BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

DIVISION OF MONETARY AFFAIRS

August 29, 2019

Mr. Oliver Giesecke
Columbia University
3022 Broadway
New York, NY 10027

Dear Mr. Giesecke:

This letter is in response to your Freedom of Information Act ("FOIA") request dated and received by the Federal Open Market Committee ("FOMC" or "Committee") FOIA Service Center on June 10, 2019. On August 1, 2019, you refined your request via email. Pursuant to the FOIA, 5 U.S.C. § 552, your request stated:

> According to the Romer and Romer (2004) AER article there exist two "internal memos from the Federal Reserve showing the 'expected federal funds rate.' One covers the period from January 1971 to December 1984 and the other covers the period from December 1983 to September 1992. These memos are based on the Weekly Report of the Manager of Open Market Operations. In addition to numerical values, the memos contain brief remarks about the timing of moves and where, within a given range, the open market desk was aiming. These remarks make it clear that the series reflects Federal Reserve intentions rather than passive expectations or forecasts."

Staff members searched and located one document that appears to contain the information you requested. An internal memo dated February 20, 2003, includes a collection of eight series showing the expected federal funds over (and beyond) the time span in which you are interested. While the years covered in this document do not match the specific date ranges in your request, it is likely that truncated versions of two of the included series are the documents referred to in your request.

Given your interest in this topic, you may also find useful an FOMC document titled "A Modern History of FOMC Communication," (June 24, 2003), available on the FOMC's public website at this location:

https://www.federalreserve.gov/monetarypolicy/files/FOMC20030624memo01.pdf

Your request is hereby granted in full.[1] Please let me know if I can be of further assistance.

[1] If you have any questions, you may contact the FOMC FOIA Public Liaison at (202) 973-7400.

Sincerely,

[Signed]

Peter Garavuso
FOMC FOIA Service Center

Attachment

Strictly Confidential (FR)
Class I - FOMC

# BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

DIVISION OF MONETARY AFFAIRS

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**Date:** February 20, 2003

**To:** Normand Bernard, James Clouse, Athanasios Orphanides, Sherry Edwards, Gary Gillum, Matt Luecke and Jeff Slone

**From:** David Lindsey

**Subject:** Meeting next Tuesday at 10:00 am

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I have scheduled a meeting in my office on Tuesday, February 25 at 10:00 am to discuss the intended funds rate in the following attachments, which give:

1) A New York Desk series that Sherry oversaw.

2) Bonnie Garrett's series, as shown in

   a) a memo.

   b) a chart by Matt.

3) A series from Rudebusch (1995) from Thorton and Wheelock (appendix B table B1).

4) Bonnie's series from Thornton.

5) The Open Market Operations series on the funds rate target from the Board's web site in

   a) a table.

   b) a chart.

6) A series by Wrightson.

7) A series from Jeff Slone via Jim Clouse used for event studies.

8) The series on the operating targets for the funds rate and borrowing chosen by the FOMC, as prepared after each FOMC meeting by the Secretariat.

# HISTORICAL CHANGES OF THE FEDERAL FUNDS RATE & THE DISCOUNT RATE (1971-PRESENT)

| | DISCOUNT RATE | | FEDERAL FUNDS RATE | |
|---|---|---|---|---|
| DATE | CHANGE | NEW LEVEL | CHANGE | NEW LEVEL/RANGE |
| **1971** | | | | |
| January 7 | -1/4 | 5 1/4 | | |
| January 8 | | | -1/4 | 4 1/2 |
| January 12 | | | -1/4 | 4 1/4 |
| January 18-22 | -1/4 | 5 | | |
| late January | | | -1/4 | 4 |
| early February | | | -1/4 | 3 3/4 |
| February 12-19 | -1/4 | 4 3/4 | | |
| February 19 | | | -1/4 | 3 1/2 |
| March to early July | | | gradual increase | 5 to 5 1/2 |
| early July | | | -0 to 1/4 | 5 to 5 1/4 |
| July 15-16 | +1/4 | 5 | +0 to 1/4 | 5 to 5 1/2 |
| mid August | | | +1/2 to 1/4 | 5 1/2 to 5 3/4 |
| September to October | | | gradual decrease | 5 to 5 1/8 |
| days prior to November 10 | | | -0 to 1/8 | 5 |
| November10-19 | -1/4 | 4 3/4 | | |
| November 12 | | | -1/4 | 4 3/4 |
| late November | | | cut to midpoint of | 4 1/4 to 4 7/8 |
| December 10-17 | -1/4 | 4 1/2 | cut to slightly below midpoint of | 4 1/4 to 4 7/8 |
| December 16 | | | decrease | 4 1/8 |
| December 17 | | | -1/8 | 4 |
| mid December to February 1972 | | | gradual decrease | 3 1/2 |
| | | | | |
| **1972** | | | | |
| March to late December | | | gradual increase | 5 1/2 to 5 3/4 |
| **1973** | | | | |

| | | | | |
|---|---|---|---|---|
| ea..y January | | | +1/4 to 0 | 5 3/4 |
| January 12-15 | +1/2 | 5 | +0 to 1/8 | 5 3/4 to 5 7/8 |
| January 19 | | | +1/4 to 1/8 | 6 |
| late January | | | gradual increase | 6 3/8 |
| mid February | | | +1/8 | 6 1/2 |
| February 23-26 | +1/2 | 5 1/2 | +1/8 to 1/4 | 6 5/8 to 6 3/4 |
| early March | | | +1/8 to 0 | 6 3/4 |
| mid March | | | +0 to 1/4 | 6 3/4 to 7 |
| late March | | | +1/4 to 0 | 7 |
| April 20 to May 4 | +1/4 | 5 3/4 | +1/4 | 7 1/4 |
| May 4 | | | +0 to 1/4 | 7 1/4 to 7 1/2 |
| May 10-11 | +1/4 | 6 | +1/4 to 0 | 7 1/2 |
| May 18 | | | +3/8 | 7 7/8 |
| late May | | | +3/8 | 8 1/4 |
| June 8-11 | +1/2 | 6 1/2 | +1/4 | 8 1/2 |
| June 29 to July 2 | +1/2 | 7 | +3/4 | 9 1/4 |
| July 6 | | | +1/4 | 9 1/2 |
| mid July | | | gradual increase | 10 to 10 1/4 |
| late July | | | +1/2 to 1/4 | 10 1/2 |
| August 13 -14 | +1/2 | 7 1/2 | | |
| late August | | | +1/2 | 11 |
| September to February '74 | | | gradual decrease | 9 |
| **1974** | | | | |
| March to mid April | | | gradual increase | 10 |
| days prior to April 24 | | | +1/2 to 3/4 | 10 1/2 to 10 3/4 |
| April 24-25 | +1/2 | 8 | | |
| April 25 | | | +1/2 to 1/4 | 11 |
| late May to mid July | | | gradual increase | 13 |
| late July to late November | | | gradual decrease | 9 1/4 |
| late November | | | -1/4 to 0 | 9 to 9 1/4 |
| December 6-9 | -1/4 | 7 3/4 | -0 to 1/4 | 9 |
| December 9 | | | -1/4 to 0 | 8 3/4 to 9 |
| mid to late December | | | gradual decrease | 8 1/4 |
| late December | | | -1/4 | 8 |
| **1975** | | | | |

| | | | | |
|---|---|---|---|---|
| January 3 - 10 | -1/2 | 7 1/4 | -1/2 | 7 1/2 |
| January 10 | | | -1/4 | 7 1/4 |
| mid January | | | gradual decrease | 6 3/4 to 7 |
| days prior to February 4 | | | -1/4 to 1/2 | 6 1/2 |
| February 4-5 | -1/2 | 6 3/4 | | |
| February 6 | | | -1/4 | 6 1/4 |
| late February | | | -1/4 | 6 |
| March 7-10 | -1/2 | 6 1/4 | -1/4 | 5 3/4 |
| March 21 | | | -1/4 | 5 1/2 |
| late April | | | -1/4 | 5 1/4 |
| early May | | | -1/4 to 0 | 5 to 5 1/4 |
| May 15-16 | -1/4 | 6 | | |
| early June | | | +1/4 to 0 | 5 1/4 |
| mid June to mid September | | | gradual increase | 6 1/4 to 6 1/2 |
| October to early January '76 | | | gradual decrease | 4 7/8 |
| **1976** | | | | |
| January 12 | | | -1/8 | 4 3/4 |
| January 16-19 | -1/2 | 5 1/2 | | |
| April 21 | | | +1/8 | 4 7/8 |
| May | | | gradual increase | 5 1/2 |
| July to early October | | | gradual decrease | 5 1/8 |
| mid October | | | -1/8 | 5 |
| November 19-22 | -1/4 | 5 1/4 | -1/8 | 4 7/8 |
| November 26 | | | -1/8 | 4 3/4 |
| early December to early August '77 | | | gradual increase | 5 7/8 |
| **1977** | | | | |
| mid August | | | +1/8 | 6 |
| August 29-31 | +1/2 | 5 3/4 | | |
| mid September | | | +1/8 | 6 1/8 |
| September 20 | | | +1/8 | 6 1/4 |
| mid October | | | +1/4 | 6 1/2 |
| October 25-26 | +1/4 | 6 | | |
| **1978** | | | | |

| | | | | |
|---|---|---|---|---|
| January 6-9 | +1/2 | 6 1/2 | | |
| January 9 | | | +1/4 | 6 3/4 |
| April 19 | | | +1/4 | 7 |
| April 26 | | | +1/8 | 7 1/8 |
| April 27 | | | +1/8 | 7 1/4 |
| May 11 | +1/2 | 7 | | |
| May 17 | | | +1/4 | 7 1/2 |
| June 21 | | | +1/4 | 7 3/4 |
| June 30 to July 3 | +1/4 | 7 1/4 | | |
| July 19 | | | +1/8 | 7 7/8 |
| August 16 | | | +1/8 | 8 |
| August 18-21 | +1/2 | 7 3/4 | +0 to 1/8 | 8 to 8 1/8 |
| August 25 | | | +1/4 to 1/8 | 8 1/4 |
| September 8 | | | +1/8 | 8 3/8 |
| September 20 | | | +1/8 | 8 1/2 |
| September 22 | +1/4 | 8 | +1/8 | 8 5/8 |
| September 29 | | | +1/8 | 8 3/4 |
| October 13-16 | +1/2 | 8 1/2 | | |
| October 18 | | | +1/4 | 9 |
| days prior to November 1 | | | +1/2 to 3/4 | 9 1/2 to 9 3/4 |
| November 1 | +1 | 9 1/2 | | |
| mid November | | | +3/8 to 1/8 | 9 7/8 |
| December 20 | | | +1/8 | 10 |
| **1979** | | | | |
| late April | | | +1/4 | 10 1/4 |
| July 20 | +1/2 | 10 | +1/4 | 10 1/2 |
| July 27 | | | +1/8 | 10 5/8 |
| August 15 | | | +3/8 | 11 |
| August 16-17 | +1/2 | 10 1/2 | | |
| late August | | | +1/4 | 11 1/4 |
| August 31 | | | +1/8 | 11 3/8 |
| September 18-19 | +1/2 | 11 | | |
| September 19 | | | +1/8 | 11 1/2 |
| October 6-8 | +1 | 12 | | |
| October 8 | | | +1 1/2 | 13 |
| late October | | | +2 1/2 | 15 1/2 |

| | | | | |
|---|---|---|---|---|
| November to December | | | gradual decrease | 12 to 14 |
| **1980** | | | | |
| early to late January | | | gradual increase | 14 |
| February 15 | +1 | 13 | +1/2 to 1 | 14 1/2 to 15 |
| late February to late March | | | gradual increase | 20 |
| April to mid May | | | gradual decrease | 10 1/2 to 11 1/2 |
| May 22 | | | -1 to 3/4 | 9 1/2 to 10 3/4 |
| May 28-30 | -1 | 12 | | |
| June 5 | | | -1 to 1 1/4 | 8 1/2 to 9 1/2 |
| June 12-13 | -1 | 11 | | |
| July 25-28 | -1 | 10 | | |
| August 7 | | | +1 1/2 to 1/2 | 10 |
| mid September | | | +1 | 11 |
| September 25-26 | +1 | 11 | +3/4 to 1 | 11 3/4 to 12 |
| early October | | | +1/4 to 0 | 12 |
| mid October to early November | | | gradual increase | 13 1/2 to 13 3/4 |
| November 7 | | | +1 1/2 to 1 1/4 | 15 |
| November 14-17 | +1 | 12 | | |
| November 21 | | | +2 to 3 | 17 to 18 |
| December 4-5 | +1 | 13 | | |
| December 5 | | | +2 | 19 to 20 |
| December 29 | | | -2 | 17 to 18 |
| **1981** | | | | |
| early to mid January | | | raised towards | 19 to 20 |
| late January to mid April | | | gradual decrease | 16 |
| May 4-5 | +1 | 14 | | |
| May 8 | | | raised to | 18 to 20 |
| late May | | | gradual increase | 20 |
| mid June to mid October | | | gradual decrease | 14 1/2 to 15 1/2 |
| October 30 to November 2 | -1 | 13 | | |
| November 2 | | | -1 1/2 | 13 to 14 |
| mid to late November | | | gradual decrease | 13 |
| December 3-4 | -1 | 12 | | |
| December 4 | | | -1 | 12 |

| | | | | |
|---|---|---|---|---|
| **1982** | | | | |
| early January to mid April | | | gradual increase | 15 |
| mid April to mid July | | | gradual decrease | 12 1/2 to 13 |
| July 19-20 | -1/2 | 11 1/2 | | |
| July 20 | | | -1 | 11 1/2 to 12 |
| July 30 to August 2 | -1/2 | 11 | | |
| August 2 | | | -1/2 | 11 to 11 1/2 |
| August 13-16 | -1/2 | 10 1/2 | | |
| August 16 | | | -1 | 10 to 10 1/2 |
| August 26-27 | -1/2 | 10 | | |
| August 27 | | | -1/2 to 1 | 9 1/2 |
| early September | | | +1/2 | 10 |
| October 8-12 | -1/2 | 9 1/2 | | |
| October 12 | | | -1/2 | 9 1/2 |
| November 19-22 | -1/2 | 9 | | |
| November 22 | | | -1/2 | 9 |
| December 13-15 | -1/2 | 8 1/2 | -1/2 | 8 1/2 |
| **1983** | | | | |
| late May to mid August | | | gradual increase | 9 1/2 to 9 5/8 |
| late August to early October | | | gradual decrease | 9 1/4 to 9 1/2 |
| **1984** | | | | |
| early to late March | | | gradual increase | 9 3/4 to 10 |
| March 29 | | | +1/4 to 1/2 | 10 to 10 1/2 |
| April 6-9 | +1/2 | 9 | +1/2 to 0 | 10 1/2 |
| late June | | | +1/2 | 11 |
| late July to late August | | | gradual increase | 11 1/2 to 11 3/4 |
| early September to mid October | | | gradual decrease | 10 |
| early November | | | -1/2 | 9 1/2 |
| November 21 | -1/2 | 8 1/2 | | |
| November 22 | | | -1/2 | 9 |
| early December | | | -1/4 | 8 3/4 |
| December 21-24 | -1/2 | 8 | -1/2 | 8 1/4 |

| | | | | |
|---|---|---|---|---|
| **1985** | | | | |
| mid February to mid March | | | gradual increase | 9 |
| late March to early April | | | gradual decrease | 8 1/2 |
| mid April | | | -1/4 | 8 1/4 |
| May 17-20 | -1/2 | 7 1/2 | | |
| May 20 | | | -1/2 | 7 3/4 |
| mid July | | | -1/8 to 0 | 7 5/8 to 7 3/4 |
| late July to late August | | | gradual increase | 7 3/4 to 8 |
| September 6 | | | +1/4 to 0 | 8 |
| December 18 | | | -1/4 | 7 3/4 |
| **1986** | | | | |
| May 7 | -1/2 | 7 | -1/2 | 7 1/4 |
| April 18-21 | -1/2 | 6 1/2 | -1/2 | 6 3/4 |
| late May | | | +0 to 1/8 | 6 3/4 to 6 7/8 |
| mid June | | | +1/8 to 0 | 6 7/8 |
| July 10-11 | -1/2 | 6 | | |
| July 11 | | | -1/2 | 6 3/8 |
| mid August | | | -1/8 to 0 | 6 1/4 to 6 3/8 |
| August 20-21 | -1/2 | 5 1/2 | | |
| August 21 | | | -3/8 to 1/2 | 5 7/8 |
| late December | | | +1/8 | 6 |
| **1987** | | | | |
| late April to mid May | | | gradual increase | 6 3/4 |
| September 3 | | | +0 to 1/4 | 6 3/4 to 7 |
| September 4 | +1/2 | 6 | +1/2 to 1/4 | 7 1/4 |
| in the weeks after October 19 | | | +1/2 to 3/8 | 6 3/4 to 6 7/8 |
| **1988** | | | | |
| late January to early February | | | gradual decrease | 6 1/2 |
| late March to late June | | | gradual increase | 7 1/2 |
| mid July | | | +1/8 to 1/4 | 7 5/8 to 7 3/4 |
| August 5 | | | +1/8 to 0 | 7 3/4 |
| August 9 | +1/2 | 6 1/2 | +1/4 to 1/2 | 8 to 8 1/4 |
| mid November | | | +3/8 to 1/8 | 8 3/8 |

| | | | | |
|---|---|---|---|---|
| early December | | | +1/4 to 3/8 | 8 5/8 to 8 3/4 |
| **1989** | | | | |
| early January to early February | | | gradual increase | 9 1/4 to 9 3/8 |
| February 23 | | | +1/4 | 9 1/2 to 9 5/8 |
| February 24 | +1/2 | 7 | +1/4 to 1/8 | 9 3/4 |
| early June | | | -1/4 to 1/8 | 9 1/2 to 9 5/8 |
| ~~early July to~~ mid December | | | ~~gradual~~ decrease | 8 1/4 |
| **1990** | | | | |
| July 13 | | | -1/4 | 8 |
| October 29 | | | -1/4 | 7 3/4 |
| November 14 | | | -1/4 | 7 1/2 |
| December 7 | | | -1/4 | 7 1/4 |
| December 18-19 | -1/2 | 6 1/2 | | |
| December 19 | | | -1/4 | 7 |
| **1991** | | | | |
| January 8 | | | -1/4 | 6 3/4 |
| February 1 | -1/2 | 6 | -1/2 | 6 1/4 |
| March 8 | | | -1/4 | 6 |
| April 30 | -1/2 | 5 1/2 | -1/4 | 5 3/4 |
| August 6 | | | -1/4 | 5 1/2 |
| September 13 | -1/2 | 5 | -1/4 | 5 1/4 |
| October 31 | | | -1/4 | 5 |
| November 6 | -1/2 | 4 1/2 | -1/4 | 4 3/4 |
| December 6 | | | -1/4 | 4 1/2 |
| December 20 | -1 | 3 1/2 | -1/2 | 4 |
| **1992** | | | | |
| April 9 | | | -1/4 | 3 3/4 |
| July 2 | -1/2 | 3 | -1/2 | 3 1/4 |
| September 4 | | | -1/4 | 3 |
| **1993** | | | | |
| No changes | | | | |

| | | | | |
|---|---|---|---|---|
| **1994** | | | | |
| February 4 | | | +1/4 | 3 1/4 |
| March 22 | | | +1/4 | 3 1/2 |
| April 18 | | | +1/4 | 3 3/4 |
| May 17 | +1/2 | 3 1/2 | +1/2 | 4 1/4 |
| August 16 | +1/2 | 4 | +1/2 | 4 3/4 |
| November 15 | +3/4 | 4 3/4 | +3/4 | 5 1/2 |
| **1995** | | | | |
| February 1 | +1/2 | 5 1/4 | +1/2 | 6 |
| July 6 | | | -1/4 | 5 3/4 |
| December 19 | | | -1/4 | 5 1/2 |
| **1996** | | | | |
| January 31 | -1/4 | 5 | -1/4 | 5 1/4 |
| **1997** | | | | |
| March 25 | | | +1/4 | 5 1/2 |
| **1998** | | | | |
| September 29 | | | -1/4 | 5 1/4 |
| October 15 | -1/4 | 4 3/4 | -1/4 | 5 |

**UPDATED 10/14/98**

The Federal Reserve did not target the federal funds rate as a means of implementing monetary policy during the period from October 1979 until the late 1980s. During that interim period, the federal funds rate was the result of market forces, in combination with other policy targets such as the degree of reserve pressure and targets for borrowed reserves. The FOMC for many years set a target range for the federal funds rate which it considered acceptable in the context of current policy.

NOTE:A gradual increase (or decrease) indicates that the rate was increased (or decreased) in two or more steps.

All data are based on available records, but this Bank does not guarantee their accuracy.

April 20, 2000

# Memorandum

**To:** Bill Gavin

**From:** Bonnie Garrett

**Date:** April 20, 2000

**Re:** Additional Comments on "A History of the Asymmetric Policy Directive" by Daniel Thornton and David Wheelock

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In revising their paper, Daniel Thornton and David Wheelock responded to questions regarding their federal funds target data by calculating test statistics for an additional data series and adding these results to several footnotes in their paper. To ascertain the changes in the "target" federal funds rate during most of the 1980's, when that rate was not explicitly targeted by the FOMC, is not a simple task. We have researched that period by reviewing the Desk manager's reports to the FOMC, the transcripts, the directives, and the records of policy actions.[1] The results, as shown in the table below, are based on staff judgments regarding the consensus of the FOMC and should not be viewed as "official" in any sense. They should be cited as unofficial interpretations of FOMC policy changes. The table shows 84 policy changes over the 1983 through 1999 period.[2] Of course, the inclusion of federal funds rate changes that are not truly policy changes would bias the results.

[1] This research has allowed a more reliable determination of the total number of funds rate changes, which had previously been referred to tentatively as "about 88."

[2] For example, the change in the funds rate at the August 21, 1984 FOMC meeting was included in the new data used by the authors. However, Peter Sternlight stated in his report to the FOMC at that meeting, "The upward creep in the Federal funds rate, from weekly averages around 11 to 11¼ percent through most of July to around 11½ to 11¾ percent in recent weeks (and 11.78 percent so far this statement period) has been something of a puzzle, occurring against a background of average adjustment and seasonal borrowing at the discount window that remained fairly consistently around the $1 billion level."

There is also some concern about extending the analysis of asymmetry back to 1983. In 1983 and 1984, asymmetric language was included in some of the directives, but it was not used to guide intermeeting policy moves. There were only two intermeeting policy changes during those years, June 23, 1983 and November 21, 1984, the latter of which served to align FOMC policy with a cut in the discount rate. At the June 23, 1983 conference call, a consensus approved a modest increase in reserve restraint within the framework of the directive from the May 24, 1983 meeting.

April 20, 2000

## FOMC Policy Changes

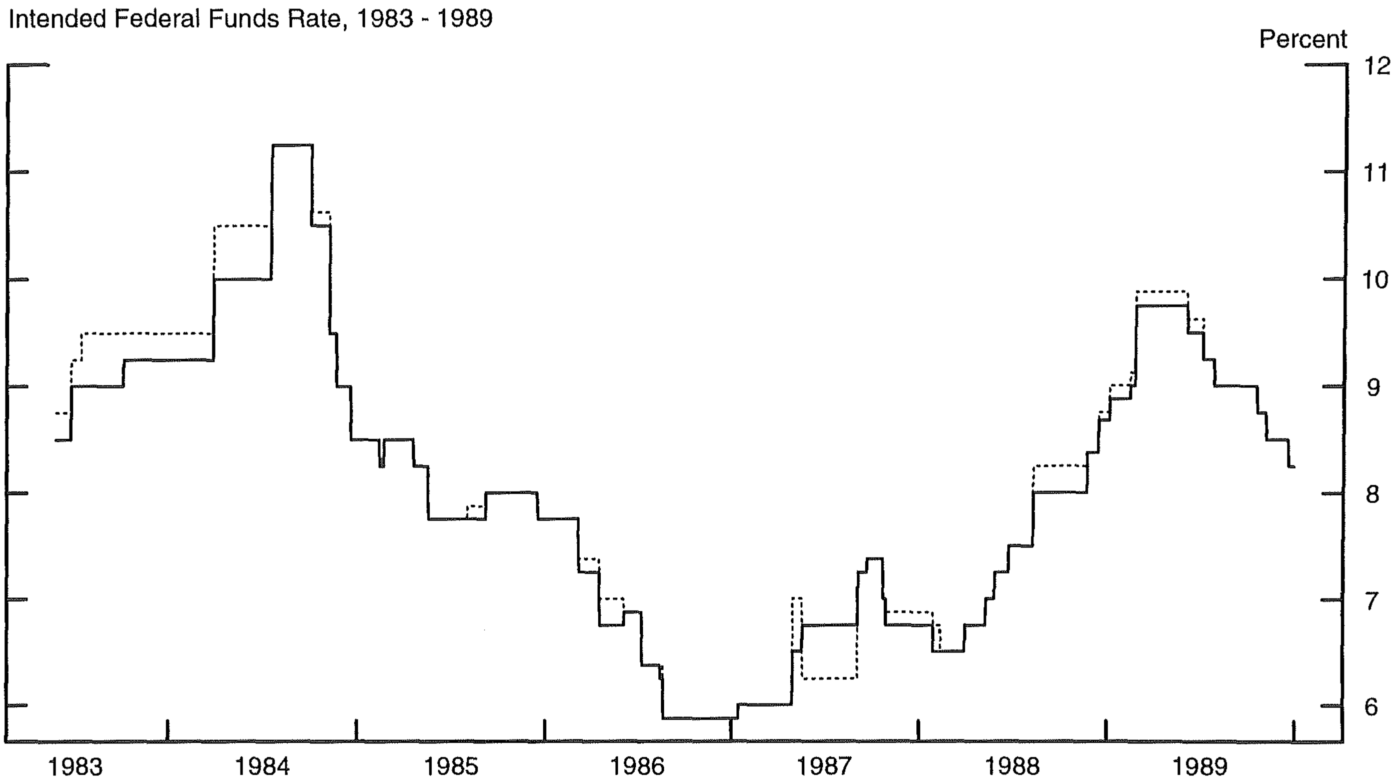
| Date | "Expected" Funds Rate |
|---|---|
| May 24, 1983 | 8.5 – 8.75 |
| June 23, 1983 | 9 or slightly higher |
| July 12-13, 1983 | 9 or somewhat higher (9 – 9.5) |
| October 4, 1983 | 9.25 – 9.5 |
| | |
| March 26-27, 1984 | 10 – 10.5 |
| July 16-17, 1984 | 11.25 |
| October 2, 1984 | 10.5 – 10.625 |
| November 7, 1984 | 9.5 |
| November 21, 1984 | 9 |
| December 17-18, 1984 | 8.5 |
| | |
| February 12-13, 1985 | 8.25 – 8.5 |
| February 21, 1985 | 8.5 |
| April 18, 1985 | 8.25 |
| May 17, 1985 | 7.75 |
| August 1, 1985 | 7.75 or a shade higher |
| September 6, 1985 | 8 |
| December 16-17, 1985 | 7.75 |
| | |
| March 7, 1986 | 7.25 or a shade higher |
| April 18, 1986 | 6.75 or slightly higher |

April 20, 2000

| Date | "Expected" Funds Rate |
|---|---|
| June 5, 1986 | 6.875 |
| July 10, 1986 | 6.375 |
| August 14, 1986 | 6.25 – 6.375 |
| August 20, 1986 | 5.875 |
| | |
| January 15, 1987 | 6 |
| April 30, 1987 | 6½ or somewhat higher |
| May 19, 1987 | 6¾ or somewhat lower |
| September 3, 1987 | 6¾ to 7 |
| September 4, 1987 | 7¼ |
| September 22, 1987 | 7 3/8 |
| October 23, 1987 | 7 |
| October 28, 1987 | 6¾ to 6 7/8 |
| | |
| January 28, 1988 | 6½ to 6¾ |
| February 9-10, 1988 | 6½ |
| March 29, 1988 | 6¾ |
| May 7, 1988 | 7 |
| May 25, 1988 | 7¼ |
| June 22, 1988 | 7½ |
| August 9, 1988 | 8 to 8¼ |
| November 22, 1988 | 8 3/8 |
| December 13-14, 1988 | 8 5/8 to 8 3/4 |

*April 20, 2000*

| Date | "Expected" Funds Rate |
|---|---|
| Early January 1989 | 8 7/8 to 9 |
| February 14, 1989 | 9 to 9 1/8 |
| February 24, 1989 | 9¾ to 9 7/8 |
| June 6, 1989 | 9½ to 9 5/8 |
| July 5-6, 1989 | 9¼ |
| July 27, 1989 | 9 |
| October 19, 1989 | 8¾ |
| November 6, 1989 | 8½ |
| December 18-19, 1989 | 8¼ |


Intended Federal Funds Rate, 1983 - 1989
Percent
12
11
10
9
8
7
6
1983
1984
1985
1986
1987
1988
1989

Daniel L. Thornton is a vice president and economist and David C. Wheelock is an assistant vice president and economist at the Federal Reserve Bank of St. Louis. Heidi L. Beyer provided research assistance.

# A History of the Asymmetric Policy Directive

**Daniel L. Thornton and David C. Wheelock**

The Federal Open Market Committee (FOMC) is the Federal Reserve System's principal monetary policy-making committee.[1] At the conclusion of each FOMC meeting, the Committee issues operating instructions, known as the "directive," to the Open Market Trading Desk at the Federal Reserve Bank of New York. From 1983 through 1999, these instructions included a statement about the Committee's expectations for future changes in the stance of monetary policy, in addition to instructions for current policy. The statement pertaining to possible future policy was known as the "symmetry," "tilt," or "bias," of the policy directive. The directive was said to be symmetric if it indicated that a tightening or an easing of policy were equally likely in the future. Otherwise, the directive was said to be asymmetric toward either tightening or easing.

Since February 1994, the FOMC has publicly announced changes in current monetary policy immediately upon making them. Before May 1999, public announcements made at the conclusion of FOMC meetings did not indicate whether the FOMC had issued an asymmetric directive. From May to December 1999, however, announcements following FOMC meetings included a statement of the Committee's expectation about the direction of future policy action, regardless of whether an action was taken at that meeting. This practice attracted considerable attention and much speculation about how to interpret statements about possible future policy changes. The Fed has never provided an official interpretation of these statements. To help clarify its intentions, the FOMC established a subcommittee to review both its policy directive and the public announcement following FOMC meetings. In January 2000, the FOMC announced that the public statement issued at the conclusion of future FOMC meetings will indicate any immediate change in the stance of policy, as well as the Committee's assessment of the balance of risks between heightened inflation pressure and economic weakness over the foreseeable future. The new language, however, is not intended to indicate the likely direction or the timing of future policy moves.

The January 2000 announcement appears to bring to a close a distinct period in the history of Federal Reserve operating procedures. This article will review the history and implementation of asymmetry in FOMC policy directives between 1983 and 1999. Researchers and market participants have suggested at least three interpretations of the FOMC's use of asymmetric language. One is based on the belief that the FOMC chairman has discretion to adjust the stance of policy by small amounts between FOMC meetings without consulting the full Committee. An asymmetric directive, according to this interpretation, granted the chairman authority to make larger intermeeting policy changes in the direction specified by the asymmetric language than he otherwise was permitted to make.

A second interpretation holds that the issuance of an asymmetric directive indicated that the FOMC was more likely to change the stance of policy either before or at the next FOMC meeting, than if a symmetric directive had been issued. Asymmetric language also is thought to have indicated the most likely direction of the policy action. Some observers interpret asymmetry as pertaining just to the intermeeting period, while others contend that asymmetry signaled likely changes in policy at the next FOMC meeting. Before 1994, the FOMC often changed its policy stance between meetings. Since 1994, however, it has rarely done so, suggesting a possible change in the horizon over which asymmetric language pertained.

A third interpretation is that asymmetric directives primarily were used to build consensus among the voting FOMC members. For example, if several members of the Committee desired to tighten policy

[1] The FOMC consists of the seven members of the Board of Governors of the Federal Reserve System and the presidents of the 12 Federal Reserve Banks. All Board members are voting members of the FOMC, and the Board chairman serves as FOMC chairman. The president of the Federal Reserve Bank of New York serves as FOMC vice chairman, and is a permanent voting member. The presidents of the remaining Reserve Banks have four votes, which rotate among them on a fixed schedule. Appendix A contains a listing of the members of the Board of Governors and Federal Reserve Bank presidents who served between 1983 and 1999.

## Appendix B

# CHANGES IN THE EXPECTED FEDERAL FUNDS RATE, 1983-99

When the FOMC implemented policy by establishing targets for the level of borrowed reserves, FOMC members and staff estimated the level (or range) of the federal funds rate expected to be consistent with the Committee's borrowed reserves target. Hence, changes in the expected funds rate during this period could reflect either policy changes or technical adjustments associated with achieving a given level of borrowed reserves. The FOMC did not, however, maintain a strict borrowed reserves target throughout the period studied here. At times, the Committee placed greater emphasis on the federal funds rate than on the level of borrowed reserves and, by the early 1990s, the FOMC probably had largely abandoned the targeting of borrowed reserves in favor of targeting the federal funds rate exclusively.

In this paper, we employ two distinct sets of data on changes in the expected federal funds rate. Both sets are presented below (Tables B1 and B2). The information used to construct Tables 1-3 in the text are derived from data in Rudebusch (1995) for 1984-93. These data have been used widely by researchers, and are based on Manager's Reports from the Open Market Trading Desk at the Federal Reserve Bank of New York. Spence Hilton of the Federal Reserve Bank of New York provided similar data to us for 1983.

A second, unofficial series on the expected federal funds rate associated with FOMC policy changes during 1983-89 was provided to us by staff of the FOMC Secretariat's office. It also is presented below.

## Table B1

### Expected Federal Funds Rate and Dates of Changes in Expected Rate

| Date of Change | Expected Funds Rate | Date of Change | Expected Funds Rate | Date of Change | Expected Funds Rate |
|---|---|---|---|---|---|
| 07/20/1983 | 9.375 | 11/08/1984 | 9.5 | 03/07/1986 | 7.25 |
| 07/27/1983 | 9.4375 | 11/23/1984 | 9 | 04/10/1986 | 7.125 |
| 08/17/1983 | 9.5625 | 12/06/1984 | 8.75 | 04/17/1986 | 7 |
| 08/24/1983 | 9.5 | 12/20/1984 | 8.5 | 04/24/1986 | 6.75 |
| 10/05/1983 | 9.375 | 12/27/1984 | 8.125 | 05/22/1986 | 6.8125 |
| 03/01/1984 | 9.5 | 01/24/1985 | 8.25 | 06/05/1986 | 6.875 |
| 03/15/1984 | 9.875 | 02/14/1985 | 8.375 | 07/11/1986 | 6.375 |
| 03/22/1984 | 10 | 02/21/1985 | 8.5 | 08/14/1986 | 6.3125 |
| 03/29/1984 | 10.25 | 03/21/1985 | 8.625 | 08/21/1986 | 5.875 |
| 04/05/1984 | 10.5 | 03/28/1985 | 8.5 | 12/04/1986 | 6 |
| 06/14/1984 | 10.625 | 04/18/1985 | 8.375 | 04/30/1987 | 6.5 |
| 06/21/1984 | 11 | 04/25/1985 | 8.25 | 05/21/1987 | 6.75 |
| 07/19/1984 | 11.25 | 05/16/1985 | 8.125 | 07/02/1987 | 6.625 |
| 08/09/1984 | 11.5625 | 05/20/1985 | 7.75 | 08/27/1987 | 6.75 |
| 08/30/1984 | 11.4375 | 07/11/1985 | 7.6875 | 09/03/1987 | 6.875 |
| 09/20/1984 | 11.25 | 07/25/1985 | 7.75 | 09/04/1987 | 7.25 |
| 09/27/1984 | 11 | 08/22/1985 | 7.8125 | 09/24/1987 | 7.3125 |
| 10/04/1984 | 10.5625 | 08/29/1985 | 7.875 | 10/22/1987 | 7.125 |
| 10/11/1984 | 10.5 | 09/06/1985 | 8 | 10/28/1987 | 7 |
| 10/18/1984 | 10 | 12/18/1985 | 7.75 | 11/04/1987 | 6.8125 |

*Table B1 continued on next page*

## Table B1 *continued*

| Date of Change | Expected Funds Rate | Date of Change | Expected Funds Rate | Date of Change | Expected Funds Rate |
|---|---|---|---|---|---|
| 01/28/1988 | 6.625 | 12/20/1989 | 8.25 | 07/06/1995 | 5.75 |
| 02/11/1988 | 6.5 | 07/13/1990 | 8 | 12/19/1995 | 5.5 |
| 03/30/1988 | 6.75 | 10/29/1990 | 7.75 | 01/31/1996 | 5.25 |
| 05/09/1988 | 7 | 11/14/1990 | 7.5 | 03/25/1997 | 5.5 |
| 05/25/1988 | 7.25 | 12/07/1990 | 7.25 | 09/29/1998 | 5.25 |
| 06/22/1988 | 7.5 | 12/19/1990 | 7 | 10/15/1998 | 5 |
| 07/19/1988 | 7.6875 | 01/09/1991 | 6.75 | 11/17/1998 | 4.75 |
| 08/08/1988 | 7.75 | 02/01/1991 | 6.25 | 06/30/1999 | 5 |
| 08/09/1988 | 8.125 | 03/08/1991 | 6 | 08/24/1999 | 5.25 |
| 10/20/1988 | 8.25 | 04/30/1991 | 5.75 | 11/16/1999 | 5.5 |
| 11/17/1988 | 8.3125 | 08/06/1991 | 5.5 | | |
| 11/22/1988 | 8.375 | 09/13/1991 | 5.25 | | |
| 12/15/1988 | 8.6875 | 10/31/1991 | 5 | | |
| 12/29/1988 | 8.75 | 11/06/1991 | 4.75 | | |
| 01/05/1989 | 9 | 12/06/1991 | 4.5 | | |
| 02/09/1989 | 9.0625 | 12/20/1991 | 4 | | |
| 02/14/1989 | 9.3125 | 04/09/1992 | 3.75 | | |
| 02/23/1989 | 9.5625 | 07/02/1992 | 3.25 | | |
| 02/24/1989 | 9.75 | 09/04/1992 | 3 | | |
| 05/04/1989 | 9.8125 | 02/04/1994 | 3.25 | | |
| 06/06/1989 | 9.5625 | 03/22/1994 | 3.5 | | |
| 07/07/1989 | 9.3125 | 04/18/1994 | 3.75 | | |
| 07/27/1989 | 9.0625 | 05/17/1994 | 4.25 | | |
| 08/10/1989 | 9 | 08/16/1994 | 4.75 | | |
| 10/18/1989 | 8.75 | 11/15/1994 | 5.5 | | |
| 11/06/1989 | 8.5 | 02/01/1995 | 6 | | |

SOURCES: for 1983—Hilton; for 1984-93—Rudebusch (1995); for 1994-99—FOMC minutes.

**Table B2**

## Unofficial Staff Interpretations of FOMC Policy Changes

| Date of Change | Expected Funds Rate or Range | Date of Change | Expected Funds Rate or Range |
|---|---|---|---|
| 05/24/1983 | 8.5-8.75 | Early 01/1989 | 8.875-9 |
| 06/23/1983 | 9 or slightly higher | 02/14/1989 | 9-9.125 |
| 07/13/1983 | 9 or somewhat higher | 02/24/1989 | 9.75-9.875 |
| 10/04/1983 | 9.25-9.5 | 06/06/1989 | 9.5-9.625 |
| 03/27/1984 | 10-10.5 | 07/06/1989 | 9.25 |
| 07/17/1984 | 11.25 | 07/27/1989 | 9 |
| 10/02/1984 | 10.5-10.625 | 10/19/1989 | 8.75 |
| 11/07/1984 | 9.5 | 11/06/1989 | 8.5 |
| 11/21/1984 | 9 | 12/19/1989 | 8.25 |
| 12/18/1984 | 8.5 | | |
| 02/13/1985 | 8.25-8.5 | | |
| 02/21/1985 | 8.5 | | |
| 04/18/1985 | 8.25 | | |
| 05/17/1985 | 7.75 | | |
| 08/01/1985 | 7.75 or a shade higher | | |
| 09/06/1985 | 8 | | |
| 12/17/1985 | 7.75 | | |
| 03/07/1986 | 7.25 or a shade higher | | |
| 04/18/1986 | 6.75 or slightly higher | | |
| 06/05/1986 | 6.875 | | |
| 07/10/1986 | 6.375 | | |
| 08/14/1986 | 6.25-6.375 | | |
| 08/20/1986 | 5.875 | | |
| 01/15/1987 | 6 | | |
| 04/30/1987 | 6.5 or somewhat higher | | |
| 05/19/1987 | 6.75 or somewhat lower | | |
| 09/03/1987 | 6.75-7 | | |
| 09/04/1987 | 7.25 | | |
| 09/22/1987 | 7.375 | | |
| 10/23/1987 | 7 | | |
| 10/28/1987 | 6.75-6.875 | | |
| 01/28/1988 | 6.5-6.75 | | |
| 02/10/1988 | 6.5 | | |
| 03/29/1988 | 6.75 | | |
| 05/07/1988 | 7 | | |
| 05/25/1988 | 7.25 | | |
| 06/22/1988 | 7.5 | | |
| 08/09/1988 | 8-8.25 | | |
| 11/22/1988 | 8.375 | | |
| 12/14/1988 | 8.5-8.75 | | |

NOTE: The values for the federal funds rates were developed by the FOMC Secretariat on the basis of its review of FOMC meeting transcripts and other records that are available to the public, currently through 1994. The funds rates shown in the table for the period prior to mid-1989 in most cases do not reflect a decision by the FOMC to target the rates in question. They are based on staff judgments regarding the consensus of the FOMC and should not be viewed as "official" in any sense. In this paper, we assume that a target change occurred on each recorded date, including those for which a specific rate or range was not given, e.g., July 13, 1983.

The Federal Reserve Board

# Open Market Operations

Open market operations--purchases and sales of U.S. Treasury and federal agency securities--are the Federal Reserve's principal tool for implementing monetary policy. The short-term objective for open market operations is specified by the Federal Open Market Committee (FOMC). This objective can be a desired quantity of reserves or a desired price (the federal funds rate). The federal funds rate is the interest rate at which depository institutions lend balances at the Federal Reserve to other depository institutions overnight.

The Federal Reserve's objective for open market operations has varied over the years. During the 1980s, the focus gradually shifted toward attaining a specified level of the federal funds rate, a process that was largely complete by the end of the decade. Beginning in 1994, the FOMC began announcing changes in its policy stance, and in 1995 it began to explicitly state its target level for the federal funds rate. Under a policy announced on January 19, 2000, the FOMC issues, shortly after each of its meetings, a statement that includes its assessment of the risks in the foreseeable future to the attainment of its long-run goals of price stability and sustainable economic growth.

For more information on open market operations, see the article in the *Federal Reserve Bulletin* (102 KB PDF).

## Intended federal funds rate
### Change, 1990 to present

| Date | Change (basis points) Increase | Change (basis points) Decrease | Level (percent) |
|---|---|---|---|
| **2002** | | | |
| November 6 | ... | 50 | 1.25 |
| **2001** | | | |
| December 11 | ... | 25 | 1.75 |
| November 6 | ... | 50 | 2.00 |
| October 2 | ... | 50 | 2.50 |
| September 17 | ... | 50 | 3.00 |
| August 21 | ... | 25 | 3.50 |
| June 27 | ... | 25 | 3.75 |

| | | | |
|---|---|---|---|
| May 15 | ... | 50 | 4.00 |
| April 18 | ... | 50 | 4.50 |
| March 20 | ... | 50 | 5.00 |
| January 31 | ... | 50 | 5.50 |
| January 3 | ... | 50 | 6.00 |
| **2000** | | | |
| May 16 | 50 | ... | 6.50 |
| March 21 | 25 | ... | 6.00 |
| February 2 | 25 | ... | 5.75 |
| **1999** | | | |
| November 16 | 25 | ... | 5.50 |
| August 24 | 25 | ... | 5.25 |
| June 30 | 25 | ... | 5.00 |
| **1998** | | | |
| November 17 | ... | 25 | 4.75 |
| October 15 | ... | 25 | 5.00 |
| September 29 | ... | 25 | 5.25 |
| **1997** | | | |
| March 25 | 25 | ... | 5.50 |
| **1996** | | | |
| January 31 | ... | 25 | 5.25 |
| **1995** | | | |
| December 19 | ... | 25 | 5.50 |
| July 6 | ... | 25 | 5.75 |
| February 1 | 50 | ... | 6.00 |
| **1994** | | | |
| November 15 | 75 | ... | 5.50 |
| August 16 | 50 | ... | 4.75 |
| May 17 | 50 | ... | 4.25 |
| April 18 | 25 | ... | 3.75 |
| March 22 | 25 | ... | 3.50 |
| February 4 | 25 | ... | 3.25 |

| | | | |
|---|---|---|---|
| **1992** | | | |
| September 4 | ... | 25 | 3.00 |
| July 2 | ... | 50 | 3.25 |
| April 9 | ... | 25 | 3.75 |
| **1991** | | | |
| December 20 | ... | 50 | 4.00 |
| December 6 | ... | 25 | 4.50 |
| November 6 | ... | 25 | 4.75 |
| October 31 | ... | 25 | 5.00 |
| September 13 | ... | 25 | 5.25 |
| August 6 | ... | 25 | 5.50 |
| April 30 | ... | 25 | 5.75 |
| March 8 | ... | 25 | 6.00 |
| February 1 | ... | 50 | 6.25 |
| January 9 | ... | 25 | 6.75 |
| **1990** | | | |
| December 18 | ... | 25 | 7.00 |
| December 7 | ... | 25 | 7.25 |
| November 13 | ... | 25 | 7.50 |
| October 29 | ... | 25 | 7.75 |
| July 13 | ... | 25 | 8.00 |

A basis point is 1/100 percentage point.

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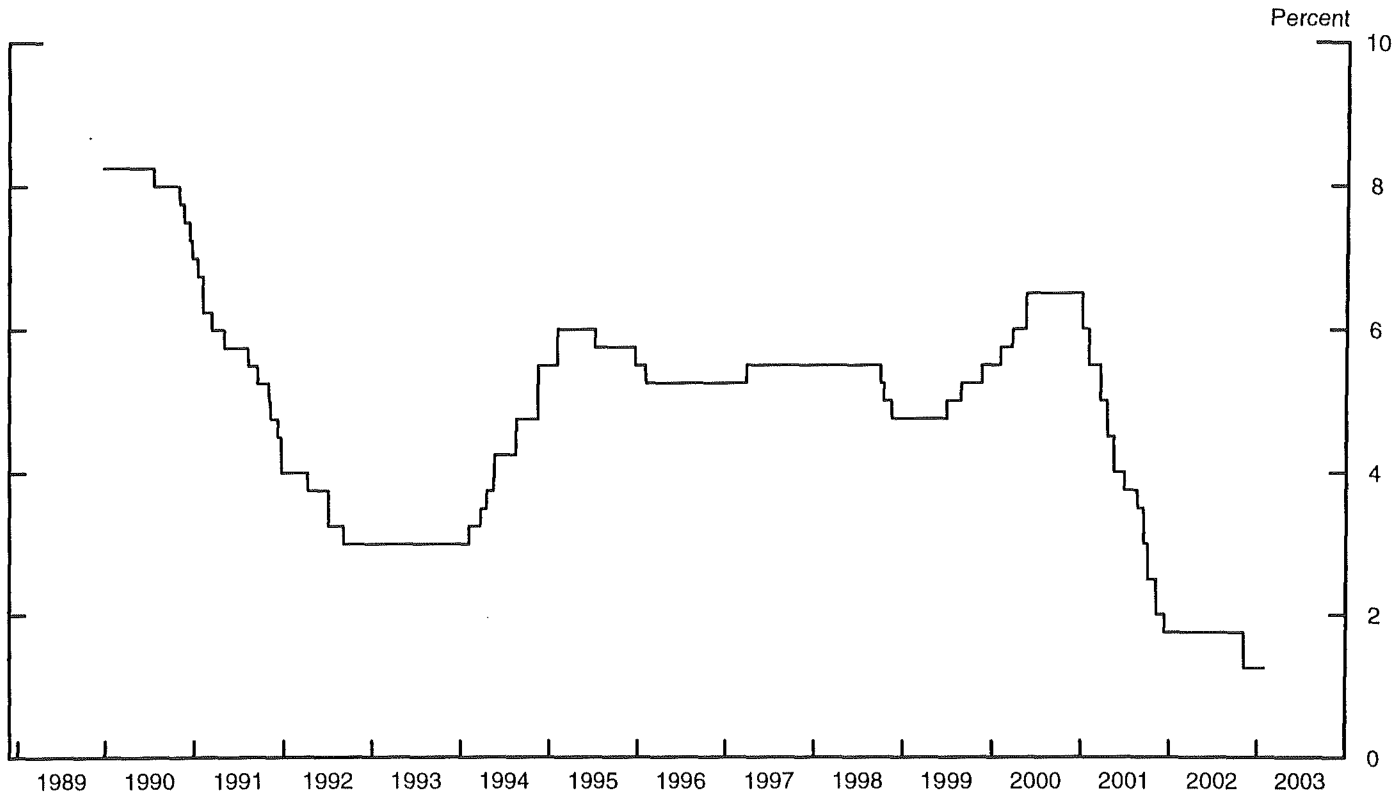
**Last update: January 29, 2003**

## Intended Federal Funds Rate



## Chronology of Federal Reserve Policy Changes Since 1987

| | | | | Date of Movement | # of Days Since Previous Move | Movement In Fed Funds | New Rate Levels Fed Funds | Discount |
|---|---|---|---|---|---|---|---|---|
| **Tightening:** | Duration (in months) | 9 | 1987 | 2-Jan | 134 | 13 | 6 | n/c |
| | Number of moves: | 7 | | 30-Apr | 118 | 50 | 6 1/2 | n/c |
| | Cumul. change in fed funds: | 144 | | 20-May | 138 | 25 | 6 3/4 | n/c |
| | | | | 2-Jul | 43 | -13 | 6 5/8 | n/c |
| | | | | 3-Sep | 63 | 25 | 6 7/8 | n/c |
| | | | | 4-Sep | 1 | 50 | 7 3/8 | 6 |
| | | | | 8-Oct | 34 | -6 | 7 5/16 | n/c |
| **Easing:** | Duration (in months) | 4 | | 19-Oct | 11 | -25 | 7 1/16 | n/c |
| | Number of moves: | 4 | | 4-Nov | 16 | -25 | 6 13/16 | n/c |
| | Cumul. change in fed funds: | -81 | 1988 | 28-Jan | 85 | -19 | 6 5/8 | n/c |
| | | | | 11-Feb | 14 | -13 | 6 1/2 | n/c |
| **Tightening:** | Duration (in months) | 14 | | 30-Mar | 48 | 25 | 6 3/4 | n/c |
| | Number of moves: | 15 | | 9-May | 40 | 25 | 7 | n/c |
| | Cumul. change in fed funds: | 331 | | 25-May | 16 | 25 | 7 1/4 | n/c |
| | | | | 22-Jun | 28 | 25 | 7 1/2 | n/c |
| | | | | 19-Jul | 27 | 19 | 7 11/16 | n/c |
| | | | | 8-Aug | 20 | 6 | 7 3/4 | n/c |
| | | | | 9-Aug | 1 | 38 | 8 1/8 | 6 1/2 |
| | | | | 10-Nov | 93 | 13 | 8 1/4 | n/c |
| | | | | 22-Nov | 12 | 13 | 8 3/8 | n/c |
| | | | | 15-Dec | 23 | 31 | 8 11/16 | n/c |
| | | | 1989 | 5-Jan | 21 | 31 | 9 | n/c |
| | | | | 9-Feb | 35 | 31 | 9 5/16 | n/c |
| | | | | 23-Feb | 14 | 25 | 9 9/16 | n/c |
| | | | | 24-Feb | 1 | 19 | 9 3/4 | 7 |
| | | | | 17-May | 82 | 6 | 9 13/16 | n/c |
| **Easing:** | Duration (in months) | 40 | | 6-Jun | 20 | -25 | 9 9/16 | n/c |
| | *Number of moves* | 24 | | 7-Jul | 31 | -25 | 9 5/16 | n/c |
| | Cumul. change in fed funds: | -681 | | 27-Jul | 20 | -25 | 9 1/16 | n/c |
| | | | | 22-Aug | 26 | -6 | 9 | n/c |
| | | | | 6-Nov | 76 | -50 | 8 1/2 | n/c |
| | | | | 20-Dec | 44 | -25 | 8 1/4 | n/c |
| | | | 1990 | 13-Jul | 205 | -25 | 8 | n/c |
| | | | | 29-Oct | 108 | -25 | 7 3/4 | n/c |
| | | | | 16-Nov | 18 | -25 | 7 1/2 | n/c |
| | | | | 7-Dec | 21 | -25 | 7 1/4 | n/c |
| | | | | 18-Dec | 11 | -25 | 7 | 6 1/2 |
| | | | 1991 | 8-Jan | 21 | -25 | 6 3/4 | n/c |
| | | | | 1-Feb | 24 | -50 | 6 1/4 | 6 |
| | | | | 8-Mar | 35 | -25 | 6 | n/c |
| | | | | 30-Apr | 53 | -25 | 5 3/4 | 5 1/2 |
| | | | | 6-Aug | 98 | -25 | 5 1/2 | n/c |
| | | | | 13-Sep | 38 | -25 | 5 1/4 | 5 |
| | | | | 30-Oct | 47 | -25 | 5 | n/c |
| | | | | 6-Nov | 7 | -25 | 4 3/4 | 4 1/2 |
| | | | | 6-Dec | 30 | -25 | 4 1/2 | n/c |
| | | | | 20-Dec | 14 | -50 | 4 | 3 1/2 |
| | | | 1992 | 9-Apr | 111 | -25 | 3 3/4 | n/c |
| | | | | 2-Jul | 84 | -50 | 3 1/4 | 3 |
| | | | | 4-Sep | 64 | -25 | 3 | n/c |
| | | | 1993 | (None) | | | | n/c |
| **Tightening:** | Duration (in months) | 12 | 1994 | 4-Feb | 518 | 25 | 3 1/4 | n/c |
| | Number of moves: | 7 | | 22-Mar | 46 | 25 | 3 1/2 | n/c |
| | Cumul. change in fed funds: | 300 | | 18-Apr | 27 | 25 | 3 3/4 | n/c |
| | | | | 17-May | 29 | 50 | 4 1/4 | 3 1/2 |
| | | | | 16-Aug | 91 | 50 | 4 3/4 | 4 |
| | | | | 15-Nov | 91 | 75 | 5 1/2 | 4 3/4 |
| | | | 1995 | 1-Feb | 78 | 50 | 6 | 5 1/4 |
| **Easing:** | Duration (in months) | 7 | | 6-Jul | 155 | -25 | 5 3/4 | n/c |
| | Number of moves: | 3 | | 19-Dec | 166 | -25 | 5 1/2 | n/c |
| | Cumul. change in fed funds: | -75 | 1996 | 31-Jan | 43 | -25 | 5 1/4 | 5 |
| **Tightening:** | Duration (in months) | N/A | 1997 | 25-Mar | 419 | 25 | 5 1/2 | n/c |
| | Number of moves: | 1 | | | | | | |
| | Cumul. change in fed funds: | 25 | | | | | | |
| **Easing:** | Duration (in months | 2 | 1998 | 29-Sep | 553 | -25 | 5 ¼ | 5 |
| | Number of moves: | 3 | | 15-Oct | 16 | -25 | 5 | 4 ¾ |
| | Cumul. change in fed funds: | -75 | | 17-Nov | 33 | -25 | 4 ¾ | 4 ½ |
| **Tightening:** | Duration (in months) | 8 | 1999 | 30-Jun | 225 | 25 | 5 | n/c |
| | Number of moves: | 4 | | 24-Aug | 55 | 25 | 5 ¼ | 4 ¾ |
| | Cumul. change in fed funds: | 100 | | 16-Nov | 84 | 25 | 5 ½ | 5 |
| | | | 2000 | 2-Feb | 78 | 25 | 5 ¾ | 5 ¼ |
| | | | | 21-Mar | 48 | 25 | 6 | 5 ½ |

Note: The actual dates of some polity changes prior to 1994 are uncertain. The Fed did not formally announce policy changes at the time, and various sources do not always agree. Funds target levels prior to 1994 are also open to debate in some cases. Where Fed sources show a range rather than a single rate for the target, we have treated the midpoint of the range as the target.

Source: R.H. Wrightson Associates, Inc.

| Date | Target Federal Funds Rate |
|---|---|
| 03/05/84 | 9.50 |
| 03/15/84 | 9.88 |
| 03/22/84 | 10.00 |
| 03/29/84 | 10.25 |
| 04/05/84 | 10.50 |
| 06/14/84 | 10.63 |
| 06/21/84 | 11.00 |
| 07/19/84 | 11.25 |
| 08/09/84 | 11.56 |
| 08/30/84 | 11.44 |
| 09/20/84 | 11.25 |
| 09/27/84 | 11.00 |
| 10/04/84 | 10.56 |
| 10/11/84 | 10.50 |
| 10/18/84 | 10.00 |
| 11/08/84 | 9.50 |
| 11/23/84 | 9.00 |
| 12/06/84 | 8.75 |
| 12/20/84 | 8.50 |
| 01/24/85 | 8.25 |
| 02/14/85 | 8.38 |
| 02/21/85 | 8.50 |
| 03/21/85 | 8.63 |
| 03/28/85 | 8.50 |
| 04/18/85 | 8.38 |
| 04/25/85 | 8.25 |
| 05/16/85 | 8.13 |
| 05/20/85 | 7.75 |
| 07/11/85 | 7.69 |
| 07/25/85 | 7.75 |
| 08/22/85 | 7.81 |
| 08/29/85 | 7.88 |
| 09/06/85 | 8.00 |
| 12/18/85 | 7.75 |
| 03/07/86 | 7.25 |
| 04/10/86 | 7.13 |
| 04/17/86 | 7.00 |
| 04/24/86 | 6.75 |
| 05/22/86 | 6.81 |
| 06/05/86 | 6.88 |
| 07/11/86 | 6.38 |
| 08/14/86 | 6.31 |
| 08/21/86 | 5.88 |
| 12/04/86 | 6.00 |
| 04/30/87 | 6.50 |
| 05/21/87 | 6.75 |
| 07/02/87 | 6.63 |
| 08/27/87 | 6.75 |
| 09/03/87 | 6.88 |
| 09/04/87 | 7.25 |
| 09/24/87 | 7.31 |

| | |
|---|---|
| 10/22/87 | 7.13 |
| 10/28/87 | 7.00 |
| 11/04/87 | 6.81 |
| 01/28/88 | 6.63 |
| 02/11/88 | 6.50 |
| 03/30/88 | 6.75 |
| 05/09/88 | 7.00 |
| 05/25/88 | 7.25 |
| 06/22/88 | 7.50 |
| 07/19/88 | 7.69 |
| 08/08/88 | 7.75 |
| 08/09/88 | 8.13 |
| 10/20/88 | 8.25 |
| 11/17/88 | 8.31 |
| 11/22/88 | 8.38 |
| 12/15/88 | 8.69 |
| 12/29/88 | 8.75 |
| 01/05/89 | 9.00 |
| 02/09/89 | 9.06 |
| 02/14/89 | 9.31 |
| 02/23/89 | 9.56 |
| 02/24/89 | 9.75 |
| 05/04/89 | 9.81 |
| 06/06/89 | 9.56 |
| 07/07/89 | 9.31 |
| 07/27/89 | 9.06 |
| 08/10/89 | 9.00 |
| 10/18/89 | 8.75 |
| 11/06/89 | 8.50 |
| 12/20/89 | 8.25 |
| 07/13/90 | 8.00 |
| 10/29/90 | 7.75 |
| 11/14/90 | 7.50 |
| 12/07/90 | 7.25 |
| 12/19/90 | 7.00 |
| 01/09/91 | 6.75 |
| 02/01/91 | 6.25 |
| 03/08/91 | 6.00 |
| 04/30/91 | 5.75 |
| 08/06/91 | 5.50 |
| 09/13/91 | 5.25 |
| 10/31/91 | 5.00 |
| 11/06/91 | 4.75 |
| 12/06/91 | 4.50 |
| 12/20/91 | 4.00 |
| 04/09/92 | 3.75 |
| 07/02/92 | 3.25 |
| 09/04/92 | 3.00 |
| 02/04/94 | 3.25 |
| 03/22/94 | 3.50 |
| 04/18/94 | 3.75 |
| 05/17/94 | 4.25 |

| | |
|---|---|
| 08/16/94 | 4.75 |
| 11/15/94 | 5.50 |
| 02/01/95 | 6.00 |
| 07/06/95 | 5.75 |
| 12/19/95 | 5.50 |
| 01/31/96 | 5.25 |
| 03/25/97 | 5.50 |
| 09/29/98 | 5.25 |
| 10/15/98 | 5.00 |
| 11/17/98 | 4.75 |
| 06/30/99 | 5.00 |
| 08/24/99 | 5.25 |
| 11/16/99 | 5.50 |
| 02/02/00 | 5.75 |
| 03/21/00 | 6.00 |
| 05/16/00 | 6.50 |
| 01/03/01 | 6.00 |
| 01/31/01 | 5.50 |
| 03/20/01 | 5.00 |
| 04/18/01 | 4.50 |
| 05/15/01 | 4.00 |
| 06/27/01 | 3.75 |
| 08/21/01 | 3.50 |
| 09/17/01 | 3.00 |
| 10/02/01 | 2.50 |
| 11/06/01 | 2.00 |
| 12/11/01 | 1.75 |
| 11/06/02 | 1.25 |

Directives and Borrowing Assumptions
1979

| Meeting Dates | Directive | Symmetry Assumption | Borrowing | Expected Rate Federal Funds |
|---|---|---|---|---|
| February 6 | maintain funds rate | | | 10 or slightly higher |
| March 20 | raise/lower objective if aggregates high/low | | | 10 or slightly higher |
| April 17 | raise/lower funds rate if aggregates high/low | | | 10 or slightly higher |
| May 22 | raise/lower funds rate if aggregates high/low | | | 10.25 |
| July 11 | raise/lower funds rate if aggregates high/low | | | 10.25 |
| | | DR raised to 10% on 7/20 | | |
| | | | | 10.5 (7/27) |
| August 14 | raise/lower funds funds rate if agg. high/low | | | 11 |
| | | DR raised to 10.5% on 8/17 | | |
| | | | | 11.25 (8/30) |
| September 18 | raise/lower funds rate if agg. high/low | | | 11.5 |
| | | DR raised to 11% on 9/19 | | |
| October 6 | restrain expansion in reserves | | 1,500 | 11.5 - 15.5 |
| | | DR raised to 12% on 10/8 | | |
| November 20 | restrain | | 1,700 | 13 - 14 |

1980

| Meeting Dates | Directive Symmetry | Borrowing Assumption | Expected Federal Funds Rate |
|---|---|---|---|
| January 8-9 | expansion | 1,000 | 11.5 - 15.5 |
| February 4-5 | expansion | 1,250 | 11.5 - 15.5 |
| | | DR raised to 13% on 2/15 | |
| | | 11.5-16.5 (2/22) | |
| | | 11.5-17.5 (3/6) | |
| | | 11.5-18 (3/7) | |
| | | on 3/17, 3% surcharge on DR | |
| March 18 | expansion | 2,750 | 13 - 20 |
| April 22 | expansion | 1,375 | 13 - 19 |
| | | 10.5 - 19 (5/6) | |
| | | on 5/7, surcharge on DR removed | |
| May 20 | expansion | 100 | 8.5 - 14 |
| | | DR cut to 12% on 5/30 | |
| | | DR cut to 11% on 6/13 | |
| July 9 | expansion | 75 | 8.5 - 14 |
| | | DR cut to 10% on 7/28 | |
| August 12 | expansion | 75 | 8.5 - 14 |
| September 16 | expansion | 750 | 8 - 14 |
| | | DR raised to 11% on 9/26 | 11-11.25 |
| October 21 | maintain | 1,300 | 9 - 15 |
| | on 11/17, | DR raised to 12% plus 2% surcharge | |
| November 18 | maintain | 1,500 | 13 - 17 |
| | | | 13 - 18 (11/26) |
| | | DR raised to 13% plus 3% surcharge[1] on 12/5 | |
| December 18-19 | maintain | 1,500 | 15 - 20 |

1. The Committee also removed the provision subjecting reserves to an intermeeting range for the federal funds rate.

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Directives and Borrowing Assumptions

1981

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Federal Funds Expected Rate |
|---|---|---|---|---|
| February 2-3 | maintain | | 1,300 | 15 - 20 |
| March 31 | maintain | | 1,150 | 13 - 18 |
| | on 5/5, DR raised to 14% plus 4% surcharge | | | |
| May 18 | reserves to decelerate M-1B growth | | 2,100 | 18 - 20 |
| July 6-7 | maintain | | 1,500 | 15 - 21 |
| August 18 | maintain | | 1,400 | 15 - 21 |
| | DR surcharge cut to 3% on 9/22 | | | |
| October 5-6 | maintain | | 850 | 12 - 17 |
| | DR surcharge cut to 2% on 10/13 | | | |
| | DR cut to 13% on 11/2 | | | 13-14 |
| | DR surcharge removed on 11/17 | | | 13.5 |
| November 17 | maintain | | 400 | 11 - 15 |
| | DR cut to 12% on 12/4 | | | 12-13 |
| December 21-22 | maintain | | 300 | 12-12.5 |

## Directives and Borrowing Assumptions

1982

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Rate Federal Funds |
|---|---|---|---|---|
| February 1-2 | some decline in M-1 | | 1,500 | 14 - 15 |
| March 29-30 | accept some shortfall in M-1 | | 1,150 | 14 - 15 |
| May 18 | maintain | | 800 | 14 |
| June 30-July 1 | more rapid growth acceptable | | 800 | 13 - 15 |
| | DR cut to 11.5% on 7/19 | | | 11.5 |
| | DR cut to 11% on 7/30 | | | 11 |
| | DR cut to 10.5% on 8/13 | | | 10.5 |
| August 24 | more rapid growth acceptable | | 350 | 10.5 |
| | DR cut to 10% on 8/26 | | | |
| October 5 | maintain | | 300 | 10 |
| | DR cut to 9.5% on 10/8 | | | 9.5 |
| November 16 | maintain | twd firmer[2] | 250 | 9.5 |
| | DR cut to 9% on 11/19 | | | 9 |
| | DR cut to 8.5% on 12/14 | | | 8.5 |
| December 20-21 | maintain expansion | | 200 | 8.5 |

2. Somewhat slower growth ... would be acceptable and desirable ... somewhat more rapid growth in the broader aggregates would be tolerated.

Directives and Borrowing Assumptions

1983

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Rate Federal Funds |
|---|---|---|---|---|
| February 8-9 | maintain | twd ease[3] | 200 | 8.5 |
| March 28-29 | maintain | twd ease | 250 | 8.5 |
| May 24 | increase reserve restraint only slightly | twd ease | 350 | 8.5 - 8.75 |
| | | | 400-500 (6/23) | 9 or slightly higher |
| July 12-13 | increase slightly reserve restraint | no tilt | 600-800 | 9 to 9.5 |
| August 23 | maintain | no tilt | 700-900 | 9.5 |
| October 4 | maintain sl. less restraint | | 650 | 9.25 - 9.5 |
| November 14-15 | maintain | twd firmer | 650 | 9.25 - 9.5 |
| December 19-20 | maintain | twd firmer | 650 | 9.25 - 9.5 |

3. Lesser restraint would be acceptable. [Characterizations of the degree of restraint that would/might be acceptable were initiated in 1983 FOMC meetings.]

## Directives and Borrowing Assumptions

1984

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Rate Federal Funds |
|---|---|---|---|---|
| January 30-31 | maintain | twd ease | 650 | 9.25 - 9.5 |
| March 26-27 | maintain | twd firmer | 1,000 | 10 - 10.5 |
| | on 4/6 announced DR incr. to 9% | | | 10.5 |
| May 21-22 | maintain | no tilt | 1,000 | 10.5 |
| July 16-17 | maintain | twd firmer | 1,000 | 11.25 |
| August 21 | maintain | no tilt | 1,000 | 11.5 |
| October 2 | maintain lesser degree of restraint sought in recent weeks | twd ease | 750 | 10.5 - 10.625 |
| November 7 | reduce somewhat | twd ease | 575 | 9.5 |
| | on 11/21 announced DR cut to 8.5% | | | 9 |
| December 17-18 | reduce | twd ease | 300 | 8.5 |
| | on 12/21 announced DR cut to 8% | | | 8 - 8.25 |

## Directives and Borrowing Assumptions

1985

| Meeting Dates | Directive | Symmetry | Borrowing Asumption | Expected Rate Federal Funds |
|---|---|---|---|---|
| February 12-13 | maintain reserve conditions of recent weeks | twd firmer | 350 | 8.25 - 8.5 |
| | | | | 8.5 (2/21) |
| | | | | 8.5 - 8.75 (3/20) |
| March 26 | maintain | no tilt | 400 | 8.5 |
| | | | | 8.25 (4/18) |
| | | | 450 (4/25) | |
| | DR cut to 7.5% announced on 5/17 | | | 7.75 |
| May 21 | maintain about the same degree | twd ease | 350 | 7.75 |
| | | | (on 6/20) | 7.75 or a shade lower |
| July 9-10 | maintain | twd firmer | 350 | 7.625 - 7.75 |
| | | | 400 (on 8/1) | 7.75 or a shade higher |
| August 20 | maintain pressure of recent weeks | no tilt | 425 | 7.75 - 7.875 |
| | | | 500 (on 9/6) | 8 |
| October 1 | maintain pressure of recent weeks | no tilt | 500 | 8 |
| November 4-5 | generally to maintain | twd ease | 450 | 8 or a shade lower |
| December 16-17 | decrease somewhat | twd ease | 350 | 7.75 |

Directives and Borrowing Assumptions

1986

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Rate Federal Funds |
|---|---|---|---|---|
| February 11-12 | maintain | no tilt | 300 | 7.75 or a shade higher |
| | DR cut to 7% announced on 3/7 | | | 7.25 or a shade higher |
| April 1 | maintain | no tilt | 300 | 7.25 or a shade higher |
| | | | (on 4/10) | 7.25 |
| | DR cut to 6.5% announced on 4/18 | | | 6.75 or slightly higher |
| May 20 | maintain | no tilt[4] | 300 | 6.75 - 6-7/8 |
| | | | (on 6/5) | 6.875 |
| July 8-9 | decrease somewhat[5] | twd ease | 300 | 6.875 |
| | DR cut to 6% announced on 7/10 | | | 6.375 |
| | | | (on 8/14) | 6.25-6.375 |
| August 19 | decrease slightly[6] | no tilt | 300 | 6.25 - 6.375 |
| | DR cut to 5.5% announced on 8/20 | | | 5.875 |
| September 23 | maintain | twd firmer | 300 | 5.875 |
| November 5 | maintain | no tilt | 300 | 5.875 |
| | | | (on 11/20) | 5.875 or a shade higher |
| December 15-16 | maintain | twd ease | 300 | 5.875 or a shade higher |
| | | | (on 1/15/87) | 6 |

4. Restraint acceptable if monetary growth does not slow and economic growth picks up. Less restraint acceptable if markedly slow money growth and slow economic growth.
5. Taking account of the possibility of a change in the discount rate.
6. Taking account of the possibility of a change in the discount rate.

Directives and Borrowing Assumptions

1987

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Rate Federal Funds |
|---|---|---|---|---|
| February 10-11 | Maintain | twd firmer | 300 | 6 |
| March 31 | Maintain | one-way twd firmer | 300<br>400 on 4/30 | 6 or slightly higher<br>6-1/2 or somewhat higher |
| May 19 | increase[7] | twd firmer | 500[8] | 6-3/4 or somewhat lower |
| July 7 | maintain | no tilt | 500 | 6-1/2 to 6-3/4 |
| August 18 | maintain | twd firmer<br>increase in DR to 6 % on 9/4 | 500<br>600 on Sept. 3 | 6-1/2 to 6-3/4<br>6-3/4 to 7<br>7-1/4 |
| September 22 | maintain pressure sought in recent weeks | no tilt | 600<br>500 on Oct. 23<br>450 on Oct. 28 | 7-3/8<br>7<br>6-3/4 to 6-7/8 |
| November 3 | maintain pressure sought in recent days | twd ease | 400<br>300 on Dec. 4 | 6-3/4 to 6-7/8 |
| December 15-16 | maintain | no tilt | 300<br>250 on Jan. 28 | 6-3/4 to 6-7/8<br>6-1/2 to 6-3/4 |

7. Increased somewhat from the degree of pressure sought in recent weeks.
8. "Taking account of the possibility of a change in the discount rate." $500 M with no change in discount rate.

Directives and Borrowing Assumptions

1988

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Rate Federal Funds |
|---|---|---|---|---|
| February 9-10 | maintain slightly reduced pressure sought in recent days | no tilt | 200 | 6-1/2 |
| March 29 | increase slightly | no tilt | 300<br>400 on May 7 | 6-3/4<br>7 |
| May 17 | maintain initially | twd firmer | 400<br>500 on May 25<br>550 on June 22 | 7<br>7-1/4<br>7-1/2 |
| June 29-30 | increase slightly | twd firmer | 600 | 7-1/2* |
| | | increase in DR to 6-1/2 on 8/9 | | 8 to 8-1/4 |
| August 16 | maintain | twd firmer | 600 | 8 to 8-1/4 |
| September 20 | maintain | twd firmer | 600 | 8 to 8-1/4 |
| November 1 | maintain | twd firmer | 600<br>400 on Nov. 22 | 8 to 8-1/4<br>8-3/8 |
| December 13-14 | increase somewhat | twd firmer | 500 initially<br>600 early Jan. | 8-5/8 -- 3/4<br>8-7/8 to 9 |

* A rate of 7-1/2 or slightly higher was expected initially but the actual level came in higher (because an increase in the discount rate was anticipated in the market) and the Desk's expectation was raised to 7-5/8 to 7-3/4 by mid-July (without any change in the borrowing assumption).

Directives and Borrowing Assumptions

1989

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | | Expected Rate Federal Funds |
|---|---|---|---|---|---|
| February 7-8 | maintain | twd firmer | 600 | | 8-7/8 to 9 |
| | | | 700 | on Feb. 14 | 9 to 9-1/8 |
| | | increase in DR | to 7% | on Feb. 24 | 9-3/4 to 7/8 |
| | | | 500* | on March 9 | 9-3/4 to 7/8 |
| March 28 | maintain | twd firmer | 500 | | 9-3/4 to 7/8 |
| May 16 | maintain | no tilt | 600* | | 9-3/4 to 7/8 |
| | | | 500 | on June 6 | 9-1/2 to 5/8 |
| July 5-6 | decrease slightly | no tilt | 600** | | 9-1/4 |
| | | | 550 | on July 27 | 9 to 9-1/8 |
| August 22 | maintain | twd ease | 550 | | 9 to 9-1/8 |
| October 3 | maintain | twd ease | 500* | | 9 |
| | | | 400** | on Oct 19 | 8-3/4 |
| | | | 350* | on Nov 2 | -- |
| | | | 300 | on Nov 6 | 8-1/2 |
| | | | 250* | on Nov 8 | -- |
| November 14 | maintain | twd ease | 200* | | 8-1/2 |
| | | | 150* | on Dec 11 | -- |
| December 18-19 | decrease slightly | no tilt | 125 | | 8-1/4 |

* Borrowing assumption changed for technical reasons

** Change in borrowing assumption reflected a technical adjustment and a change in reserve pressure.

## Directives and Borrowing Assumptions

## 1990

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Rate Federal Funds |
|---|---|---|---|---|
| February 6-7 | maintain | no tilt | 150* | 8-1/4 |
| March 27 | maintain | no tilt | 150 | 8-1/4 |
| | | | 200* on April 26 | -- |
| | | | 300* on May 3 | -- |
| May 15 | maintain | no tilt | 350* | 8-1/4 |
| | | | 400* on June 14 | -- |
| | | | 450* on June 28 | -- |
| July 2-3 | maintain | twd ease | 450 | 8-1/4 |
| | | | 400 on July 13 | 8 |
| | | | 450* on July 26 | -- |
| | | | 500* on August 2 | -- |
| August 21 | maintain | twd ease | 500 | 8 |
| October 2 | maintain | twd ease | 450* | 8 |
| | | | 400* on October 18 | -- |
| | | | 350** on October 29 | 7-3/4 |
| | | | 300* on November 8 | -- |
| November 13 | decrease slightly | twd ease | 225** | 7-1/2 |
| | | | 200* on November 23 | -- |
| | | | 150* on December 6 | -- |
| | | | 125 on December 7 | 7-1/4 |
| | | | 100 on December 13 | -- |
| December 18 | decrease slightly | twd ease | 125** on December 19 | 7 |
| | | reduction in DR to 6-1/2 on Dec. 19 | | |

* Borrowing assumption changed for technical reasons
** Change in borrowing assumption reflected a technical adjustment and a change in reserve pressure.

## Directives and Borrowing Assumptions

### 1991

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Rate Federal Funds |
|---|---|---|---|---|
| | | | 100 on Jan. 9 | 6-3/4 |
| | | reduction in DR to 6 % on Feb. 1 (100 bor. retained) | | 6-1/4 |
| February 5-6 | maintain | twd ease | 100 | 6-1/4 |
| | | | 75 on March 8 | 6 |
| | | | 125* on March 21 | -- |
| March 26 | maintain | no tilt | 125 | 6 |
| | | | 150* on April 18 | |
| | | reduction in DR to 5-1/2% on April 30 | | |
| | | | 175** on April 30 | 5-3/4 |
| | | | 200* on May 2 | |
| May 14 | maintain | no tilt | 225* | 5-3/4 |
| | | | 250* on June 13 | |
| | | | 275* on June 20 | |
| | | | 325* on June 27 | |
| July 2-3 | maintain | no tilt | 325 | 5-3/4 |
| | | | 350* on July 11 | |
| | | | 400* on July 25 | |
| | | | 375 on Aug. 6 | 5-1/2 |
| August 20 | maintain | twd ease | 375 | 5-1/2 |
| | | | 350* on Sept. 5 | |
| | | | 300* on Sept. 12 | |
| | | reduction in DR to 5% on Sept. 13 | | |
| | | | 325** on Sept. 13 | 5-1/4 |
| October 1 | maintain | twd ease | 325 | 5-1/4 |
| | | | 300* on Oct. 3 | |
| | | | 275* on Oct. 10 | |
| | | | 250* on Oct. 17 | |
| | | | 175** on Oct. 31 | 5 |
| November 5 | decrease somewhat | twd ease | 175*** on Nov. 6 | 4-3/4 |
| | | reduction in DR to 4-1/2% on Nov. 6 | | |
| | | | 150* on Nov. 7 | |
| | | | 125* on Nov. 14 | |
| | | | 100* on Nov. 29 | |
| | | | 75 on Dec. 6 | 4-1/2 |
| December 17 | maintain | twd ease | 75 | 4-1/2 |
| | | reduction in DR to 3-1/2% on Dec. 20 | | |
| | | | 100 on Dec. 20 | 4 |
| | | | 75* on Jan. 16 | |

## Directives and Borrowing Assumptions

### 1992

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | | Expected Rate Federal Funds |
|---|---|---|---|---|---|
| | | | 75* | on Jan. 16 | |
| February 4-5 | maintain | twd ease | 100* | | 4 |
| March 31 | maintain | twd ease | 100 | | 4 |
| | | | 75 | on April 9 | 3-3/4 |
| | | | 100* | on April 30 | |
| May 19 | maintain | no tilt | 100 | | 3-3/4 |
| | | | 125* | on May 21 | |
| | | | 150* | on May 28 | |
| | | | 225 | on June 25 | |
| June 30-July 1 | maintain | twd ease | 225 | | 3-3/4 |
| | | reduction in DR | to 3% | on July 2 | |
| | | | 225 | on July 2 | 3-1/4 |
| | | | 250 | on July 30 | |
| August 18 | maintain | twd ease | 250 | | 3-1/4 |
| | | | 225* | on Sept. 2 | |
| | | | 200 | on Sept. 4 | 3 |
| October 6 | maintain | twd ease | 175* | | 3 |
| | | | 150* | on October 15 | |
| | | | 125* | on October 22 | |
| | | | 100* | on October 29 | |
| | | | 75* | on November 5 | |
| November 17 | maintain | twd ease | 75 | | 3 |
| | | | 50* | on December 10 | |
| December 22 | maintain | no tilt | 50 | | 3 |

* Borrowing assumption changed for technical reasons.

** Borrowing assumption changed to reflect an easing in reserve pressures associated with a partial pass-through of the effects of the reduction in the discount rate.

***Offsetting adjustments were made that left the borrowing assumption unchanged at $175 million; the assumption was raised by $25 million following a modest easing of 1/4 percentage point in the federal funds rate expectation at the FOMC meeting on November 5 and a 1/2 percentage point reduction in the discount rate announced before the opening of business on November 6 but was lowered by $25 million for technical reasons.

## Directives and Borrowing Assumptions

1993

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Fed Funds Rate |
|---|---|---|---|---|
| February 2-3 | maintain | no tilt | 50 | 3 |
| March 23 | maintain | no tilt | 50<br>75* on April 22<br>100* on May 13 | 3 |
| May 18 | maintain | twd. firming | 100<br>125* on May 20<br>150* on June 10<br>200* on June 24 | 3 |
| July 6-7 | maintain | twd. firming | 225*<br>250* on July 22 | 3 |
| August 17 | maintain | no tilt | 250 | 3 |
| September 21 | maintain | no tilt | 250<br>225* on Oct. 14<br>200* on<br>150* on Nov. 4<br>100* on Nov. 11 | 3 |
| November 16 | maintain | no tilt | 100<br>150* on<br>100* on<br>75* on Dec. 9<br>50* on | 3 |
| December 21 | maintain | no tilt | 50 | 3 |

* Borrowing assumption changed for technical reasons.

Directives and Borrowing Assumptions

1994

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Fed Funds Rate |
|---|---|---|---|---|
| February 3-4 | increase slightly | no tilt | 75 | 3-1/4 |
| March 22 | increase slightly | no tilt | 100 | 3-1/2 |
| | | | 125 on 4/18 | 3-3/4 |
| | | | 150 on 5/5* | |
| | | | 175 on 5/12* | |
| May 17 | increase somewhat | no tilt | 200 | 4-1/4 |
| | DR increased to 3-1/2 | | | |
| | | | 225 on 5/26 | |
| | | | 325 on 6/23 | |
| July 5-6 | maintain | twd firmer | 325 | |
| | | | 375 on 7/7 | 4-1/4 |
| | | | 425 on 7/21 | |
| | | | 450 on 7/28 | |
| August 16 | increase somewhat | no tilt | 475 | 4-3/4 |
| | DR increased to 4 | | | |
| | | | 500 on 8/25 | |
| | | | 475 on 9/1 | |
| September 27 | maintain | twd firmer | 475 | 4-3/4 |
| | | | 450 on 10/6 | |
| | | | 425 on 10/13 | |
| | | | 375 on 10/20 | |
| | | | 325 on 10/27 | |
| | | | 275 on 11/3 | |
| | | | 225 on 11/10 | |
| November 15 | increase significantly | no tilt | 225 | 5-1/2 |
| | DR increased to 4-3/4 | | | |
| | | | 175 on 11/24 | |
| | | | 125 on 12/8 | |
| December 20 | maintain | twd firmer | 125 | 5-1/2 |

Directives and Borrowing Assumptions

1995

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Fed Funds Rate |
|---|---|---|---|---|
| Jan 31-Feb 1 | increase somewhat | no tilt | 75 | 6 |
| | DR increased to 5-1/4 | | | |
| March 28 | maintain | twd firmer | 75<br>100 on 4/13<br>150 on 4/27<br>175 on 5/11 | 6 |
| May 23 | maintain | no tilt | 175<br>225 on 6/22 | 6 |
| July 5-6 | decrease slightly | twd ease | 250<br>275 on 7/20 | 5-3/4 |
| August 22 | maintain | no tilt | 275 | 5-3/4 |
| September 26 | maintain | no tilt | 275<br>250 on 10/12<br>200 on 10/26<br>100 on 11/9 | 5-3/4 |
| November 15 | maintain | no tilt | 100<br>75 on 11/23 | 5-3/4 |
| December 19 | decrease slightly | no tilt | 75<br>50 on 1/11/96 | 5-1/2 |

Directives and Borrowing Assumptions

1996

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Fed Funds Rate |
|---|---|---|---|---|
| January 30-31 | decrease slightly | no tilt | 50 | 5-1/4 |
| | | DR reduced to 5% | | |
| March 26 | maintain | no tilt | 50<br>75 on 4/25<br>100 on 5/9 | 5-1/4 |
| May 21 | maintain | no tilt | 150<br>175 on 6/2<br>225 on 6/20 | 5-1/4 |
| July 2-3 | maintain | twd firmer | 300<br>325 on 8/1 | 5-1/4 |
| August 20 | maintain | twd firmer | 325 | 5-1/4 |
| September 24 | maintain | twd firmer | 300<br>250 on 10/10<br>200 on 10/24<br>100 on 11/7 | 5-1/4 |
| November 13 | maintain | twd firmer | 75 on 11/21 | 5-1/4 |
| December 17 | maintain | twd firmer | 75 | 5-1/4 |

## Directives and Borrowing Assumptions

1997

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Fed Funds Rate |
|---|---|---|---|---|
| February 4-5 | maintain | twd firmer | 75 | 5-1/4 |
| March 25 | increase slightly | no tilt | 75 | 5-1/2 |
| | | | 125 on 4/24<br>175 on 5/8 | |
| May 20 | maintain | twd firmer | 225<br>250 on 5/22<br>275 on 6/19<br>325 on 6/26 | 5-1/2 |
| July 1-2 | maintain | twd firmer | 350 on 7/3<br>400 on 7/31 | 5-1/2 |
| August 19 | maintain | twd firmer | 400<br>375 on 9/25 | 5-1/2 |
| September 30 | maintain | twd firmer | 375<br>275 on 10/9<br>225 on 10/23<br>150 on 11/6 | 5-1/2 |
| November 12 | maintain | twd firmer | 150<br>125 on 11/20<br>100 on 12/4 | 5-1/2 |
| December 16 | maintain | no tilt | 100<br>50 on 1/15/98 | 5-1/2 |

Directives and Borrowing Assumptions

1998

| Meeting Dates | Directive | Symmetry | Borrowing Assumption | Expected Fed Funds Rate |
|---|---|---|---|---|
| Feb 3-4 | maintain | no tilt | 50 | 5-1/2 |
| March 31 | maintain | twd firmer | 75<br>100 on April 9 | 5-1/2 |
| May 19 | maintain | twd firmer | 125<br>150 on June 4<br>175 on June 18 | 5-1/2 |
| June 30-July 1 | maintain | twd firmer | 175<br>225 on July 2 | 5-1/2 |
| August 18 | maintain | no tilt | <br>250 on July 29<br>275 on Aug. 13<br>200 on Sept. 24 | 5-1/2 |
| September 29 | decrease | twd ease | 175<br>125 on Oct. 8 | 5-1/4 |
| October 15 | decrease [Intermeeting action, no vote]<br>[Discount rate reduced to 4-3/4 on 10/15] | | 100 on Oct. 22<br>75 on Nov. 5 | 5 |
| November 17 | decrease<br>[Discount rate reduced to 4-1/2 on 11/17] | no tilt | 75<br><br>50 on Dec. 17 | 4-3/4 |
| December 22 | maintain | no tilt | 50 | 4-3/4 |

Directives and Borrowing Assumptions

1999

| | | | | |
|---|---|---|---|---|
| February 2-3 | maintain | no tilt | 50 | 4-3/4 |
| March 30 | maintain | no tilt | 50<br>75 on April 22<br>100 on May 6 | 4-3/4 |
| May 18 | maintain | twd firmer | | 4-3/4 |