Greenspan indicating that he was "quite comfortable at this stage staying with the $600 million of borrowing requirement…"[49] The proviso range for the funds rate was reestablished at 6 to 10 percent. In the two meetings that followed, the short-run policy continued to be stated in terms of borrowing.

That the borrowing objective was a euphemism for the funds rate was underscored in the November 22, 1988, conference call. Greenspan opened the call noting that

> The purpose of this meeting, as I'm sure you're all aware, is the fact that we have had some considerable difficulty calibrating the borrowing requirement into what many have assumed to be a funds rate somewhere in the area of 8-1/8 to 8-1/4 percent, which is what we originally contemplated as the probable relationship at $600 million of borrowing when the Committee broke up at our last meeting. **Transcript, November 22, 1988, conference call, p. 1**.

After a report by Peter Sternlight and a brief discussion, Greenspan went on to say,

> In view of all of this, and in view of the problems that we've been having with the basic relationships and in keeping with the directive, the Desk will temporarily set $400 million as a borrowing target, which it expects to be consistent with a funds rate of about 8-3/8 percent. **Transcript, November 22, 1988, conference call, p. 1**.

In response to a question from Governor Angel about the pros and cons of a $500 million borrowing objective, Don Kohn responded that he thought that "we would have a funds rate of 8-1/2 percent or even tending above that, in the 8-1/2 to 8-3/4 percent

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[49] Transcript, August 1988 meeting, p. 38.

area."[50] Greenspan suggested that a serious discussion of the operating procedure be postponed until the December meeting.

The discussion of the operating procedure at the December meeting focused on establishing an explicit target for the funds rate. Some members opposed the idea of returning to a 1970s style funds rate targeting procedure out of concern about the effectiveness of the operating procedure; however, Governor Johnson and President Parry suggested that the problem with the pre-October 1979 operating procedure was a failure to move the funds rate target, in Governor Johnson's words, "often enough to deal with the problem" (p. 13). As usual, President Black expressed the view that the Committee was already targeting the funds rate, saying, "borrowing is simply the device that we use to try and control the federal funds rate. I think that it has confused us, and it has confused the markets on occasion."[51] Several members disagreed, suggesting there was a significant difference between the current operating procedure and the pre-October 1979 procedure. For Chairman Greenspan the difference appeared to be associated with the extent to which the Desk conducted operations to defend the targeted level of the funds rate. He observed that,

> with very rare exceptions I don't recall the Desk operating on both sides of the market during one maintenance period. In other words, if you're going to focus on an explicit funds rate…you're going to have to be in there generally not just once a day on one side throughout the whole maintenance period but you're going to have play it on both sides…I think that if you're forced to stay on one side you can't, even if you wanted to, calibrate a funds rate target exactly. **Transcript, December 1988 meeting, p. 9**.

[50] Transcript, November 22, 1988 conference call, p. 2.
[51] Transcript, December1988 meeting, p. 6.

Arguing that it “makes a difference in how the Desk endeavors to calibrate” the funds rate and suggesting the during the pre-October 1979 periods the Desk was in the market more than once a day, Greenspan summarized his point, saying, “I think even though it’s certainly the case that we are moving toward a federal funds target, *we are still quite a long way from that procedure...*”[52]

The extent to which the borrowed reserves operating procedure is tantamount to funds rate targeting depends on the extent to which conflicts are reconciled in favor of the funds rate or borrowing. Conflicts were reconciled by the Desk with the advice and consent of the Chairman. In response to an inquiry about the degree of tolerance from President Hoskins, Sternlight responded,

> Well, we generally speak of an expectation of a funds rate that would prevail given a certain level of borrowing. And I think right along we’ve felt that there is some degree of flexibility of—oh, I don’t know—at least 1/8th percentage point on either side of whatever is the central point. And certainly for a given day it’s even more room than that. It’s more the persistent deviations that would be a problem. As the deviations build up to be greater than 1/8th or 1/4th percentage point and more persistent, then I think it creates the kind of problem that led to the discussion held on November 22 where it was felt that maybe a discrete adjustment of the borrowing level was in order. **Transcript, December 1988 meeting, p. 3**.

President Black confirmed this assessment, suggesting that from his experience on the *morning call*, most differences have been resolved in favor of the funds rate.

[52] Transcript, December 1988 meeting, p. 10, emphasis added. In response to Greenspan’s suggestion that the Desk was in the market more than once a day during this period, Kohn responded “on occasion” (p. 10) and Sternlight added, “I don’t know that we were in on both sides in a single day, but certainly we had multiple entries on given days when we were targeting the funds rate” (p. 10). At the April 1983 meeting, however, Sternlight suggested that the “Desk pin-pointed within 1/8 point or so a particular funds level and intervened every time that there was ever so little a variation from that” (Transcript, May 1983 meeting, p. 3). For additional discussion and evidence on this issue, see Friedman (1981, 1982a,b) and Levin and Meulendyke (1982).

The issue of public disclosure arose at the December meeting when President Keehn inquired how the Chairman was going to explain what we are doing, suggesting that he had in mind the Chairman's February 1989 testimony. Greenspan responded, "What we are doing is what we've been doing, whether we defined it or not, for at least as long as I've been here. I don't know what difference we have to explain."[53] Keehn responded that he thought the Committee "may have a responsibility to explain both to the Congress as well as to the markets that we are doing something a little bit different here.[54] To which, Greenspan responded, "On the other hand, we've stayed within our [monetary] target ranges which we have defined to the Congress--right in the middle--and it's likely that we don't have anything to explain."[55]

Near the end of the December meeting the issue of the range of the funds rate proviso came up, some favoring 7 to 11 percent and others suggesting that 6-1/2 to 10-1/2 percent would be better, while still others favored narrowing the range to 7 to 10 percent. Greenspan made it clear that he considered the proviso range to be what he would later call "an anachronism," saying, "It isn't worth arguing about this particular issue; this is an inoperative instruction anyway."[56] Nevertheless, it would be nearly two more years before the proviso range was deleted from the policy directive.

The issue of the extent to which the operating procedure was flexible with respect to the funds rate arose from time to time in 1989. For example, at the May 1989 meeting, President Black pursued the issue with Don Kohn, suggesting that "what the Bluebook did assume was that the best measure of the degree of reserve pressure was the federal

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[53] Transcript, December 1988 meeting, p. 16.
[54] Transcript, December 1988 meeting, p. 16-17.
[55] Transcript, December 1988 meeting, p. 17.

funds rate, because you've adjusted your borrowing target to influence that rate."[57] Kohn responded, saying,

> It is the case that we adjusted our borrowing targets last year as borrowing came in weak relative to the targets, in order to keep the funds rate from deviating very, very substantially from what we thought [it would be if the borrowing function had not shifted]. Yes, we are indexing, basically, on the funds rate. **Transcript, May 1989 meeting, p. 36**.

By the July meeting, policy was discussed almost entirely by the funds rate. Chairman Greenspan proposed a $50 million reduction in the borrowing objective, noting that under the Desk's "new calibration" (p. 50), this was the equivalent of 25-basis-point reduction in the funds rate. From this point forward, policy discussions were almost exclusively framed in terms of adjustments to the funds rate target. For example, in the July 26, 1989, conference call the Chairman informed the Committee that,

> As a result of data we have just gotten recently, which I'll mention in a moment, the Desk has been instructed to lower the borrowing requirement from $600 million to $550 million, which is equivalent to moving the funds rate from around 9-1/4 to 9-3/8 percent down to the 9 to 9-1/8 percent area. **Transcript, July 22, 1989, conference call, p. 1**.

By late 1989, it is doubtful that any FOMC member believed that the Committee was not explicitly targeting the funds rate. Despite this fact, there was no announcement of a change in the operating procedure—nominally, the FOMC continued to target borrowed reserves.

In response to Governor Angel's suggestion near the close of the October 1990 meeting that, "in light of our abilities on the funds rate, I wonder whether it would be a little more accurate to pull that range (the funds rate proviso range) in a bit" (p. 59). Noting that the issue had been raised before, Chairman Greenspan suggested that Don

[56] Transcript, December 1988 meeting, p. 65.

Kohn prepare a memo for the Committee for the November meeting. Kohn's memo provided five alternatives for dealing with what Greenspan referred to as the "anachronism" in the directive. The only option that got much support was to eliminate the proviso clause, which the Committee voted unanimously to do.

Continued tension over the issue of funds rate targeting was evidenced in two different contexts during the discussion of what to do with the proviso sentence. The first followed President Hoskin's suggestion that "we could go to saying explicitly the funds rate we are targeting." Following Governor Seger's suggestion that "They figure that out," Greenspan responded, "That's a substantive question, which I suspect would not enjoy this Committee's support. I hope not, anyway." Hoskins then noted, "I think the interest in the Committee would be to provide more information, though maybe not necessarily that piece of information." Greenspan noted the Committee's desire for a more flexible operating procedure and suggested that the issue is finding an operating procedure that is "objective and that we can function with." He concluded, "we're still looking. But literally trying to lock in on a funds rate probably will give us real problems in any event."[58]

The second arose in response to President Melzer's suggestion that the "constraint really ought to be oriented toward reserves or something behaving drastically differently from what we expected." Governor Angel responded, "If we are willing to admit we're targeting the fed funds rate" (p. 11). At this, President Black interjected, "Well, when Roger [President Guffey] used to say we were targeting the federal funds rate, Chairman

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[57] Transcript, May 1989 meeting, p. 36.
[58] Transcript, November 1990 meeting, p. 11.

Volcker used to say: 'That's what you always say, Roger.' He always used those exact words." Vice Chairman Corrigan responded, "And nothing changes."[59]

Internally the Committee dropped any pretense of the borrowed reserves operating procedure in 1991. Of the 10 adjustments to the funds rate target in 1991, the borrowing objective was only mentioned for the change that occurred on January 9, when Chairman Greenspan announced during a conference call that "the borrowing requirement [was moved] down to the equivalent of 25 basis points on the funds rate." The FOMC was unambiguously targeting the funds rate.

Rather than announcing that it was targeting the funds rate, the FOMC continued to disguise the fact. At the December 1990 FOMC meeting, in response to a discussion about changing the discount rate and letting part pass through to the funds rate, Governor Angel argued that "as long as we maintain the charade of a borrowing targeting then that separation of function [between discount rate changes and FOMC policy actions] can still be there, it seems to me. That is, as long as we write the FOMC minutes based upon the charade of borrowing then the old practice can still be there."[60]

In his July 1991 Congressional Testimony Chairman Greenspan seemed to imply that the decline in the funds rate was a consequence of the Fed's actions, not the object of those actions, saying,

> With the threat of an oil-related inflation surge largely behind us and output evidently declining, the Federal Reserve took a series of easing steps in quick succession over the latter part of last year and into the spring. These actions, aimed at ensuring a satisfactory upturn in the economy, brought the federal funds rate more than 2 percentage points

[59] Transcript, November 1990 meeting, p. 11.
[60] Transcript, December 1990, meeting, p. 31.

> below its pre-recession level and 4 percentage points below its peak of about two years ago.[61]

There was no marked change in tone in the Chairman's testimony until February 1993 when Greenspan noted that "Last year, we extended our earlier reductions in interest rates by lowering the federal funds rate another percentage point through another cut in the discount rate and injections of a large volume of reserves." The funds rate was now the objective rather than the consequence of policy.[62]

Despite the Chairman's seeming admission that the funds rate was the FOMC's policy instrument, in its annual report on monetary policy for 1993, the Federal Reserve Bank of New York (1994) continued to refer to the funds rate target as the associated federal funds rate—"the federal funds rate trading area that is expected to be consistent with the borrowing assumption." While acknowledging that "a stable relationship between the level of borrowing and the spread of the federal funds rate over the discount rate would lead the borrowing allowance to be associated with federal funds trading within a limited band surrounding an expected level," the New York Fed stated that "in 1993, the FOMC continued to express its formal policy objectives in terms of 'the desired degree of reserve pressure,' specifying an assumed amount of adjustment plus seasonal borrowing from the discount window." Officially, the FOMC was targeting borrowed reserves.[63] Hence, as late as the early 1990s the FOMC was reticent to admit that it was directly targeting the funds rate. Consistent with this reluctance, the funds rate was not mentioned again in Congressional testimony until July 1995, when the Chairman noted that "the federal funds rate was raised to 6 percent, as the surprising strength in the

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[61] Greenspan (1991), p. 40.
[62] Greenspan (1993), p. 55.

economy and associated pressures on resources required a degree of monetary policy restraint to ensure that inflation would be contained."[64]

5.0 A Difference With or Without a Distinction?

The transcripts leave little doubt that the FOMC's operating procedure became more focused on the federal funds rate immediately following the September 24, 1982, conference call, and that, in the minds of most members, the FOMC was effectively targeting the federal funds rate. Nevertheless, Chairmen Volcker and Greenspan argued that there was a difference between the borrowed reserves operating procedure and the funds rate targeting procedure circa 1974-79. Consequently, it is useful to investigate just how different these procedures were in terms of their results.

This section compares the time-series behavior of the spread between the daily effective federal funds rate and the funds rate target during the period of the funds rate targeting operating procedure—September 12, 1974, through October 5, 1979—with the period since September 24, 1982. To this end, and at the urging of a referee and Editor, Masao Ogaki, I constructed a new funds rate target series for the period beginning September 24, 1982. This series is based on a careful analysis of the verbatim transcripts, the FOMC *Blue Book,* the *Report of Open Market Operations and Money Market Conditions*, and confidential data obtained from the Trading Desk of the Federal Reserve Bank of New York. This new series is reported in Table 1. A complete description of how this new series was constructed and how it compares with other series can be found

[63] Lovett and Kretzmer (1994), p. 63.
[64] Greenspan (1995), p. 45.

in Thornton (2005). The funds rate target for the period September 13, 1974, through October 5, 1979 is due to Rudebusch (1995a,b).[65]

It is well known that the funds rate sometimes deviated significantly from the target on reserve settlement days, called settlement Wednesdays. Because including such days could misrepresent the extent to which the funds rate deviated from the target, settlement Wednesdays are excluded for the purpose of this analysis.[66]

There were a total of 1016 daily observations during the 1974-79 period. The average deviation of the funds rate from the target during this period was just 3 basis points with a standard deviation of 14.8 basis points. In comparison, the average spread for the first 1016 observations of the new procedure was three times larger, 9.4 basis points, with a standard deviation of 33 basis points. Moreover, the average absolute deviation of the funds rate from the target was 22.4 basis points, compared with 9.2 basis points for the pre-October 1979 period.

The above comparison likely understates the extent to which the funds rate was being targeted in the latter period because the FOMC claimed it was targeting borrowed reserves—not the funds rate—in the post-August 1982 period. In contrast, the market was well aware that the Fed was targeting the funds rate during the pre-October 1979 period; however, the target was not announced and had to be inferred from Desk operations (see Feinman, 1993; Cook and Hahn, 1989; and Thornton, 2004). To the extent that the market was able to correctly infer the Fed's funds rate target during the

[65] Cook and Hahn (1989) also constructed at series for the funds rate target for the 1974-79 period. For an analysis of the importance of differences between Cook and Hahn's (1989) series and Rudebusch's (1995a,b) and the implications of these differences, see Thornton (2004).

former period, market expectations may have helped to stabilize the funds rate around the target.

The documentary evidence suggests that the FOMC had all but dropped its pretence of targeting borrowed reserve by late 1989. Moreover, analyzing news stories at the time, Poole, Rasche, and Thornton (2002) found “that the market was aware that the Fed targeted the funds rate as early as 1989” and that, with a few exceptions, market participants had no trouble identifying changes in the Fed’s funds rate target after late 1989.[67] The average daily spread from October 1, 1989, through December 31, 1993 (959 observations), is 4.3 basis points with a standard deviation of 20 basis points. The average absolute spread is 11.7 basis points. Hence, once the market became aware that the FOMC was targeting the funds rate, the relationship between the funds rate and the target tightened considerably. It tightened further following the FOMC practice of announcing its target for the funds rate in 1994.

The evidence supports Volcker’s claim that the funds rate was not being targeted as closely as it was during the pre-October 1979 period; however, as Volcker himself noted, the distinction is “fine.” Indeed, it appears to be a distinction without a difference. At frequencies that economists and policymakers care about, differences between the effective funds rate and the FOMC’s funds rate target of this magnitude are of little consequence. Hence, consistent with the documentary evidence and Thornton’s (1988) analysis of the borrowed reserves operating procedure, these data suggest that for all

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[66] The maintenance period was lengthened from one week to two weeks with the maintenance period beginning February 2, 1984.
[67] Poole, Rasche, and Thornton (2002), p. 67.

intents and purposes the FOMC effectively began targeting the federal funds rate in a fairly narrow band even before it deemphasized M1 in October 1982.[68]

6.0 Transparency and Other Issues

From time to time various Committee members expressed concern about the Committee's lack of transparency (e.g., public disclosure) with respect to its operating procedure, suggesting that the FOMC was indicating that it was using one operating procedure, while in fact, it was using another. This section investigates reasons why the Committee and the Chairmen preferred to seen as targeting borrowed reserves rather than the federal funds rate.

6.1 *The Committee's Preference for Borrowed Reserves*

The transcripts point to several reasons why Committee members preferred not to be seen as targeting the funds rate. First, many Committee members were concerned about being seen as returning to a "failed" operating procedure. In a speech to the No-Load Mutual Fund Association, reported in the *Wall Street Journal* on October 14, 1982, Governor Wallich made it clear that the Fed was not returning to the pre-October 1979 procedure of interest targeting, saying

> There has been no change in Federal Reserve policy…We haven't switched to interest-rate targeting and we haven't given up the fight against inflation…After World War II, we targeted on nominal interest rates—with disastrous inflationary consequences.[69]

The Committee's concern for being seen as returning to a failed operating procedure was reinforced by the belief that monetary aggregate targeting provided

[68] Also, the evidence does not appear to support Meulendyke's (1998) dating of the switch to the funds rate targeting procedure. Specifically, there is no marked tightening in the relationship between the funds rate and the target following the stock market crash in October 1987.

"political cover." This argument was expressed most eloquently by Governor Wallich during the debate over aggregate targeting at the February 8-9, 1983, FOMC meeting, when he said,

> I'd like to put forth just two or three very simple propositions. I think the case for monetary supply targets remains that they are better protection for the central bank than other forms of targets or no targets at all. Even though the experience we've had in the past year might disillusion one quite substantially, and even though one might have believed all the time that it's interest rates and not the money supply that govern the economy, I think the Congress has given us this mandate to use money supply targets and the opportunity to do something that is publicly much easier to defend than an arbitrary setting of interest rates. So, I would continue with the targets. **Transcript February 8-9, 1983 meeting, p. 21**.

Many members explicitly endorsed Wallich's suggestion that monetary aggregate targeting provided "political shelter"—President Morris, "if there's one lesson from the last 3 years, it's that having an intermediate target gives us a good deal of political shelter that interest rate targeting does not" (p. 24); Governor Teeters, "monetary aggregates provided a very good political shelter for us to do the things we probably couldn't have done otherwise" (p. 26); President Boehne, "I go along with the targeting for all the reasons that have been given, not the least of which is the political sheltering" (p. 29); President Horn, "the political protection that we will get from the targets will have to come into play" (p. 30); President Guffey, "They may not be used in our implementation process in the immediate period ahead, but they have served us very well as a political shelter. And that wheel is going to turn back around and we're going to need them again. To abandon them now or to dilute them in importance would be a mistake for the future, as far as the public's perception is concerned" (p. 30); Governor Gramley, "Congress is going to say 'Well, if you can do all those good things on interest rates, then what's the

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[69] *Wall Street Journal*, October 14, 1982, p. 2.

point of our being more discip1ined?'" (p. 22). It is important to note that political cover encompasses the argument that it is easier to rationalize large adjustments in the funds rate if the Committee is seen as targeting borrowed reserves.[70]

Third, the transcripts reveal that the Committee did not abandon monetary aggregates as much as the monetary aggregates abandoned the Committee. Consequently, some Committee members may have felt justified in not being transparent about the extent to which it was targeting the funds rate. Chairman Greenspan made this point at the July 1997 meeting, saying,

> I think we were well aware of what would happen when we shifted to an explicit federal funds rate target. As you may recall, we fought off that apparently inevitable day as long as we could. We ran into the situation, as you may remember, when the money supply, nonborrowed reserves, and various other non-interest-rate measures on which the Committee had focused had in turn fallen by the wayside. We were left with interest rates because we had no alternative. I think it is still in a sense our official policy that if we can find a way back to where we are able to target the money supply or net borrowed reserves or some other non-interest measure instead of the federal funds rate, we would like to do that. I am not sure we will be able to return to such a regime…, but the reason is not that we enthusiastically embrace targeting the federal funds rate. We did it as an unfortunate fallback when we had no other options… **Transcript, July 1997 meeting, pp. 80-81**.

Finally, the Humphrey-Hawkins Act of 1978 required the FOMC to set targets for monetary and credit aggregates and there was some concern that acknowledging that they were effectively targeting the funds rate might be seen by some in Congress as a violation of the Fed's requirement.

[70] This is consistent with Blinder's (1998), pp. 19-20, statement that a central bank "will take far more political heat when it tightens preemptively to avoid higher inflation than when it eases preemptively to avoid higher unemployment."

Whatever the reasons, the transcripts suggest that not only was the FOMC not transparent, but in the eyes of some members, the Committee was actively pursuing misdirection—saying one thing but doing another. For example, at about the same time he was suggesting that monetary aggregate targeting provided better political cover than interest rate targeting, Wallich (1984) went to some pains to explain the difference between borrowed reserves targeting, circa 1983, and funds rate targeting, circa 1974-79:

> Uncertainty about the reserve projections available to the Desk sometimes may create the impression that the Desk is indeed working to influence the funds rate directly instead of seeking to influence the borrowing level. In the absence of trustworthy projections, the funds rate at times may be a more accurate indicator of reserve availability than reserve projections. If the manager decides to act on the signal from the funds rate in assessing the volume of reserves needed, he *may create the appearance* that he is working to influence the rate rather than the supply of nonborrowed reserves consistent with the intended borrowing level.[71]

6.2 *The Chairmen's Preference for Borrowed Reserves*

While the transcripts reveal reasons why some Committee members preferred to be seen targeting borrowed reserves, they give few clues as to why the chairmen were reluctant to acknowledge that they were effectively targeting the funds rate, even though both chairmen admitted that the difference between the borrowed reserves operating procedure and a funds rate targeting procedure, circa pre-October 1979, was slight.

It is reasonable to presume that the chairmen had some of the same concerns as other Committee members, even if they were reluctant to express them openly. There is another reason why the chairmen may have been reluctant to adopt a formal funds rate targeting procedure, however.

[71] Wallich (1984), p. 27.

The critical role of the chairman in monetary policy is widely acknowledged. Indeed, the effectiveness of the chairman can be gauged by the extent to which he is able to move policy in the direction that he deems desirable. Table 1 shows that most target changes were made during the "intermeeting period" (the period between regularly scheduled FOMC meetings).[72] Of the 47 target changes for each chairman, Volcker made 31 during the intermeeting period, while Greenspan made 36. Some of the changes were announced to the Committee during a conference call, but most were not.

Moreover, both chairmen used the asymmetric directive to forge a consensus among the FOMC for a particular policy directive.[73] In addition, Greenspan enhanced his ability to determine the course of monetary policy by assuming that an asymmetric policy directive effectively gave him additional discretion to adjust the funds rate target in the direction of the directive.

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[72] The practice of the chairman making intermeeting policy adjustments to the funds rate occurred early in the new operating procedure. At the March 26-27, 1984, FOMC meeting President Boykin inquired "Technically, Mr. Chairman, can the borrowing assumption be changed other than by the Committee?" Volcker answered, "We change it all the time." Apparently surprised by the Chairman's answer, Boykin responded, "All the time?" Volcker went on to say that they would adjust it "if the money supply were coming in stronger and business remained strong or whatever." In an apparent attempt at clarification, President Boehne interjected, "I think what you're saying is that you are going to look through the borrowings to the funds rate—not that you would be fixing the funds rate, but that with all this uncertainty one is not oblivious to what happens to it." Volcker responded, "Not oblivious, that's right. If I had a sense that we were getting a lot more tightness out of this than I judge we were really looking for, we would redo it. That I can assure you. You may certainly take it for granted that if there were a little easing out of it, we would adjust it." See Transcript, March 1984 meeting, p. 87.

[73] From 1983 to 1999, the FOMC's directive included a statement about the Committee's expectations for future changes in the stance of policy. This statement was called the "symmetry," "bias," or "tilt" in the policy directive. See Thornton and Wheelock (2000) for the origins, interpretations, implications, and evidence on the use of the asymmetric policy directive.

Beginning in 1994, at Chairman Greenspan's initiative, the FOMC began announcing policy actions upon making them. This drastically reduced the number of intermeeting moves.[74] Greenspan responded to the new circumstances by signaling upcoming policy actions or inactions through speeches and Congressional testimony. When no speeches or testimony were scheduled, Meyer (2004, p. 98) points out that Greenspan used a third route—"talking to the press."[75]

Given the central role of the chairman in setting policy and Greenspan's documented practice of exercising that role in a variety of ways, it is reasonable to conjecture that both he and Chairman Volcker preferred to be seen as targeting borrowed reserves because it provided greater flexibility in conducting monetary policy, independent of the rest of the Committee, than they could have had under an explicit funds rate targeting procedure. Being a *fuzzy* funds rate targeting procedure, the borrowed reserves operating procedure offered Chairman Volcker the opportunity to make incremental adjustments to the funds rate that may have been more difficult to make under an explicit funds rate targeting procedure. Indeed, as noted previously,

[74] At its February 2000 meeting the FOMC formalized the practice of voting on intermeeting changes in the funds rate target by adopting the following authorization: "In the execution of the Committee's decision regarding policy during any intermeeting period, the Committee authorizes and directs the Federal Reserve Bank of New York, upon instruction of the Chairman of the Committee, to adjust somewhat in exceptional circumstances the degree of pressure on reserve positions and hence the intended federal funds rate ... Consistent with Committee practice, the Chairman, if feasible, will consult with the Committee before making any adjustment." Board of Governors of the Federal Reserve (2000), p. 330.

[75] Meyer (2004) recalls one instance when he bumped into *Washington Post* reporter, John Berry, as he was leaving Chairman Greenspan's office on the Monday prior to an FOMC meeting. He noted (p. 99) that, "I believe that Berry and I would have been shot on the spot (perhaps by the Chairman himself) if we had been discovered together in my office during the blackout."

Committee members suggested as much by noting that policy was being implemented by the Desk with the consultation of the Chairman.

6.3 *Theory Affects Policy*

The transcripts suggest that the desire not to been seen as explicitly targeting the funds rate was motivated, at least in part, by the beliefs that (1) the interest rate targeting procedure played an important role in the inflation excesses of the 1970s, and (2) the adopting of monetary aggregate targeting played an important role in checking and reducing inflation pressures. Some Committee members expressed concern that some analysts might interpret the return to funds rate targeting as a lack of resolve to fight inflation.

While McCallum's (1981) refinement of Sargent and Wallace's (1975) price indeterminacy under interest rate targeting is never mentioned, by the late 1980s, most Committee members appeared to understand that it was not the funds rate operating procedure per se that led to the inflation of the 1970s, but the reluctance to adjust the funds rate aggressively enough in response to emerging inflation pressure. Such views were expressed during the "operating procedure" discussion at the December 1988 meeting and at other meetings from time to time. Hence, over time the Committee appears to have become aware that it is not its operating procedure, but its commitment to price stability that matters for effective monetary policy.

7. Summary and Conclusions

The analysis of the transcripts of FOMC meetings and of the relationship between the funds rate and the funds rate target indicates that the FOMC began targeting the federal funds rate even before announcing its decision to deemphasize M1 in its operating procedure in October 1982. The FOMC would have preferred not to target the funds rate, but felt it had little alternative in the wake of the aberrant behavior of M1 velocity and the realization that, because the non-M1 components of the broader monetary aggregates were not reservable, the behavior of broader monetary aggregates could not be controlled effectively. Consequently, on Chairman Volcker's suggestion, borrowed reserves became the operating objective. The Committee understood that there was no stable relationship between borrowing and broad aggregates, output, or inflation—but that, if the demand for borrowed reserves was stable, there would be a close relationship between borrowing and the funds rate. Observing the relative stability of the funds rate compared with borrowing, some Committee members suggested that the Committee was in effect targeting the funds rate and should simply acknowledge this fact. This suggestion was resisted by Chairman Volcker, who was steadfast in asserting that the borrowed reserves and funds rate targeting procedures were different. As borrowing declined and became less interest-sensitive, it became increasingly difficult to maintain the façade of borrowed reserves targeting. Nevertheless, neither Chairman Volcker nor Chairman Greenspan was willing to publicly acknowledge that the FOMC was effectively targeting the funds rate.

The FOMC's reluctance to publicly acknowledge that it was targeting the funds rate is striking. Even though the market appears to be aware that the Fed is targeting the funds rate by late 1989, internally, the Committee maintained the language of the borrowed reserves operating procedure in its discussions of monetary policy until January 1991. Even when the borrowing objective was eliminated from policy discussions, the

FOMC did not acknowledge having a specific numerical target for the funds rate that the operating procedure was directed to hit.

Indeed, when the FOMC first announced a policy change at its February 4, 1994, meeting the announcement suggested only that “the action was expected to be associated with a small increase in short-term money market interest rates.”[76] A further step toward acknowledging its funds rate targeting procedure occurred in August 1997, when the FOMC included the funds rate target in its policy directive for the first time.[77] However, the FOMC did not publicly acknowledge having a specific, numerical target for the funds rate until the December 21, 1999, when in its policy statement the FOMC announced that “the FOMC made no change today in its target for the federal funds rate.” Hence, rather than formally announcing that was targeting the funds rate, the FOMC slowly acquiesced to what much earlier became conventional wisdom.

Why it took the FOMC so long to acknowledge that it was targeting the funds rate is a difficult question to answer definitively. Concern about being seen as returning to an operating procedure that experience had discredited is one reason. Concern that interest rate targeting might call into question the Committee’s resolve to reduce inflation is another. But perhaps the most important reason is the concern that acknowledging that they were targeting the funds rate would increase political pressures, making it more

[76] Board of Governors of the Federal Reserve System (1994), p. 307.

[77] The issue of the wording of the policy directive came up at the July 1997 meeting, but was tabled by the Chairman until the August meeting, when the new wording was accepted with little discussion. President Broaddus noted, however, that “what we are doing here is to be clearer about our operating instrument without making corresponding changes with respect to the language on our longer-term goals.” Chairman Greenspan responded saying the Committee has “gone in the direction of announcing changes in the federal funds rate after our meetings, all we are doing is moving that explicitly into the directive.” (Transcript, August 1997 meeting, p. 63-64.)

difficult to pursue the Committee's objective for inflation. Also, whether intended or not, having a fuzzy funds rate target appears to have enhanced the Chairmen's ability to determine the course of monetary policy.

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Table 1: Federal Funds Rate Target: September 1982 – December 31, 1993			
Date	ff^T	Date	ff^T
09/27/1982c	10.25	8/27/1987	6.75
10/1/1982	10	9/3/1987	6.875
10/7/1982	9.5	9/4/1987	7.25
11/19/1982m	9	9/24/1987	7.3125
12/14/1982	8.5	11/04/1987m	6.8125
03/31/1983m	8.625	1/28/1988	6.625
05/25/1983m	8.75	02/11/1988m	6.5
06/24/1983c	9	03/30/1988m	6.75
07/14/1983m	9.25	5/9/1988	7
7/20/1983	9.4375	5/25/1988	7.25
8/11/1983	9.5625	06/22/1988c	7.4375
8/17/1983	9.5	7/1/1988	7.5
9/15/1983	9.375	07/19/1988c	7.6875
03/29/1984m	10.5	08/08/1988c	7.75
7/5/1984	11	8/9/1988	8.125
07/19/1984m	11.25	11/17/1988	8.3125
8/9/1984	11.5	11/22/1988c	8.375
9/20/1984	11.25	12/15/1988m	8.6875
9/27/1984	11	1/5/1989	9
10/11/1984	10.5	02/09/1989m	9.125
10/18/1984	10	2/14/1989	9.3125
11/08/1984m	9.5	2/24/1989	9.75
11/23/1984	9	05/17/1989m	9.8125
12/6/1984	8.75	06/06/1989c	9.5625
12/19/1984m	8.5	07/07/1989m	9.3125
12/24/1984	8.125	07/27/1989c	9.0625
1/24/1985	8.25	10/19/1989c	8.75
02/14/1985m	8.375	11/6/1989	8.5
3/28/1985	8.5	12/20/1989m	8.25
4/25/1985	8.25	7/13/1990	8
5/20/1985	7.75	10/29/1990	7.75
7/11/1985	7.6875	11/14/1990m	7.5
7/25/1985	7.75	12/7/1990	7.25
08/21/1985m	7.8125	12/19/1990m	7
9/6/1985	8	01/09/1991c	6.75
12/18/1985m	7.75	02/01/1991c	6.25
3/7/1986	7.25	3/8/1991	6
04/02/1986m	7.3215	04/30/1991c	5.75
4/21/1986	6.75	8/6/1991	5.5
05/22/1986m	6.8125	9/13/1991	5.25
6/5/1986	6.875	10/31/1991	5
07/11/1986m	6.375	11/06/1991m	4.75
08/21/1986m	5.875	12/6/1991	4.5
1/5/1987	6	12/20/1991c	4
04/30/1987c	6.5	4/9/1992	3.75
05/22/1987m	6.75	07/02/1992c	3.25
7/2/1987	6.625	9/4/1992	3

m denotes that the change was made at a meeting of the FOMC
c denotes that the change was announced in a conference call of Committee members