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CONFIDENTIAL (FR) September 11, 1970.

MONETARY AGGREGATES AND
MONEY MARKET CONDITIONS

Recent developments

(1) Published data show that the money stock and the adjusted credit proxy both grew rapidly on average during August, at annual rates of about 11 per cent and 24 per cent, respectively. For both aggregates, much of the greater-than-anticipated August strength reflected an unusually rapid rise in private demand deposits, as security and business loans at banks expanded sharply. Most recently, however, partial data for the statement week ending September 9 indicate that the level of the money stock has probably fallen sharply relative to its expected path and would, unless revised substantially, lead to a considerably weaker-than-anticipated September performance.

(2) The rapid August growth rate for the published money stock also reflected a marked reduction in the importance of several types of international transfers at major banks; these transfers had the effect on the published figures of understating the growth rate of the money supply earlier in 1970. Because the sources of bias became less important in August than in earlier months, once the published data are roughly adjusted to eliminate the effect of these biases (as explained in the appendix), the August change in the money stock adjusts downward to an

annual rate of around 9 per cent. Since only one of the sources of bias in the money supply data affects the bank credit proxy, adjustments to eliminate bias produce only very minor changes in the proxy series.

Recent Paths of Key Monetary Aggregates
(Seasonally adjusted, billions of dollars)

	Adjusted Credit Proxy		Money Supply		
	Indicated at Last Meeting 1/	Actual Results	Indicated at Last Meeting	Actual Results	
1970 Month					
July	315.8	315.8	204.3	204.3	(209.0) 2/
August	321.0	322.0	205.4	206.2	(210.6) 2/
Week ending					
August 12	320.6	320.3	206.4	206.1	
19	321.3	321.1	206.2	206.6	
26	321.8	324.2	204.8	206.2	
Sept. 2	322.1	325.1	204.8	206.1	
9 e/	322.4	323.7	206.2	204.2	
	% Annual Rates of Change		% Annual Rates of Change		
Month					
August over July	20.0	23.6	6.5	11.2	(9.2) 2/

e/ partly estimated.
1/ Alternative A path of previous Blue Book consistent with a 5 per cent annual rate of growth in money stock for third quarter.
2/ Figures in parentheses reflect estimated money supply levels and per cent annual rates of growth after correction for bias.

(3) Total time and savings deposits grew less rapidly in August than in July, partly as CD expansion dropped to a little less than half of the $5 billion July pace. A part of this CD growth was offset by shrinkage of bank-related commercial paper, amounting to about $500 million over the month. As major banks have approached the statement week beginning September 17 to which the new reserve requirement on bank-related commercial paper will first apply, the run-off of such paper has accelerated. The rate of growth of time and savings deposits other than large CD's also slowed in August from the unusually rapid July pace.

(4) Conditions in the money market were easier on average during the three statement weeks that followed the last meeting of the Committee, with the rate on Federal funds averaging just under 6-1/2 per cent. While Federal funds traded generally in a 6-1/8--6-3/8 per cent rate range during the week immediately following the last Committee meeting, inthe statement week just past the funds rate averaged 6.64 per cent, the same as in the week of the Committee meeting, but still about 25 basis points below the average level of the previous three statement weeks. The drop in the funds rate just after the Committee meeting reflected a marked shift in reserve distribution favoring the money center banks. Since then, there has been a reversal of this flow. As a result, the average basic reserve deficit at the 46 major reporting banks rose $1.2 billion from the statement week ending August 26 to that ending September 9.

(5) Net borrowed reserves averaged $500 million, and member bank borrowing $700 million in the three statement weeks following the Committee meeting, some $250--$300 million below the comparable averages for the three preceding weeks. However, these earlier higher numbers still included about $250 million of special member bank borrowing related to loans generated by churning in the market for non-bank-related commercial paper.

(6) The drop in the Federal funds rate immediately following the announced reduction of reserve requirements and the August meeting of the Committee led security market participants to anticipate a significant further near-term easing of monetary policy and a consequent cut in the prime rate at banks. These changed expectations were quickly reflected in interest rates. Bond yields in late August were down about a quarter of a percentage point from levels prevailing just before the last Committee meeting, and the average rate for new three-month bills reached a low of 6.20 per cent in the August 24 auction. Since then, however, the combination of a heavy and growing calendar of corporate and municipal issues and uncertainty about the course of monetary policy in light of the August bulge in monetary aggregates and the recent upward drift in day-to-day money market rates have contributed to a general backing up of interest rates. The three-month bill rate has most recently been around 6.40 per cent, still around 15 basis points below the level prevailing just before the last FOMC meeting.

(7) The following table summarizes seasonally adjusted annual rates of change in major financial aggregates for selected periods:

	Past Year (Aug. over Aug.)	First Half of 1970 (June over December)	Latest two months (Aug. over June)
Total reserves	2.7	- 0.2	14.8
Nonborrowed reserves	4.3	1.9	16.1
Money supply	3.6 (4.7)1/	4.0 (5.5)1/	7.7 (6.9)1/
Time and savings deposits	8.8	7.1	31.9
Savings accounts at nonbank thrift institutions	n.a.	4.5	n.a.
Member bank deposits and related sources of funds			
Total member bank deposits (Bank credit proxy)	6.3	3.3	26.2
Proxy plus Euro-dollars	4.8	1.9	22.0
Proxy plus Euro-dollars and other nondeposit sources	6.0	3.5	21.0
Commercial bank credit (Month end)			
Total loans and investments of all commercial banks	4.7	1.9	16.6
L&I plus loans sold outright to affiliates and foreign branches	5.8	3.9	16.1
Non-bank commercial paper	7.0	14.2	-50.8

NOTE: All items are averages of daily figures (with "other nondeposit sources" based on an average for the month of Wednesday data), except the commercial bank credit series, which are based on total outstanding on last Wednesday of month, and the non-bank commercial paper and thrift institutions series, which are end-of-month data. All additions to the total member bank deposit series are seasonally unadjusted numbers, since data have not been available for a long enough time to make seasonal adjustments.

1/ Figures in parentheses reflect estimated percentage annual rates of growth in money supply after correction of levels for bias.

Prospective developments

(8) If the Committee wishes to continue with a policy that encompasses financial flows and credit conditions consistent with a 5 per cent rate of growth for the money supply, the following language for the second paragraph of the directive might be considered (alternative A):

> To implement this policy, the Committee seeks to promote ~~some-easing-of-conditions-in-credit-markets-and-somewhat-greater~~ MODERATE growth in money over the months ahead ~~than-occurred-in-the second-quarter~~, while taking account of possible liquidity problems and allowing bank credit growth to reflect BANK EFFORTS TO REBUILD LIQUIDITY AND any continued shift of credit flows from market to banking channels. System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining bank reserves and money market conditions consistent with that objective, ~~taking-account-of-the-effects-of-other-monetary policy-actions~~.

(9) Specification of monthly and weekly target paths for the monetary aggregates is complicated insofar as the money supply is concerned by the need to adjust, for purposes of monetary policy formulation, for the known amount of bias in the published figures (the sources of bias and their effect are detailed in the appendix). The following table presents target paths for the money stock that would be consistent with a 5 per cent target growth rate in the fourth quarter for the unbiased, or adjusted, money supply

series. To provide a link with published data on the money supply and with weekly data (for which bias estimates are not yet available), the table also shows monthly target paths for the existing series through October. In the third quarter, growth of the money supply is expected to be below a 5 per cent growth trend--4-1/2 per cent in the published series and 3-1/2 per cent in the adjusted series. This develops because it seems unlikely that over the last half of September the money supply could be expanded sharply enough through open market operations to achieve the desired 5 per cent growth rate for the quarter as a whole, barring a drastic easing of money market conditions. However, revisions in data, particularly for the week ending September 9, not to mention errors in projection for the latter half of September, would of course strongly influence the actual third quarter results as compared with currently expected results.

Money Supply--Monthly and Quarterly
(Daily averages, seasonally adjusted)

	Published Series		Adjusted Series	
Month	Levels ($ bills.)	Annual Rate of change	Levels ($ bills.)	Annual Rate of change
August	206.2	11.2	210.6	9.2
Sept. (proj.)	205.9	- 1.5	209.9	-4.0
Oct. (proj.)	207.2	7.5	211.2	7.5
Nov. (proj.)	(1/)		212.2	5.5
Dec. (proj.)	(1/)		212.5	1.5
Quarters 2/				
3rd. (Sept. over June)		4.5		3.5
4th. (Dec. over Sept.)		(1/)		5.0

1/ After October, we expect to be publishing the unbiased series.

2/ The annual rates of change on a quarterly-average over quarterly-average basis for the money stock in the adjusted series are 4 per cent in each quarter.

(10) Target paths for the reserve and the adjusted bank credit proxy that are consistent with the 5 per cent target growth rate for money supply in the fourth quarter are shown in the following table:

Other Monetary Aggregates--Monthly and Quarterly
(Daily averages, seasonally adjusted

	Adjusted Credit Proxy		Total Reserves	
Month	Levels ($ mills.)	Annual rate of change	Levels (bills.)	Annual rate of change
Aug. (Actual)	322.0	23.6	28.6	23.4
Sept.	324.6	9.5	29.2	23.5
Oct.	327.4	10.5	29.6 1/	7.0
Nov.	330.1	10.5	29.8	8.5
Dec.	332.9	10.0	30.1	12.5
Quarter				
3rd (Sept. over June)		17.5		18.0
4th (Dec. over Sept.)		10.0		9.5

1/ Beginning October 1, the level of total reserves includes a $300 million estimated increase in reserves required against bank-related paper. The annual rates of change have been calculated excluding the effects on reserves of both the increased requirement on commercial paper and the reduction on time deposits so as to maintain continuity of the reserve series.

(11) The third quarter growth rate in money supply of 3-1/2 per cent is substantially short of policy goals and a money growth rate around 3--3-1/2 per cent would be anticipated for the fourth quarter under money market conditions recently prevailing. As a result some easing of money

market conditions would seem to be needed to attain a 5 per cent growth target in the fourth quarter. Achievement of this objective might require a Federal funds rate averaging down in a 6-1/8--6-1/2 per cent range and member bank borrowings averaging a little below $500 million. Net borrowed reserves might be expected to average around $350 million, with the volume of needed open market operations in the week ending October 7 reduced by an estimated $450 million of reserves released by the net effect of the recent reserve requirement changes. These money market conditions would be likely to contribute to renewed general declines of interest rates. Over the near-term, with major Treasury cash borrowing deferred until the latter part of October, the 3-month bill would probably move down into a 6--6-3/8 per cent range. As short-term market rates decline generally, expectations of a prime rate cut would be heightened, and bond yields would probably drift lower, although the heavy calendar of new offerings might tend to limit the size of such declines.

(12) Even with some easing of money market conditions, time deposit growth is likely to slow somewhat further over the months ahead from the unusually rapid rate that followed the late June suspension of rate ceilings on short-term CD's. During September and early October, CD expansion may be sustained at the pace of recent weeks as banks continue to adjust to the commercial paper reserve requirement, but over the rest of the quarter CD growth seems likely to slacken further.

(13) A weekly path for monetary aggregates consistent with the published monthly series in paragraph 9 is shown below for the period until the next FOMC meeting.

Monetary Aggregates--Weekly
(Seasonally adjusted, billions of dollars)

Week ending	Adjusted Credit Proxy	Money Supply	Total Reserves
September 9 e/	323.7	204.2	29.2
16	323.5	205.9	29.3
23	325.4	205.9	29.0
30	325.7	207.5	29.1
October 7	326.2	206.8	29.6 1/
14	326.1	206.9	29.7
21	326.7	208.3	29.6

e/ Estimated.
1/ Beginning October 1, the level of total reserves includes a $300 million estimated increase in reserves required against bank related paper.

Alternative B

(14) Should the Committee desire to seek a 6 per cent growth rate for the money supply over the fourth quarter and a significant easing in credit market conditions, it may wish to consider the following language for the second paragraph of the directive (alternative B):

> To implement this policy, the Committee seeks to promote some FURTHER easing of conditions in credit markets and somewhat greater growth in money over the months ahead than occurred in the first half of the year, while taking account of possible liquidity problems and allowing bank credit growth to reflect BANK EFFORTS TO REBUILD LIQUIDITY AND any continued shift of credit flows from market to banking channels. System open market operations until the next meeting of the Committee shall be conducted with a view to maintaining bank reserves and money market conditions consistent with that objective, ~~taking account of the effects of other monetary policy actions~~.

(15) The following table presents monthly target paths for a 6 per cent fourth quarter growth rate in the money supply.

Money Supply--Monthly and Quarterly
(Daily averages, seasonally adjusted)

Month	Published Series Levels ($ bills.)	Published Series Annual Rate of Change	Adjusted Series Levels ($ bills.)	Adjusted Series Annual Rate of Change
August	206.2	11.2	210.6	9.2
Sept. (proj.)	205.9	-1.5	209.9	-4.0
Oct. (proj.)	207.4	8.5	211.4	8.5
Nov. (proj.)	(1/)		212.6	7.0
Dec. (proj.)	(1/)		213.0	2.5
Quarters 2/				
3rd (Sept. over June)		4.5		3.5
4th (Dec. over Sept.)		(1/)		6.0

1/ After October we expect to be publishing the unbiased series.
2/ The annual rate of change on a quarterly-average over quarterly-average basis for the money stock in the adjusted series are 4.0 and 4.5 per cent, respectively.

(16) Paths for other monetary aggregates as they are likely to develop under this alternative are shown below:

Other Monetary Aggregates--Monthly and Quarterly
(Daily averages, seasonally adjusted)

	Adjusted Credit Proxy		Total Reserves	
Month	Levels ($ bills.)	Annual Rate of Change	Levels ($ bills.)	Annual Rate of Change
August	322.0	23.6	28.6	23.4
Sept. (proj.)	324.6	9.5	29.2	23.5
Oct. (proj.)	327.6	11.0	29.6 1/	7.0
Nov. (proj.)	330.5	10.5	29.9	10.0
Dec. (proj.)	333.4	10.5	30.2	13.5
Quarter				
3rd (Sept. over June)		17.5		18.0
4th (Dec. over Sept.)		11.0		10.5

1/ See footnote of table in paragraph (10).

(17) Attainment of the more rapid growth in the money supply indicated in the above tables would require a more pronounced easing of money market conditions than under Alternative A. These easier conditions might include a Federal funds rate fluctuating in a 5-3/4--6-1/4 per cent range, member bank borrowings around \$300-\$400 million and net borrowed reserves in a \$100-\$250 million range. Such conditions could well trigger an immediate cut in the prime rate and reduce the 3-month Treasury bill rate to 6 per cent or below. Such a development might also create expectations of a reduction in the Federal Reserve discount rate, contributing to general downward pressures on interest rates, in both short- and long-term markets. On the other hand, some partly offsetting

upward interest rate pressure, chiefly in longer maturity ranges, might develop if there were a heightening of expectations that significantly easier credit availability would lead to intensification of inflationary conditions later on.

(18) The adjusted credit proxy is expected to grow somewhat more rapidly, along with the more rapid growth in money supply, as compared with alternative A. Money supply growth is not expected to become more rapid until October, although the exact lags over the near-term in public and bank responses to monetary policy changes are conjectural. Net inflows of time deposits to banks are likely to become larger as market interest rates decline--making CD's viable throughout the maturity range. However, since business loan demands are expected to be moderate, we would expect banks to drop their CD offering rates in line with declines in other market interest rates. As CD's become a more certain source of funds, banks may become more willing to let commercial paper run off and to reduce Euro-dollar borrowings. Thus, the upward effect on the adjusted bank credit proxy of the rather marked lowering of market interest rates expected under this alternative might not be extremely sharp, and will likely depend in part on the extent to which businesses switch from open market to bank borrowing and on the extent to which banks and dealers take speculative positions in securities.

(19) Weekly figures for monetary aggregates over the period between now and the next meeting are shown in the table below (with the money supply figures linked to the published series as under alternative A).

Monetary Aggregates--Weekly
(Seasonally adjusted, billions of dollars)

Week ending	Adjusted Credit Proxy	Money Supply	Total Reserves
September 9 e/	323.7	204.2	29.2
16	323.5	205.9	29.3
23	325.4	205.9	29.0
30	325.7	207.5	29.1
October 7	326.3	206.9	29.6 1/
14	326.2	207.1	29.7
21	326.9	208.5	29.6

1/ See footnote of table in paragraph (13).

Table 1

MARGINAL RESERVE MEASURES
(Dollar amounts in millions, based on period averages of daily figures)

Period	Free reserves	Excess reserves	Member Banks Borrowings: Total	Reserve City: Major banks: 8 N.Y.	Reserve City: Major banks: Outside N.Y.	Reserve City: Other	Country
Monthly (reserves weeks ending in):							
1969--January	- 477	359	836	131	302	149	253
February	- 580	256	836	62	255	215	304
March	- 635	202	837	58	233	254	293
April	- 844	187	1,031	85	411	260	275
May	-1,116	243	1,359	123	346	397	493
June	-1,078	277	1,355	57	459	288	550
July	-1,045	266	1,311	89	250	364	608
August	- 997	214	1,211	81	253	256	621
September	- 744	282	1,026	83	236	222	485
October	- 995	195	1,190	106	327	293	464
November	- 975	238	1,213	120	387	250	456
December	- 849	278	1,127	268	310	220	329
1970--January	- 759	169	928	148	287	232	261
February	- 916	210	1,126	106	317	289	414
March	- 751	129	880	90	225	287	278
April	- 687	178	865	227	331	119	188
May	- 765	159	924	165	241	228	290
June	- 736	171	907	140	289	217	261
July	-1,133	183	1,316	218	460	347	291
August p	- 712	169	881	157	210	328	186
1970--Apr. 1	- 610	339	949	232	264	161	292
8	- 317	179	496	--	269	49	178
15	- 915	102	1,017	322	509	47	139
22	- 811	158	969	517	252	81	119
29	- 783	111	894	63	361	259	211
May 6	- 424	350	774	93	248	220	213
13	- 782	28	810	150	254	202	204
20	- 965	214	1,179	332	310	243	294
27	- 889	44	933	86	150	247	450
June 3	-1,029	195	1,224	269	354	262	339
10	- 721	136	857	195	238	169	255
17	- 390	268	658	--	251	188	219
24	- 799	88	887	97	313	248	229
July 1	- 718	273	991	93	260	304	333
8	-1,219	75	1,294	360	412	283	240
15	-1,451	230	1,681	467	569	371	274
22	-1,201	185	1,386	139	531	395	321
29	-1,078	153	1,231	29	528	388	286
Aug. 5	- 822	188	1,010	114	362	303	231
12	- 894	280	1,174	382	362	300	130
19 p	- 598	82	680	55	100	337	188
26 p	- 535	125	660	77	14	372	197
Sept. 2 p	- 415	246	661	79	--	401	181
9 p	- 498	264	762	160	162	326	114

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Table 2

AGGREGATE RESERVES AND MONETARY VARIABLES
Retrospective Changes, Seasonally Adjusted
(In per cent, annual rates based on monthly averages of daily figures)

Period	Reserve Aggregates			Monetary Variables						
					Money Supply					
	Total Reserves	Nonborrowed Reserves	Required Reserves	Total Member Bank Deposits	Total	Currency	Private Demand Deposits	Commercial bank time deposits adjusted	Credit Proxy + Euro-dollars + other nondep. sources of funds	Addendum: Nonbank commercial paper
Anually										
1968	+ 7.8	+ 6.0	+ 7.9	+ 9.0	+ 7.2	+ 7.4	+ 7.1	+11.5	n.a.	
1969	- 1.6	- 3.0	- 1.2	- 4.0	+ 2.5	+ 5.8	+ 1.5	- 5.3	n.a.	
Semi-annually										
1st Half 1969	+ 0.7	- 3.7	+ 1.0	- 3.5	+ 4.3	+ 6.5	+ 3.7	- 4.0	n.a.	
2nd Half 1969	- 3.9	- 2.4	- 3.3	- 4.6	+ 0.6	+ 4.9	- 0.6	- 6.7	- 1.2	+27.6
1st Half 1970	- 0.2	+ 1.9	--	+ 3.3	+ 4.0	+ 8.3	+ 2.9	+ 7.1	+ 3.5	+14.0
Quarterly										
1st Quarter 1969	+ 0.1	- 2.8	+ 1.7	- 4.8	+ 4.1	+ 6.5	+ 3.2	- 5.1		
2nd Quarter 1969	+ 1.2	- 4.7	+ 0.2	- 2.2	+ 4.5	+ 6.3	+ 4.2	- 3.0	n.a.	
3rd Quarter 1969	- 9.3	- 4.8	- 8.6	- 9.4	--	+ 3.6	- 1.3	-13.3	- 4.3	+31.0
4th Quarter 1969	+ 1.4	- 0.1	+ 2.0	+ 0.1	+ 1.2	+ 6.2	--	--	+ 2.0	+22.4
1st Quarter 1970	- 2.9	- 0.4	- 2.5	+ 0.6	+ 3.8	+ 7.0	+ 2.9	+ 0.4	+ 0.5	+13.2
2nd Quarter 1970	+ 2.6	+ 4.1	+ 2.6	+ 6.0	+ 4.2	+ 9.4	+ 2.8	+13.8	+ 6.5	+14.3
Monthly										
1969--January	+ 7.5	+ 4.5	+12.7	- 3.2	+ 6.2	+ 2.8	+ 7.1	-10.0		
February	- 3.4	- 4.9	- 3.0	- 1.2	+ 3.1	+ 8.3	+ 1.6	- 4.7		
March	- 3.8	- 8.0	- 4.4	-10.1	+ 3.1	+ 8.2	+ 0.8	- 0.6		
April	- 8.5	-12.0	- 5.0	+ 4.9	+ 7.9	+ 2.7	+11.0	--		
May	+19.9	+ 6.0	+14.3	- 1.2	+ 1.2	+ 8.1	- 1.6	- 3.6		
June	- 7.6	- 8.2	- 8.6	-10.2	+ 4.2	+ 8.1	+ 3.1	- 5.4		
July	-22.5	-19.3	-17.6	-18.9	+ 1.8	+ 5.4	+ 1.6	18.5	- 7.0	+26.4
August	- 5.6	- 2.8	- 7.6	-11.3	- 1.8	+ 8.0	- 4.7	-19.4	- 7.5	+23.8
September	--	+ 7.7	- 0.8	+ 1.7	--	- 2.6	- 0.8	- 2.5	+ 1.6	+40.7
October	-11.7	-17.9	-10.4	- 9.2	+ 0.6	+10.6	- 0.8	- 3.7	- 7.9	+20.0
November	+ 9.7	+ 5.5	+ 9.3	+ 9.7	+ 1.2	+ 7.9	- 1.6	- 0.6	+13.1	+11.7
December	+ 6.3	+12.1	+ 6.9	--	+ 1.8	--	+ 2.3	+ 4.3	+ 0.8	+34.2
1970--January	+ 3.1	+ 7.2	+ 5.0	- 4.2	+ 9.0	+ 5.2	+10.1	-12.4	- 3.5	+ 3.6
February	-12.0	-15.6	-12.9	- 8.0	-10.7	+ 7.8	-15.5	- 0.6	- 5.5	+35.7
March	--	+ 7.5	+ 0.6	+14.0	+13.2	+ 7.8	+14.1	+14.4	+10.7	+ 0.4
April	+21.3	+25.4	+22.2	+16.8	+10.7	+ 7.7	+10.9	+22.2	+13.7	+71.3
May	-13.9	-19.0	-15.1	- 4.5	+ 3.5	+15.3	--	+10.3	- 1.2	+10.7
June	+ 0.5	+ 6.2	+ 0.9	+ 5.8	- 1.8	+ 5.0	- 2.3	+ 8.4	+ 7.0	-37.3
July	+ 6.0	-16.1	+ 7.9	+22.7	+ 4.1	+ 7.5	+ 2.3	+35.2	+18.1	-88.4
August p	+23.4	+49.0	+21.9	+29.2	+11.2	+ 2.5	+13.8	+27.8	+23.6	-14.1

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Table 3
AGGREGATE RESERVES AND MONETARY VARIABLES
Seasonally Adjusted

(Based on monthly averages of daily figures)

Period	Reserve Aggregates 5/ Total reserves	Nonborrowed reserves	Required reserves	Member Bank Deposits Supported by Required Reserves: Total member bank deposits	Time deposits	Private demand deposits 1/	U.S. Gov't demand deposits	Money Supply: Total	Currency 2/	Private demand deposits 3/	Commercial bank time deposits adjusted 4/	Credit Proxy + Euro-dollars + other nondep. sources of funds	Addendum: Nonbank commercial paper
	(In millions of dollars)			(In billions of dollars)									
Monthly													
--January	28,139	27,318	27,902	297.0	163.2	128.4	5.4	195.8	43.5	152.3	203.2		
February	28,060	27,206	27,832	296.7	161.0	129.1	6.7	196.3	43.8	152.5	202.4		
March	27,972	27,024	27,729	294.2	160.5	128.9	4.8	196.8	44.1	152.6	202.3		
April	27,775	26,754	27,614	295.4	160.1	129.4	5.9	198.1	44.2	154.0	202.3		
May	28,235	26,888	27,942	295.1	159.3	130.0	5.9	198.3	44.5	153.8	201.7		
June	28,056	26,705	27,742	292.6	158.1	130.5	4.0	199.0	44.8	154.2	200.8	307.5	25.5
July	27,[illegible]30	26,275	27,334	288.0	155.1	130.5	2.4	199.3	45.0	154.4	197.7	305.7	26.1
August	27,[illegible]01	26,214	27,161	285.3	152.5	129.9	2.9	199.0	45.3	153.8	194.5	303.8	26.6
September	27,[illegible]02	26,383	27,144	285.7	152.1	129.2	4.4	199.0	[illegible]	153.7	194.1	304.2	27.5
October	27,[illegible]4	26,210	27,129	283.5	151.5	128.9	3.1	199.1	[illegible].6	153.6	193.5	302.2	27.9
November	27,783	26,538	27,548	285.8	151.1	129.1	5.6	199.3	45.9	153.4	193.4	305.5	28.2
December	27,928	26,806	27,707	285.8	151.5	129.4	4.9	199.6	45.9	153.7	194.1	305.7	29.0
--January	28,001	26,966	27,823	284.8	149.4	130.1	5.3	201.1	46.1	155.0	192.1	304.8	29.1
February	27,722	26,615	27,523	282.9	148.8	128.5	5.6	199.3	46.4	153.0	192.0	303.4	30.0
March	27,723	26,782	27,536	286.2	150.6	129.8	5.9	201.5	46.7	154.8	194.3	306.1	30.0
April	28,216	27,350	28,046	290.2	153.5	131.4	5.2	203.3	47.0	156.2	197.9	309.6	31.8
May	27,890	26,916	27,692	289.1	154.6	131.4	3.0	203.9	47.6	156.2	199.6	309.3	32.0
June	27,902	27,056	27,713	290.5	155.7	130.0	4.8	203.6	47.8	155.9	201.0	311.1	31.0
July	28,041	26,694	27,896	296.0	160.7	130.9	4.4	204.3	48.1	156.2	206.9	315.8	28.8
August p	28,588	27,783	28,405	303.2	164.8	132.0	6.3	206.2	48.2	158.0	211.7	322.0	28.4

Private demand deposits include demand deposits of individuals, partnerships, and corporations and net interbank deposits.
Includes currency outside the Treasury, the Federal Reserve, and the vaults of all commercial banks.
Includes (1) demand deposits at all commercial banks, other than those due to domestic commercial banks and the U. S. Government, less cash items in process of collection and Federal Reserve float, and (2) foreign demand balances at Federal Reserve Banks.
Excludes interbank and U.S. Government time deposits.
Includes increases in required reserves due to changes in Regulations M and D of approximately $400 million since October 16, 1969.

Table 4

AGGREGATE RESERVES AND MONETARY VARIABLES
Seasonally Adjusted

Period	Reserve Aggregates: Total reserves	Reserve Aggregates: Nonborrowed reserves	Reserve Aggregates: Required reserves	Member Bank Deposits Supported by Required Reserves: Total member bank deposits	Member Bank Deposits: Time deposits	Member Bank Deposits: Private demand deposits 1/	Member Bank Deposits: U.S. Gov't demand deposits	Money Supply: Total	Money Supply: Currency 2/	Money Supply: Private demand deposits 3/	Commercial bank time deposits adjusted 4/	Credit Proxy + Euro-dollars + other nondep. sources of funds	Addendum 5/ Nonbank commercial paper
	(In millions of dollars)			(In billions of dollars)									
1	27,954	27,005	27,605	290.5	152.0	132.6	5.9	206.8	46.9	159.9	196.0	310.1	
8	27,745	27,229	27,566	291.6	152.9	132.8	5.9	204.7	46.9	157.8	197.2	311.0	
15	28,390	27,363	28,290	289.9	153.2	132.1	4.6	203.7	47.1	156.6	197.5	309.4	
22	28,448	27,516	28,330	290.7	153.8	130.3	6.6	202.5	47.1	155.4	198.2	309.9	
29	28,282	27,288	28,051	288.4	154.2	129.8	4.4	201.7	47.3	154.5	198.8	308.0	
May 6	28,481	27,710	28,101	288.9	154.3	131.4	3.2	203.9	47.5	156.4	199.1	309.0	31.7
13	27,696	26,876	27,652	287.8	154.3	131.2	2.3	203.5	47.6	155.9	199.2	307.9	32.1
20	27,965	26,754	27,702	289.3	154.7	132.4	2.2	205.1	47.6	157.5	199.7	309.5	32.0
27	27,504	26,559	27,424	290.2	154.7	131.3	4.2	203.8	47.6	156.2	199.9	310.6	32.3
June 3	27,888	26,702	27,602	290.1	155.0	132.1	3.0	204.0	47.6	156.4	200.0	310.8	32.1
10	27,917	27,028	27,714	289.9	155.3	130.5	4.1	203.4	47.7	155.7	200.5	310.6	32.4
17	28,002	27,419	27,744	290.3	155.4	129.8	5.1	203.9	47.8	156.0	200.7	311.1	31.7
24	27,645	26,870	27,659	289.9	155.6	128.8	5.5	202.1	47.8	154.3	201.0	310.5	32.0
July 1	28,077	27,061	27,794	291.5	156.7	129.5	5.3	204.5	47.8	156.6	202.3	312.7	29.7
8	27,698	26,415	27,664	294.3	158.6	131.8	4.0	205.6	48.1	157.5	204.5	314.2	29.8
15	27,985	26,414	27,907	294.3	159.8	130.6	3.9	204.3	48.0	156.2	206.0	314.2	29.0
22	28,321	26,850	28,059	294.9	161.3	130.3	3.4	202.8	48.1	154.8	207.6	315.0	29.3
29	28,151	26,941	27,973	299.3	162.7	131.0	5.6	204.3	48.0	156.2	209.1	318.9	29.8
Aug. 5	28,052	27,052	27,879	300.6	163.7	131.4	5.6	204.5	48.1	156.4	210.2	319.4	29.5
12	28,684	27,610	28,440	301.4	164.1	131.6	5.7	206.1	48.2	157.9	210.9	320.3	29.6
19 p	28,602	27,907	28,510	302.2	164.5	132.1	5.6	206.6	48.2	158.4	211.5	321.1	29.6
26 p	28,676	28,051	28,502	305.5	165.7	132.4	7.4	206.2	48.1	158.1	212.6	324.2	30.0
Sept. 2 p	28,848	28,206	28,602	306.8	166.7	132.7	7.4	206.1	48.1	158.0	213.7	325.1	29.5
9 p	29,250	28,590	29,067	306.5	168.1	130.8	7.6	204.2	48.3	155.9	215.5	323.7	n.a.

Private demand deposits include demand deposits of individuals, partnerships, and corporations and net interbank deposits.
Includes currency outside the Treasury, the Federal Reserve, and the vaults of all commercial banks.
Includes (1) demand deposits at all commercial banks, other than those due to domestic commercial banks and the U.S. Government, less cash items in process of collection and Federal Reserve float; and (2) foreign demand balances at Federal Reserve Banks.
Excludes interbank and U.S. Government time deposits.
Weekly nonbank commercial paper are not seasonally adjusted.
- Not available.

APPENDIX

Preliminary Corrections for Money Supply Bias in 1970

For some time it has been apparent that current measures of monetary growth were being distorted, as bank float increased more than deposits at large banks.1/ In 1969, the money supply series was revised upward to take account of bills payable and London checks, but this revision only partially corrected the series for the downward bias arising from international transfers. To attempt to measure the remaining bias, the staff has obtained additional information from several sources in preparation for a revision of the money supply series this fall. While this information is not yet complete, some rough estimates have been made of monthly average corrections that may be appropriate for 1970.

Effects on growth rates as currently measured

Table 1 compares growth rates in M_1 as currently measured and as corrected for the estimated bias. The corrected growth rates indicate expansion over the first half of 1970 at a 5-1/2 per cent annual rate, compared to 4 per cent for the published series, and for the first eight months of the year at 5.9 per cent, as compared with 5 per cent for the published series. As had been anticipated, the largest adjustment is for the second quarter. However, the second quarter adjustment will be larger than the 1 percentage point previously indicated in the Blue Book of June 19.

In the third quarter the growth rate will probably be lower by about 1 percentage point after correction for bias. The level of the money supply in the third quarter will be higher than published after bias correction. But the effect of the sources of bias on the rate of growth depends on how the amount of bias is changing relative to the change in private demand deposits; for the rate of growth to be biased downward, the amount of bias would have to be expanding at a faster rate than private demand deposits. In fact, during the third quarter the amount of bias in the published figures is expected to decline, thus leading to a fairly significant overstatement in the actual rate of growth when measured by the figures as presently published. The expected decline in bias in the published figures is in large part attributable to termination of use of "guerilla" drafts at three major New York City banks, as explained below.

1/ Bank float, or cash items in process of collection, traditionally have been deducted from the money supply to avoid double counting of deposits that occurs in the check clearing process. However, available statistics do not provide breakdowns of cash items associated with the deposit component of the money supply.

Estimates of bias

Table 2 provides monthly average estimates of four sources of bias. Edge Act Corporations and agencies of foreign banks are not represented in commercial banking statistics from which the money supply series is constituted, so their demand deposits are not included at present. Yet these institutions are responsible for a very large daily volume of Euro-dollar and foreign exchange transactions which clear through their major New York City correspondents. New York banks account for these transactions by crediting cash items in process of collection and debiting due to banks. Deduction of these cash items from the money supply is inappropriate so long as the demand deposits of Edge Corporations (which to a great extent represent official checks written in repayment of Euro-dollar borrowings by their parent) and agencies are excluded.

Edge Corporations submit daily deposit reports to the New York FRB in the same form as those provided by member banks. Hence, their demand deposits other than interbank can be added to the money supply as an offset to the cash items generated by these institutions. Such deposits consist mainly of checks written but not yet cleared, judging from their parallel movement with New York City bank cash items over European holiday periods. Transactions of Edge Corporations are responsible for the largest portion of the estimated current bias in money supply statistics. This source of bias increased in the first half of 1970, but it has declined slightly since mid-year.

The basis for correcting bias associated with the foreign agencies is much less satisfactory, although it is known that the effect of agency transactions is similar to that for Edge Corporations. The only information available from agencies currently is in month-end condition reports to the New York State Banking Commissioner. These single-date reports lack standardized deposit figures, making it difficult to estimate their contribution to money supply bias directly from the deposits that give rise to it. However, our investigation suggests that figures on "due from U.S. banks and trust companies", as reported by the agencies, is a suitable proxy for the agency cash items submitted to New York City banks for collection. Table 1 reflects totals for 25 foreign agencies operating in New York. This single-date, indirect measure of agency activity leaves considerable room for error in the bias correction, but it appears to be the best retrospective information available. It is estimated that agency transactions declined in importance in the first quarter, but rose above year-end levels by mid-year. As explained below, it is planned to obtain more representative data directly from the agencies to carry the money supply series forward after revision.

The other major component of bias included in these estimates is the so-called "guerilla draft". This accounting device was utilized by a few large banks from late 1969 until recently to obtain reserve benefits under both Regulations D and M. Such transfers involved "guerilla" or clearing house checks drawn by foreign agencies at the request of a U.S. bank but which do not appear on the books of a foreign agency.

They had the effect of generating cash items at New York banks which collected the drafts without any corresponding debits to demand deposits included in the money supply. This practice resulted in downward bias in both levels and rates of growth of the money supply throughout the first half of 1970, but its termination recently will reduce the amount of bias in third quarter estimates significantly.

The smallest component of measurable bias, as indicated by figures on Table 2, is the net effect of transactions through the relatively new Clearing House International Payments System (CHIPS). A large volume of international transactions are now cleared by major New York banks through CHIPS by means of electronic equipment tied into a clearing house computer. Until recently it was by no means certain that these clearings were introducing only small errors into money supply measurement. The problem for money supply statistics evolved from changes in statistical reporting with the advent of this computer clearing system. Some banks, but not all, began reporting payments and receipts through CHIPS as due to and due from banks, respectively, where formerly they reported officers checks and cash items. Other banks maintained their former reporting practice. Depending on the pairing of banks with mixed reporting methods, money supply data could be overstated or understated by such transactions. CHIPS began operation in April, with the volume of payments increasing to several billion dollars currently. The clearing house has provided daily data on these transactions which indicate very little net effect up to now. The staff is currently negotiating with other regulatory agencies to achieve standardized reporting. This will eliminate distortions from this source.

On balance, the total measurable downward bias in the level of the money supply is estimated to have increased from about $3 billion at the end of 1969 to about $4-1/2 billion at mid-year. Since June, the total bias has been reduced about $500 million, reflecting mainly termination of the use of guerilla drafts in response to Mr. Hayes' August 13 letter to New York City banks. No information is yet available for banks outside New York on the possible use--if any--of this or similar devices that might affect the money supply.

Plans for money supply revision

The bias corrections discussed above are still too rough to publish. Moreover, it would be desirable to extend these corrections back as far as the adjustments appear significant to avoid a break in series. It would also be desirable to obtain better information on foreign agency transactions for purposes of carrying the corrected series forward. These tasks, as well as the annual benchmark and seasonal factor revision, have been given a high priority by the staff, and a major revision incorporating all of these elements will be published this fall, probably around the end of October.

It should be noted that the proposed corrections for transactions of Edge Act Corporations and foreign agencies will require continued attention as the money supply series is carried forward. This situation will change when Euro-dollar and foreign exchange transactions are converted from clearing house to Federal funds settlement. Such Federal funds settlement will eliminate the cash items bias discussed above. However, implementation of such a system will require close cooperation between the Federal Reserve, commercial banks, and other institutions involved in international transactions.

Table 1

Preliminary Corrections of Money Supply Growth Rates in 1970
(Seasonally adjusted annual rates of change, in per cent)

	Currently published	Corrected for cash items bias	Amount of correction
Monthly			
1970--Jan.	9.0	11.3	+ 2.3
Feb.	-10.7	- 8.8	+ 1.9
Mar.	13.2	12.4	- 0.8
April	10.7	11.1	+ 0.4
May	3.5	5.8	+ 2.3
June	- 1.8	1.2	+ 3.0
July	4.1	4.6	- 0.5
Aug.	11.2	9.2	- 2.0
Sept. proj.	- 1.5	- 4.0	- 2.5
Quarterly			
Based on last month of quarter			
I	3.8	4.9	+ 1.1
II	4.2	6.0	+ 1.8
III proj.	4.5	3.5	- 1.0
Average of months in quarter			
I	2.6	3.6	+ 1.0
II	6.0	6.9	+ 0.9
III proj.	3.5	4.0	+ 0.5

Table 2
Preliminary Adjustments for Downward Bias in Money Supply
(Monthly averages in millions of dollars)

	New York City cash items bias from				
	Edge Act Corp. transactions	Foreign agency transactions	"Guerilla drafts"	Net effect of CHIPS transactions	Total adjustment to M_1
Month					
1969--Oct.	2,044	867	100e		3,011
Nov.	2,287	717	189		3,193
Dec.	1,997	784	215		2,996
1970--Jan.	2,239	806	376		3,421
Feb.	2.634	712	332		3,678
Mar.	2.597	521	462		3,580
Apr.	2,460	747	523		3,730
May	2,673	801	618	5	4,097
June	2,979	844	779	-52	4,550
July	2,917	968	755	97	4,737
Aug.	2,852	1,078	507	27	4,464
Sept. proj.	2,929	1,078	14e	--e	4,021
Quarterly change:					
1970--I	600	-263	247		584
II	382	323	317	-52	970
III proj.	-50	234	-765	52	-529

e - Estimated.

NOTE: Figures for Edge Act Corporations were derived from daily average deposit reports submitted to New York FRB; foreign agencies from end-of-month condition reports submitted to the New York Banking Commissioner; "guerilla drafts" from special reports by 3 New York City banks; and effects of CHIPS (Clearing House International Payments System) from special reports by the New York Clearing House.