



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

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

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 Thornton 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	
November 10-19	-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					

early 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 ^c	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

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."

April 20, 2000

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

<u>Date</u>	<u>"Expected" Funds Rate</u>
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

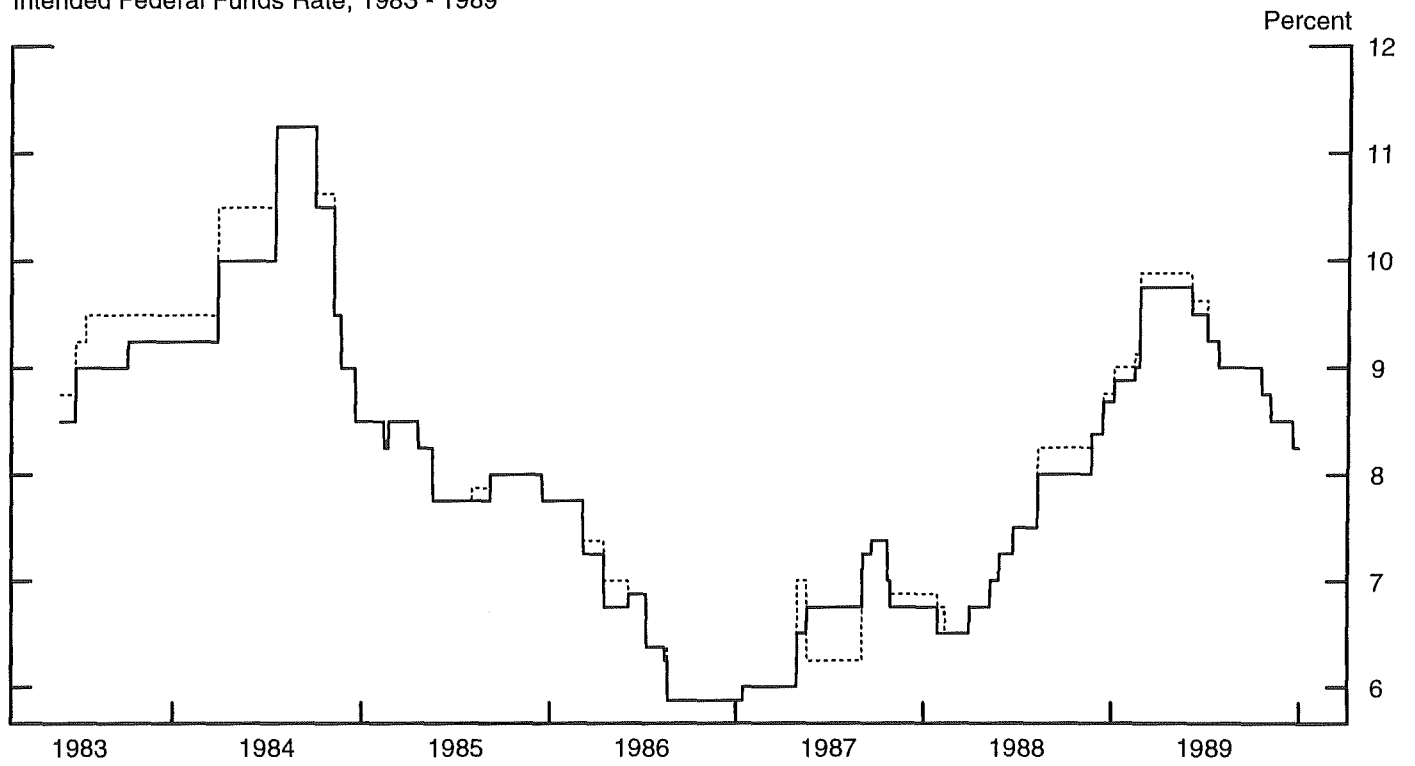
April 20, 2000

<u>Date</u>	<u>"Expected" Funds Rate</u>
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

<u>Date</u>	<u>"Expected" Funds Rate</u>
Early January 1989	8 7/8 to 9
February 14, 1989	9 to 9 1/8
February 24, 1989	9 3/4 to 9 7/8
June 6, 1989	9 1/2 to 9 5/8
July 5-6, 1989	9 1/4
July 27, 1989	9
October 19, 1989	8 3/4
November 6, 1989	8 1/2
December 18-19, 1989	8 1/4

Intended Federal Funds Rate, 1983 - 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.

REVIEW

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)		Level (percent)
	Increase	Decrease	
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	...	5.00
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
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1996

January 31	...	25	5.25
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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

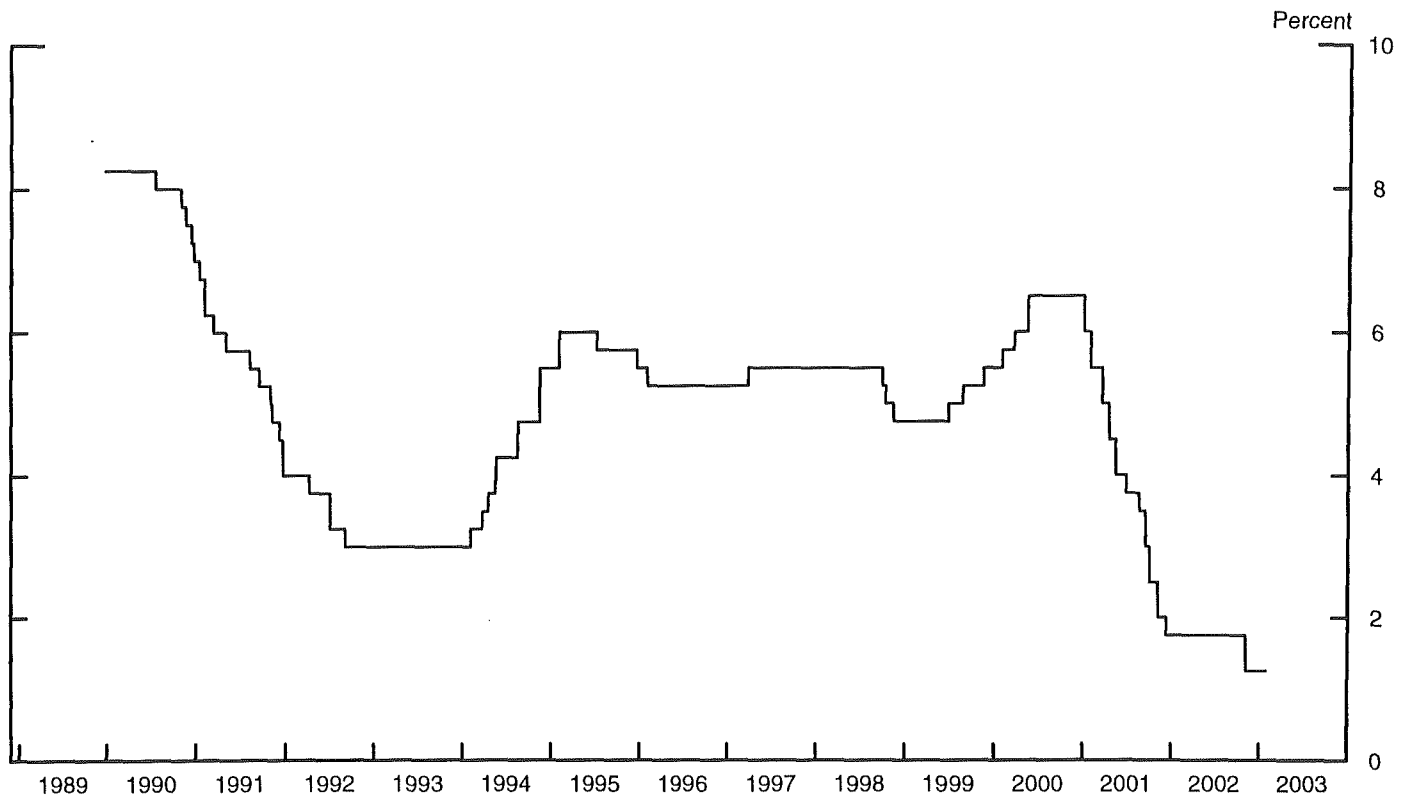
1990

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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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	1988	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		28-Jan	85	-19	6 5/8	n/c
				11-Feb	14	-13	6 1/2	n/c
Tightening:	Duration (in months)	14	1989	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
				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	1990	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
				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
				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		
		9-Apr	111	-25	3 3/4	n/c		
		2-Jul	84	-50	3 1/4	3		
		4-Sep	64	-25	3	n/c		
		(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
				1-Feb	78	50	6	5 1/4
Easing:	Duration (in months)	7	1996	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		31-Jan	43	-25	5 1/4	5
Tightening:	Duration (in months)	N/A	1997	25-Mar	419	25	5 1/2	n/c
Easing:	Duration (in months)	2	1998	29-Sep	553	-25	5 1/4	5
	Number of moves:	3		15-Oct	16	-25	5	4 1/4
	Cumul. change in fed funds:	-75		17-Nov	33	-25	4 3/4	4 1/2
Tightening:	Duration (in months)	8	1999	30-Jun	225	25	5	n/c
	Number of moves:	4		24-Aug	55	25	5 1/4	4 1/4
	Cumul. change in fed funds:	100		16-Nov	84	25	5 1/2	5
				2-Feb	78	25	5 1/4	5 1/4
				21-Mar	48	25	6	5 1/2

Note: The actual dates of some policy 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

<u>Meeting Dates</u>	<u>Directive Assumption</u>	<u>Symmetry Federal Funds</u>	<u>Borrowing</u>	<u>Expected Rate</u>
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 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

<u>Meeting Dates</u>	<u>Directive Assumption</u>	<u>Symmetry Federal Funds</u>	<u>Borrowing</u>	<u>Expected Rate</u>
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
		DR raised to 13% plus 3% surcharge ¹ on 12/5		13 - 18 (11/26)
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.

Directives and Borrowing Assumptions

1981

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

Authorized for public release by the FOMC Secretariat on 8/29/2019

Directives and Borrowing Assumptions

1982

<u>Meeting Dates</u>	<u>Directive Assumption</u>	<u>Symmetry Federal Funds</u>	<u>Borrowing</u>	<u>Expected Rate</u>
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.

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Directives and Borrowing Assumptions

1983

<u>Meeting Dates</u>	<u>Directive Assumption</u>	<u>Symmetry Federal Funds</u>	<u>Borrowing</u>	<u>Expected Rate</u>
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.]

Authorized for public release by the FOMC Secretariat on 8/29/2019

Directives and Borrowing Assumptions

1984

<u>Meeting Dates</u>	<u>Directive Assumption</u>	<u>Symmetry Federal Funds</u>	<u>Borrowing</u>	<u>Expected Rate</u>
January 30-31	maintain	twd ease	650	9.25 - 9.5
March 26-27	maintain on 4/6	twd firmer announced	1,000 DR incr. to 9%	10 - 10.5 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 on 11/21	twd ease announced	575 DR cut to 8.5%	9.5 9
December 17-18	reduce on 12/21	twd ease announced	300 DR cut to 8%	8.5 8 - 8.25

Directives and Borrowing Assumptions

1985

<u>Meeting Dates</u>	<u>Directive</u>	<u>Symmetry</u>	<u>Borrowing Assumption</u>	<u>Expected Rate Federal Funds</u>
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	400 450 (4/25) DR cut to 7.5% announced on 5/17	8.5 8.25 (4/18) 7.75
May 21	maintain about the same degree	twd ease	350 (on 6/20)	7.75 7.75 or a shade lower
July 9-10	maintain	twd firmer	350 400 (on 8/1) shade higher	7.625 - 7.75 7.75 or a
August 20	maintain pressure of recent weeks	no tilt	425 500 (on 9/6)	7.75 - 7.875 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

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

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

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

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

<u>Meeting Dates</u>	<u>Directive</u>	<u>Symmetry</u>	<u>Borrowing Assumption</u>	<u>Expected Rate Federal Funds</u>
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

<u>Meeting Dates</u>	<u>Directive</u>	<u>Symmetry</u>	<u>Borrowing Assumption</u>	<u>Expected Rate</u> <u>Federal Funds</u>
			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
		reduction in DR	to 5-1/2% on April 18	
			150* 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

<u>Meeting Dates</u>	<u>Directive</u>	<u>Symmetry</u>	<u>Borrowing Assumption</u>	<u>Expected Rate Federal Funds</u>
			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%	225 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

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

* Borrowing assumption changed for technical reasons.

Directives and Borrowing Assumptions

1994

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

Directives and Borrowing Assumptions

1995				
<u>Meeting Dates</u>	<u>Directive</u>	<u>Symmetry</u>	<u>Borrowing Assumption</u>	<u>Expected Fed Funds Rate</u>
Jan 31-Feb 1	increase somewhat	no tilt	75	6
		DR increased to 5-1/4		
March 28	maintain	twd firmer	75	6
			100 on 4/13	
			150 on 4/27	
			175 on 5/11	
May 23	maintain	no tilt	175	6
			225 on 6/22	
July 5-6	decrease slightly	twd ease	250	5-3/4
			275 on 7/20	
August 22	maintain	no tilt	275	5-3/4
September 26	maintain	no tilt	275	5-3/4
			250 on 10/12	
			200 on 10/26	
			100 on 11/9	
November 15	maintain	no tilt	100	5-3/4
			75 on 11/23	
December 19	decrease slightly	no tilt	75	5-1/2
			50 on 1/11/96	

Directives and Borrowing Assumptions

1996				
<u>Meeting Dates</u>	<u>Directive</u>	<u>Symmetry</u>	<u>Borrowing Assumption</u>	<u>Expected Fed Funds Rate</u>
January 30-31	decrease slightly	no tilt DR reduced to 5%	50	5-1/4
March 26	maintain	no tilt	50 75 on 4/25 100 on 5/9	5-1/4
May 21	maintain	no tilt	150 175 on 6/2 225 on 6/20	5-1/4
July 2-3	maintain	twd firmer	300 325 on 8/1	5-1/4
August 20	maintain	twd firmer	325	5-1/4
September 24	maintain	twd firmer	300 250 on 10/10 200 on 10/24 100 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

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

Directives and Borrowing Assumptions

1998

<u>Meeting Dates</u>	<u>Directive</u>	<u>Symmetry</u>	<u>Borrowing Assumption</u>	<u>Expected Fed Funds Rate</u>
Feb 3-4	maintain	no tilt	50	5-1/2
March 31	maintain	twd firmer	75 100 on April 9	5-1/2
May 19	maintain	twd firmer	125 150 on June 4 175 on June 18	5-1/2
June 30-July 1	maintain	twd firmer	175 225 on July 2	5-1/2
August 18	maintain	no tilt	250 on July 29 275 on Aug. 13 200 on Sept. 24	5-1/2
September 29	decrease	twd ease	175 125 on Oct. 8	5-1/4
October 15	decrease [Intermeeting action, no vote] [Discount rate reduced to 4-3/4 on 10/15]		100 on Oct. 22 75 on Nov. 5	5
November 17	decrease	no tilt	75 [Discount rate reduced to 4-1/2 on 11/17] 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 75 on April 22 100 on May 6	4-3/4
May 18	maintain	twd firmer		4-3/4