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TO: Federal Open Market Committee

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SUBJECT: Impacts of Alternative Monetary Growth Rates

The economic projections for the QIII/78-QIV/79 period shown in the Greenbook assume M-1 growth at a rate of 6-1/4 per cent, consistent with the assumption made for longer-run growth rates under Alternative B in the Bluebook.[1/] The attached two tables compare these projections for selected variables with alternative projections based on the longer-run M-1 growth rates associated with Alternatives A and C in the Bluebook--7-1/4 and 5-1/4 per cent, respectively. In all three projections the staff has assumed interest rates consistent with the low end of the Bluebook ranges of Federal funds rates. With these assumptions, the Greenbook forecast implies a downward drift of about 2 per cent per year in the demand for M-1 relative to historically measured relationships.

Both the Greenbook GNP forecast and the interest rates assumed in preparing that forecast are very similar to those of last month, despite the 1 per cent upward revision in assumed M-1 growth. Last month's Greenbook forecast implied a downward drift in money demand of about 3 per cent per year, which now seems too large in light of recent experience.

1/ Bluebook money growth rates are for the QII/78 to QII/79 period. The GNP forecasts assume similar growth rates of money beyond QII/79.

The projections shown in the attached tables also display extended forecasts, through 1981. The longer-run forecasts assume that M-1 growth continues over the QIII/79 to QIV/81 period at rates of 5-1/4, 6-1/4, and 7-1/4 per cent. The "base forecast"--line 2 of each panel of Table 1--for the QIII/78 to QIV/79 period is the judgmental forecast shown in the Greenbook. For the period beyond 1979, the base forecast has been derived from econometric model extensions of the judgmental projection, assuming continued growth in M-1 at a 6-1/4 per cent rate. Differences between the base forecast and the forecasts shown in lines 1 and 3--which assume alternative M-1 growth rates--have been derived mainly from simulations of the econometric model for the entire period.

The extension of the base forecast suggests that continuation of a 6-1/4 per cent rate of growth of M-1 would result in a somewhat further decline during 1980-81 in the rate of expansion of real GNP to about 2 per cent toward the end of the period.[1/] The unemployment rate would rise to around 6-3/4 per cent by the end of 1981, and the rate of increase of the fixed-weight deflator would remain around the 7 per cent level forecast for the second half of 1979.[2/] The base forecast implies a Treasury bill rate of around 7-3/4 per cent in 1980-81.

Table 2 shows the differences from the base forecast of the projections that assume slower and faster M-1 growth rates. In each panel, the rows are numbered 1 and 3 to correspond to the numbering in Table 1.

1/ Real GNP is depressed in early 1981 by the scheduled sharp increase in the social security tax rate and base.

2/ The increase in the inflation rate in early 1981 also reflects the scheduled changes in social security taxes.

Given a 5-1/4 per cent rate of growth of M-1--row 1 of each panel of Table 2--the projections imply that by the end of 1979 real GNP would be about $15 billion below the base forecast, and by the end of 1981 about $35 billion lower. However, by the end of the extended forecast period, the rate of growth of real GNP is very little different from that of the base forecast.[1/] Under this tighter monetary policy, the price level is only slightly lower by the end of 1979, but by 1981 it is about 2 per cent less than in the base forecast. (As shown in Table 1, the rate of inflation by the end of the extended forecast period is about 5-1/2 per cent as compared to almost 7 per cent under the base forecast.) Similarly, by the end of 1979 a 5-1/4 per cent rate of growth of money has only small effects on the unemployment rate, but by the end of 1981 the unemployment rate is 1 percentage point higher. Short-term interest rates under the 5-1/4 per cent M-1 alternative rise as much as 1 percentage point above the base forecast by early 1980; by the end of 1981, however, short-term interest rates are only moderately higher than the base forecast because the effects of reduced money growth are largely offset by the effects of lower income.

Given a 7-1/4 per cent rate of growth in M-1, real GNP would be about $38 billion higher than the base forecast by the end of 1981, but by that time the rate of growth of real GNP would again be quite

1/ As can be seen in the last column of Table 1, each of the three alternative rates of growth of M-1 lead by QIV/78 to virtually identical rates of growth of real GNP and bill rate levels. This anomaly reflects solely the ending date chosen for the extended forecast; beyond 1981, these variables diverge again as the economy continues to adjust to different levels of M-1. In the very long run, both the level and rate of growth of real activity will be unaffected by the rate of growth of M-1. In contrast, in the very long run interest rate differentials will approximately equal the differential in M-1 growth rates.

similar to that of the base forecast. Under this easier monetary policy, the unemployment rate would be almost 1/2 percentage point below that of the base forecast by the end of 1979, and 1 percentage point lower by the end of 1981. However, the price level, while only somewhat higher by the end of 1979, would be 2 per cent above that associated with the base forecast by the end of 1981. At that time, prices would be growing at an 8 per cent annual rate. While short-term interest rates would be almost 1 percentage point lower than the base forecast by late 1978, they would be about the same as in the base forecast by the end of 1981, because the effects of higher nominal income would offset the effects of higher money growth.

In reviewing the results of this exercise, two factors might be kept in mind. First, as in any econometric model simulation, the forecasts presented hinge importantly on a number of arbitrary assumptions--including the assumption that during the entire period no adjustments are made to monetary policy in response to emerging or anticipated developments. Secondly, errors in the projections will tend to grow larger as the forecast period lengthens. Even so, the staff believes that the differential impacts of alternative monetary policies shown in Table 2 are reasonably indicative of what might be expected.

Attachments

Table 1

Projection of Selected Economic and Financial Variables Assuming Alternative Money Growth Rates

	1978		1979				1980		1981	
	Q3	Q4	Q1	Q2	Q3	Q4	Q2	Q4	Q2	Q4
Real GNP Growth (per cent, annual rate)										
1) 5-1/4% M-1 Growth	3.4	3.0	3.4	2.8	2.3	1.7	1.7	1.1	1.2	1.8
2) 6-1/4% M-1 Growth	3.5	3.4	4.2	3.7	3.2	2.7	2.8	1.9	1.7	2.0
3) 7-1/4% M-1 Growth	3.7	4.2	5.1	4.7	4.2	3.8	3.9	2.7	2.1	2.1
Unemployment Rate (per cent)										
1) 5-1/4% M-1 Growth	5.8	5.9	5.8	5.9	6.1	6.2	6.5	6.9	7.4	7.8
2) 6-1/4% M-1 Growth	5.8	5.8	5.7	5.7	5.8	5.9	6.0	6.2	6.5	6.8
3) 7-1/4% M-1 Growth	5.8	5.8	5.6	5.5	5.5	5.5	5.4	5.4	5.6	5.8
Fixed-Weight Deflator (per cent change, annual rate)										
1) 5-1/4% M-1 Growth	7.0	6.6	7.8	7.4	6.6	6.6	6.3	6.0	6.3	5.5
2) 6-1/4% M-1 Growth	7.1	6.7	7.9	7.5	6.8	6.9	7.0	6.9	7.3	6.9
3) 7-1/4% M-1 Growth	7.2	6.9	8.1	7.7	7.2	7.4	7.8	8.1	8.6	8.0
Three-month Treasury Bill Rate (per cent)										
1) 5-1/4% M-1 Growth	7-1/2	8-3/4	8-7/8	8-1/2	8-1/8	8-1/4	8-3/4	8-3/8	8-1/8	7-3/4
2) 6-1/4% M-1 Growth	7-1/4	8	8-1/8	8	7-7/8	7-3/4	7-3/4	7-3/4	7-5/8	7-3/8
3) 7-1/4% M-1 Growth	6-3/4	7	7-5/8	7-1/2	7-3/8	7-1/4	7-3/8	7-3/8	7-1/2	7-3/8

Table 2

Differences from Base Forecast of Projections Assuming Alternative Money Growth Rates 1/

	1978		1979				1980		1981	
	Q3	Q4	Q1	Q2	Q3	Q4	Q2	Q4	Q2	Q4
Nominal GNP (billions of $)										
1) 5-1/4% M-1 Growth	-1.1	-4.4	-9.7	-16.2	-23.1	-31.1	-50.8	-73.8	-97.5	-119.2
3) 7-1/4% M-1 Growth	1.9	6.7	12.8	20.1	28.5	38.1	61.6	87.9	116.3	143.1
Real GNP (billions of 1972 $)										
1) 5-1/4% M-1 Growth	-.6	-2.4	-5.1	-8.2	-11.4	-14.9	-22.5	-29.4	-34.1	-36.2
3) 7-1/4% M-1 Growth	1.1	3.6	6.6	10.1	13.9	17.9	26.2	32.7	36.9	38.4
Fixed-Weight Deflator (percentage differences in levels)										
1) 5-1/4% M-1 Growth	.0	-.1	-.1	-.1	-.1	-.2	-.5	-.9	-1.4	-1.9
3) 7-1/4% M-1 Growth	.0	.1	.1	.1	.2	.3	.7	1.2	1.8	2.5
Unemployment Rate (percentage points)										
1) 5-1/4% M-1 Growth	.0	.1	.1	.2	.3	.3	.5	.7	.9	1.0
3) 7-1/4% M-1 Growth	.0	.0	-.1	-.2	-.3	-.4	-.6	-.8	-.9	-1.0
Three-month Treasury Bill Rate (percentage points)										
1) 5-1/4% M-1 Growth	1/4	3/4	3/4	1/2	1/4	1/2	1	5/8	1/2	3/8
3) 7-1/4% M-1 Growth	-1/2	-1	-1/2	-1/2	-1/2	-1/2	-3/8	-3/8	-1/8	0
AAA Corporate Bond New Issues (percentage points)										
1) 5-1/4% M-1 Growth	1/8	1/8	1/4	1/4	1/4	3/8	3/8	3/8	3/8	1/4
3) 7-1/4% M-1 Growth	-1/8	-1/8	-1/4	-1/4	-1/4	-3/8	-3/8	-3/8	-3/8	-1/4
Money Stock (billions of $) 2/										
1) 5-1/4% M-1 Growth	-.4	-1.3	-2.7	-3.6	-4.6	-5.5	-7.5	-9.6	-11.9	-14.2
3) 7-1/4% M-1 Growth	.4	2.2	3.2	3.7	4.6	5.6	7.6	9.8	12.1	14.5

1/ Base forecast assumes 6-1/4 per cent M-1 growth from Q2, 1978 level.
2/ Quarterly average levels.