

Does a Bias in FOMC Policy Directives  
Help Predict Inter-Meeting Policy Changes?\*

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## **Does a Bias in FOMC Policy Directives Help Predict Inter-Meeting Policy Changes?**

Every six weeks or so, the Federal Open Market Committee (FOMC) meets to decide on the short-run course of monetary policy. At the end of the meeting, the FOMC issues a directive that indicates whether policy will be eased, tightened, or unchanged. Since 1984, the directives have often included a bias or tilt toward easing or tightening when the directive calls for maintaining the current monetary policy.<sup>1</sup> At the December 1998 meeting, the FOMC decided to release immediately decisions to change the bias of the directive “on an infrequent basis”.<sup>2</sup> In the discussion some “members were concerned that such announcements often would provoke market reactions.” Nevertheless, the decision on announcing a change in the bias was that “the Committee would do so on those occasions when it wanted to communicate to the public a major shift in its views about the balance of risks or the likely direction of future policy.”

Apparently, the FOMC considers the bias to be a significant statement.<sup>3</sup> Presumably, the significance of the bias in provoking a market response or as a means of communicating the FOMC’s views depends on the extent to which the bias foreshadows a change in policy. If a bias does not affect the probability of a change in policy before the next FOMC meeting, there is little point in announcing a bias or in worrying about the influence of such an announcement.<sup>4</sup> A natural question, which this paper investigates, is whether this bias has contained information about the likelihood of the Fed changing policy in the direction of the bias during the period before the next meeting.

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<sup>1</sup> There is some hint of asymmetry in directives before 1984 but the wording that has been interpreted as a bias starts in 1984.

<sup>2</sup> Quotations in this paragraph are from a summary of the discussion of this change in disclosure policy that is given at the end of the minutes of the 22 December 1998 meeting. These minutes are available on the Federal Reserve Board’s web site (<http://www.bog.frb.fed.us/FOMC/minutes/19981222.HTM>).

<sup>3</sup> This is also apparent from reading the available transcripts of FOMC meetings in which the wording of the bias statement is sometimes the topic of extended discussion.

<sup>4</sup> Financial market reactions also depend on the degree to which bias announcements are predictable, an issue we do not address here.

### **The Bias in the FOMC Directive**

The FOMC policy directive is written to convey the committee's instructions to the Manager of the System Open Market Account for the conduct of monetary policy. The bias in the directive is signaled by an asymmetry in the wording. An example is the following excerpt from the directive from the 18 May 1993 meeting:

In the context of the Committee's long-run objectives for price stability and sustainable economic growth, and giving careful consideration to economic, financial, and monetary developments, slightly greater reserve restraint *would* or slightly lesser restraint *might* be acceptable in the inter-meeting period. (*Federal Reserve Bulletin*, September 1993, p. 865, italics added)

The use of "would" for the greater reserve restraint option and "might" for the lesser restraint option is interpreted as a bias or tilt toward tightening during the inter-meeting period (see Meulendyke [1998, pp. 136-138]). If the words were reversed, the bias would be toward easing. A symmetric directive uses "would" or "might" for both options.

For each FOMC meeting we studied the summary of discussion and the directive (as reported in the *Federal Reserve Bulletin*) and determined if the FOMC called for policy to be tightened, eased or maintained.<sup>5</sup> If policy was to be maintained, we determined if the directive had a bias toward easing or toward tightening.

### **Measuring a change in monetary policy**

To gauge the information content of the bias for the likelihood of inter-meeting changes in policy we must define a measure of monetary policy. Since the introduction of the bias monetary policy has been conducted with a borrowed reserves target and, more recently, a federal funds rate target. The FOMC began to specify a federal funds rate target in the directive with the 19 August 1997 meeting. (A directive from 19 August 1997 or later would refer to the level of the

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<sup>5</sup> The directives are not always transparent as to the direction of policy. Where possible, we checked our decision with the verbatim transcripts of the FOMC meetings that are available through 1992.

federal funds rate rather than reserve restraint.) However, Meulendyke (1998) reports that the Fed returned to the 1970s practice of directly targeting the federal funds rate in late 1987. Although the directives were still phrased in terms of reserve pressure, the focus was on the level of the federal funds rate. Therefore, changes in the average daily federal funds rate or in the level of the federal funds rate target seem appropriate indicators of inter-meeting changes in monetary policy for the period since late 1987.<sup>6</sup>

We restrict our sample to the period in which Alan Greenspan has been chairman, August 1987 through December 1998.<sup>7</sup> This period allows for a single measure of a change in monetary policy and covers most of the directives with biases. While the bias in directives began during the Volcker chairmanship, the Volcker sample is small and most studies of FOMC behavior find changes across chairmanships. (See, for example, Hakes [1990]).

During this period there were 92 FOMC meetings. In our judgement there were 10 decisions to tighten and 10 decisions to ease. Of the 72 directives that indicated the previous policy was to be maintained, there were 27 directives with a bias toward tightening and 17 with a bias toward easing.

### **Testing for information in the bias**

If a bias in the directive increases the likelihood of the Fed moving in that direction between meetings, the Fed should be more likely to tighten or ease when there is a bias in the directive. To test for this we assume that actual tightening (easing) will result in an increase (decrease) in the average federal funds rate for the inter-meeting period. We estimate the following model:

$$\Delta \text{ffr}_t = \beta_0 + \beta_1 DT_t + \beta_2 DE_t + \beta_3 BT_t + \beta_4 BE_t + u_t \quad (1)$$

where

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<sup>6</sup> The exact timing of the explicit switch to targeting the funds rate is not clear. It may have been triggered by the stock market crash in October 1987 (Meulendyke [1998, p. 55]). However, the funds rate was important before then. Thornton [1988] argues that the FOMC emphasized federal funds rate targets during the borrowed-reserves operating procedure. Moreover, there have been explicit targets for the federal funds rate since 1984 (Rudebusch [1995]).

<sup>7</sup> Because our sample stops before the FOMC began announcing the bias, our use of the actual change in the funds rate as a policy measure should not be contaminated by announcement effects.

- $\Delta \text{ffr}_t$  = the average daily federal funds rate from the day after the current FOMC meeting to the day before the next meeting less the daily average of the previous inter-meeting period <sup>8</sup>
- $\text{DT}_t$  = 1 if the decision was to tighten, 0 otherwise
- $\text{DE}_t$  = 1 if the decision was to ease, 0 otherwise
- $\text{BT}_t$  = 1 if the decision was to maintain the previous policy but there was a bias toward tightening, 0 otherwise
- $\text{BE}_t$  = 1 if the decision was to maintain the previous policy but there was a bias toward easing, 0 otherwise

If the FOMC follows through on its intentions,  $\beta_1$  should be significantly positive and  $\beta_2$  should be significantly negative. If the bias in the directive increases the likelihood of a change in policy in that direction,  $\beta_3$  should be significantly positive and  $\beta_4$  should be significantly negative. Because the bias is unlikely always to result in an inter-meeting move in that direction, we expect that the coefficients on the bias dummies to be smaller in absolute value than their counterparts for the policy dummies.

Table 1 presents the estimates of equation (1) using both ordinary least squares and, because the Durbin-Watson statistic is in the indeterminate range, least squares correcting for serially correlated errors. The OLS results indicate that decisions to tighten were followed by an increase in the average inter-meeting funds rate of about 47 basis points and decisions to ease were followed by decreases of about 37 basis points. Directives that specified no change in policy but with a bias to tighten were followed by an increase in the average funds rate of about 11 basis points (significant at the 5 percent level). Directives that specified no change in policy but with a bias to ease were followed by a decrease in the average funds rate of about 22 basis points (significant at the 1 percent level). The coefficient on the bias to tighten dummy (BT) is significantly smaller than that on the tighten policy dummy (DT) and the coefficient on the bias to ease dummy (BE) is significantly smaller, in absolute value, than that on the ease policy dummy (DE). Correcting for serially correlated errors produces very similar results.

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<sup>8</sup> The daily federal funds rate data are from the Federal Reserve Bank of St. Louis's web site.

Model (1) assumes, in effect, that a bias is associated with a fixed change in the funds rate. However, it is unlikely that the FOMC intends to indicate anything other than the possibility that a change of some magnitude may be warranted in the inter-meeting period. Therefore, as a second test of the information content of the bias, we estimate an ordered probit model that allows us to estimate the increase in the probability that the Fed will tighten or ease in the inter-meeting period associated with a biased directive. Using data on targets for the federal funds rate, we create a discrete variable that takes the value of zero if the target is reduced after a meeting, the value of one if the target is unchanged, and the value of 2 if the target is raised.<sup>9</sup> We omit the meetings when there was a vote to ease or tighten because such votes were always accompanied by decreases or increases in the funds rate target. This leaves us with 72 observations.

The model is:

$$\text{FFRTCH}_t = \gamma_0 + \gamma_1 \text{BT}_t + \gamma_2 \text{BE}_t + e_t \quad (2)$$

where

$$\begin{aligned} \text{FFRTCH} &= 0 \text{ if the federal funds rate target is lowered after a meeting} \\ &= 1 \text{ if the federal funds rate target is unchanged after a meeting} \\ &= 2 \text{ if the federal funds rate target is raised after a meeting} \end{aligned}$$

If the bias contains information about subsequent policy changes, we should find that  $\gamma_1$  is significantly positive and  $\gamma_2$  is significantly negative.

Table 2 gives the ordered probit estimates of model (2). These results indicate that there is significant information in the bias about the direction of the change in the funds rate target. When a directive specified no change in policy but included a bias, there was a significant increase in the probability that the funds rate target would be changed in the direction of that bias. Because the probit coefficients are not easy to interpret, Table 3 gives the estimated probabilities of the alternatives for the federal funds rate targets. A directive to maintain current policy with no bias was associated with a 79 percent probability of no change in the funds rate target, an 18 percent probability of a decrease in the target and a 3 percent probability of an increase. If the directive contained a bias to tighten, the probability of an increase rose to about 24 percent. If the directive contained a bias to ease, the probability of a decrease in the funds rate target increased

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<sup>9</sup> We thank Dan Thornton of the Federal Reserve Bank of St. Louis for the data on the federal funds rate targets.

to 65 percent. In both cases a bias virtually eliminates any likelihood of a movement in the funds target in the opposite direction.

A bias to ease seems more significant than a bias to tighten. In a statistical sense, a bias to ease is more significant than a bias to tighten in Tables 1 and 2 (1 percent rather than 5 percent significance levels). In Table 1, a bias to ease predicts a change in the funds rate (absolute value) that is approximately twice that of a bias to tighten. In Table 3, the increase in the probability of a higher funds rate target following a bias to tighten (from .025 to .237) is modest compared to the increase in the probability of a lower funds rate target following a bias to ease (from .181 to .648).

### **Conclusions**

Since 1984, the FOMC has often issued directives for short-term monetary policy that were worded to indicate a bias toward easing or tightening. This paper investigates the information content of these asymmetric directives to see if they have affected the likelihood of inter-meeting changes in policy during the Greenspan chairmanship. If policy is measured by the change in the average daily federal funds rate after a directive is issued, the results indicate that a bias to ease predicts a significantly lower average funds rate and a bias to tighten forecasts a significantly higher average funds rate. If policy is measured qualitatively by whether the target for the federal funds rate changed, a bias to tighten significantly raises the probability that the target will be raised and a bias to ease significantly raises the probability that the target will be lowered. A bias to ease is more significant statistically and signals a larger change in the funds rate (or a larger change in probabilities) than does a bias to tighten.<sup>10</sup>

If past behavior is a guide to future behavior, making the bias of FOMC directives publicly available will give financial markets information on future policy changes.

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<sup>10</sup>As a referee noted, these results may be somewhat different in the future because announcing the bias may cause the funds rate to move in anticipation of a change in policy even if there is no change in the funds rate target, unless the Fed keeps the funds rate at its target. In this latter case, other short rates will presumably display an announcement effect.

**Table 1**  
 Estimated Models for the Effects of  
 FOMC Policy Directives on the Federal Funds Rate  
 August 1987 – December 1998

	OLS	AUTO
Constant	-.0243 (-.78)	-.0176 (-.77)
Decision to Tighten	.4725 (7.76) <sup>***</sup>	.4527 (7.29) <sup>***</sup>
Decision to Ease	-.3720 (-6.11) <sup>***</sup>	-.3650 (-6.00) <sup>***</sup>
Bias to Tighten	.1121 (2.51) <sup>**</sup>	.1050 (2.25) <sup>**</sup>
Bias to Ease	-.2248 (-4.42) <sup>***</sup>	-.2411 (-4.56) <sup>***</sup>
$\bar{R}^2$	.654	.663
DW	1.68	1.98 (DH = -.51)
H1: Vote to tighten = Bias to tighten	t= 5.89 <sup>***</sup>	t= 5.90 <sup>***</sup>
H2: Vote to ease = bias to ease	t= 4.99 <sup>**</sup>	t= -1.87 <sup>*</sup>
Number of Observations	92	92

NOTES:

Dependent variable,  $\Delta \text{ffr}_t$ , is the average federal funds rate from the day after the current FOMC meeting to the day before the next meeting minus the average for the previous inter-meeting period.

AUTO indicates estimates corrected for first-order serially correlated errors using the iterative Cochrane-Orcutt procedure.

t-ratios are given in parentheses.

DH is Durbin's h statistic

\*, \*\*, \*\*\* signify statistical significance at the .1, .05, and .01 levels, respectively.

**Table 2**

Estimated Ordered Probit Models for the Effect of Bias in the Directive on the Probability of an Inter-meeting Change in the Federal Funds Rate Target  
August 1987 – December 1998

Constant	.9815 (.273) <sup>***</sup>
Bias to Tighten	1.2809 (.510) <sup>**</sup>
Bias to Ease	-1.3606 (.415) <sup>***</sup>
Threshold	2.9750 (.487) <sup>***</sup>
$\chi^2$ (p-level)	32.35 .0001
Number of Observations	72

NOTES:

Dependent variable is coded 0 if federal funds rate target was lowered after meeting, 1 if the target was left unchanged and 2 if the target was raised

Threshold is the estimated upper threshold for the ordered probit model.

Asymptotic standard errors are in parentheses.

The  $\chi^2$  statistic is for the hypothesis that the coefficients on both bias dummies are jointly equal to zero.

\*, \*\*, \*\*\* signify statistical significance at the .1, .05, and .01 levels, respectively.

**Table 3**

Estimated Probabilities of Changes in the Federal Funds Rate Target  
After a Directive Specifying No Change in Policy

Directive	Estimated Probabilities		
	Lower	No change	Raise
No change, no bias	.181	.794	.025
No change, bias to tighten	.015	.747	.237
No change, bias to ease	.648	.351	.001

## References

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