November 21, 1966.

TO: Federal Open Market Committee

FROM: The Staff

SUBJECT: Board staff projections of aggregate reserves, member bank deposits, and related series.

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The Board's staff maintains current weekly and monthly projections of several measures of reserve utilization. These projections are continually evaluated and revised on the basis of a daily and weekly flow of reserve, deposit, and other information.[1/] This memorandum describes procedures and kinds of assumptions on which the projections are based.

Basically, the projections are linked to the daily and weekly flow of information on reserves of member banks and on the deposits supported by these reserves--i.e., net demand and time deposits as defined in Regulation D. Because member banks account for the greatest share of commercial bank assets and because deposit liabilities are the chief source of bank credit, these reserve and deposit figures are useful in making early estimates of other key series. Total member bank deposits can serve as a short-run "proxy" for bank credit, while the demand and time deposit figures provide a basis for estimates of money supply, U.S. Government deposits, and time deposits at all commercial banks.

Use and timing of projections

The actual and projected measure of total member bank deposits--the so-called bank credit proxy--has been used increasingly in FOMC operations. This proxy has been used as a short run operating guide since August, when the Committee began instructing the Desk to adapt operations

1/ See Appendix A of this memorandum for a summary description of sources and uses of information on which both projections and final estimates are based.

in light of bank credit developments. Of course, the proxy does not reflect sources of bank credit other than deposits, such as borrowing by banks from abroad through their foreign branches, but these can be taken into account as they become known.

The advantages of the bank credit proxy in the short-run are: (1) it is calculated on a daily average basis and to that extent irons out erratic movements; and (2) total member bank deposits are the data most closely linked to our continuing daily and weekly reports of reserve aggregates and are therefore most readily observable and taken into account by the Trading Desk.

It should be stressed that the bank credit proxy is not intended to be used as an indicator of commercial bank credit trends over the medium or long term. For that purpose one can utilize the existing last Wednesday of the month commercial bank credit series. It is recognized that the level and movement over the long-term of total member bank deposits has been biased downward relative to total commercial bank credit because of net growth in nondeposit sources of funds, such as capital accounts and other liabilities, and because of more rapid growth at nonmember banks. But for short-run use, with projections updated frequently, it is a useful tool in analyzing fluctuations in banking performance.

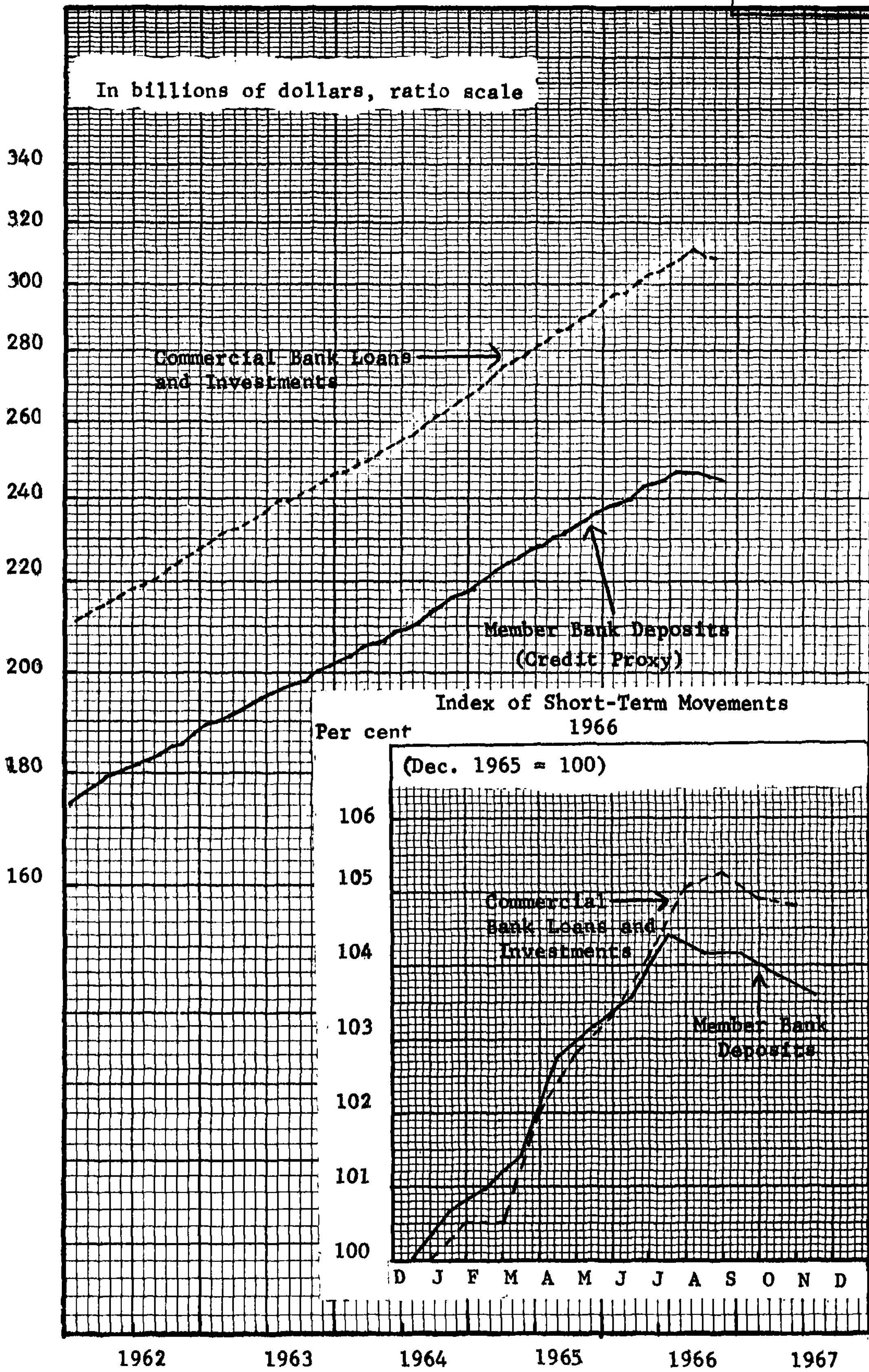
The projections of the proxy are revised weekly (and sometimes more frequently if marked changes are in evidence), and a more extensive review is undertaken prior to each FOMC meeting. The latest monthly average projections appear in the table "Perspective on Bank Reserve Utilization," which is distributed to the Board, all Reserve Bank

Presidents, and key staff members each Friday. These projections are discussed regularly each Friday at the morning conference call involving the Trading Desk, and prospective revisions in the projections are brought to the Desk's attention during the week when important changes in magnitude or direction are in the offing. The daily observed movement of required reserves within a statement week provides a continuing means of evaluating the likely changes in projections, as these movements indicate whether actual required reserves are turning out to be larger, smaller, or about the same as is consistent with the earlier projections for the month.

It might be noted that the short-run movements in the credit proxy when evaluated over the longer run have not been misleading as to direction of change, even though it has deviated somewhat from the true credit figure as to magnitude of change. The similar direction of movement is shown in the chart on the following pages which compares total bank credit (last Wednesday of month series) with total member bank deposits (daily average basis) from 1962 to date. The inset to the main chart compares the two series during the current year, and highlights the difference in magnitude of change attributable mainly to accelerated borrowing from abroad through branches at around mid-year. A difference in timing of the change is also shown which is partly accounted for by the difference in effect of the summer Treasury financings on the last Wednesday series and average daily series.

It appears desirable, nonetheless, to make progress toward adjusting total member bank deposits to include items--such as various

Total Commercial Bank Credit and Member Bank Deposits*
Seasonally Adjusted



* - Total bank credit is last Wednesday of month series. Member bank deposits are averages of daily figures.

borrowings (from abroad and from corporations), capital, nonmember bank assets, and nonborrowed reserves (to be subtracted)--that would make it more directly a measure of total commercial bank credit. To assure that such a series would be representative total bank credit all of such reconciliation items would have to be included on a seasonally adjusted daily average basis. Such a comprehensive measure, once constructed, may still pose certain problems, however, for very current interpretation and use in FOMC operations, because of difficulties in projecting some of the nondeposit items and because of the great uncertainties about the extent of the seasonal component of changes in such items over the very short run. As progress is made toward development of a more comprehensive series, additional reports will be forwarded to the Committee.

Uncertainties and revisions in projections

The projections suffer from all the uncertainties that are present in any projection of the economy and its components. In addition, financial variables tend to show sharp unforeseen movements because they are so quickly influenced by market expectations and by other possibilities of large short-term shifts in financial flows such as might emerge from special financial transactions like those associated with large corporate mergers. Moreover, interpretation of the projections is made more difficult by the perennial problem of seasonally adjusting highly volatile financial series, especially in a period when underlying seasonal patterns are shifting (e.g., because of changes in tax payment schedules and in Treasury financing).

The successive revisions of a projection, however, indicate how the initial uncertainties are being resolved in the actual financial world. Thus, the revisions themselves convey important information to the FOMC and the Trading Desk.

The revisions reflect in part inclusion in the average for the month of actual deposits and reserve data for the early weeks of the month, as information bearing on the monthly projection period becomes available. But these actual developments may also signify the need to change assumptions about conditions of credit demand or about banks' ability to obtain time deposits, given the developing interest rate structure, with consequent effects on projections for future weeks. In modifying assumptions as to credit demand (and also the effectiveness of credit restraint), the staff takes into account any collateral information as to developments in bank earning assets by type (such as is currently available from weekly reporting banks) and also utilizes information gleaned from contacts with market participants. Against such a background, the direction of change in the revisions of deposits by type and of the bank credit proxy can provide indications of developing weaknesses or strengths in credit expansion, and perhaps even in credit demands when the movement of reserve aggregates is evaluated along with movements in market interest rates.

Assumptions in current projections

The projections of reserve aggregates and deposits assume continuation of the recent net reserve position of member banks and related money market conditions. For example, the November projections described in the text of the October 28 Bluebook were based on net borrowed reserves averaging around $400 million, which was about the average of the preceding four weeks, and on a range of money market conditions consistent with an expected upward movement of the bill rate from the low end of a 5.20-5.50 per cent range.

The projections also reflect the staff's assessment of the outlook for credit demands, as influenced by the structure of interest rates and current economic prospects. It is recognized, of course, that the structure of rates (and also free reserves and money market conditions) are themselves partly influenced by deposit trends; in this sense, the projections can be viewed as an effort to spell out a consistent set of money market, reserve, and deposit relationships, given credit demands.

As an illustration of some of the deposit and credit demand assumptions that went into the October 28 Bluebook, the staff recognized that the comparatively easier conditions in the money market during the latter part of October were being accompanied by indications that banks in New York City might find their CD offerings more successful in late October and in November than at any time since mid-August. This improved competitive position of CD's suggested that the assumed rate of attrition might be substantially lower in the projection period of November. Accordingly, the assumed CD runoff for November was reduced to $600 million from the $1.2 billion average rate experienced in September and October. With the latest CD survey continuing to indicate current-month maturities in excess of $4.0 billion, the November runoff assumption implied that banks would be able to replace nearly 90 per cent of maturities, compared with less than 80 per cent in September and October.

Other assumptions for these projections were drawn from recent changes in bank loans and investments and from the outlook for Treasury financing requirements. The November projections assumed somewhat less business loan expansion than in October because certain tax payments had been moved up from November into October. But loan demand was assumed to continue at least at the September pace in view of the expected growth in GNP during the fourth quarter. Projected deposits were also influenced by additional Treasury cash financing needed late in the month, on which the Treasury was expected to permit payment by credit to tax and loan accounts. Additional assumptions are indicated in the following sections on projecting various types of deposits.

Projections of member bank deposits

The figures for monthly projections of key variables brought to the attention of the FOMC and the Trading Desk are reported on a seasonally adjusted basis. Breakdowns of the seasonal and nonseasonal components of the deposit series on a reserve equivalent basis are shown in Bluebook supplemental tables and are included in materials prepared for the morning conference call. In the following discussion, both seasonal and nonseasonal changes will be noted.

Time Deposits. In addition to the assumed nonseasonal CD runoff described above, the November projection of total time and savings deposits of member banks included an allowance for estimated seasonal changes and assumed continued growth in nonnegotiable time deposits, especially growth at country banks. Withdrawal of Christmas savings in the four weeks ending November 30, accounts for most of the estimated seasonal decline in total time and savings deposits in these weeks.

The continued growth of country bank time deposits and the projected decline in city banks CD's were consistent with a projected small decline in total member bank time and savings deposits for the month of November on average. This decline was also influenced by the decrease throughout October in outstanding CD's, which carried over to affect the November average.

Government demand deposits. Projections of these deposits for member banks are derived from estimates of tax and loan balances held with all Treasury depositary banks. Estimated balances in the Treasury's tax and loan and Federal Reserve accounts are prepared at the Board on the basis of expected GNP and personal and corporate incomes, assumed Federal expenditures, and analysis of the continuous flow of detailed daily data on Treasury receipts and expenditures.

Such detailed projections of Treasury balances make it possible to take account of different characteristics of the individual components of receipts and payments--e.g., differences in seasonality, changing tax payment schedules, and availability of tax anticipation bills for paying taxes. They also make it possible to focus continually on the most troublesome components, such as tax receipts during periods of changing payment schedules. For example, the initial November projections of selected factors affecting the Treasury balance--shown in Table 1 together with corresponding week comparisons for other recent years--are indicative of (1) the expected divergence from past patterns in weekly withholding receipts under the accelerated payments schedule; (2) the similarity in the expected weekly pattern of general expenditures and the extent of increase in the level of expenditures over other recent years; and (3) differences in the weekly pattern of Treasury debt operations.

Detailed data on Treasury receipts and expenditures for any given day are available the following morning, and provide a basis for revising the daily projections of U.S. Government deposits. They are revised each morning prior to the conference call. Estimates of Government demand deposits subject to member bank reserve requirements are built up from tax and loan account projections. For this purpose, tax and loan projections must be adjusted to exclude balances held at nonmember depositary banks, to include Government demand deposits at member banks which are not held in tax and loan accounts, and to allow for a downward bias in reporting tax and loan credits.

Variations in U. S. Government deposits over the short-run frequently contribute to similar short-run changes in the opposite direction in private demand deposits, but over the longer-run other more fundamental influences on private demand deposits became dominant.

Table 1

Selected Factors Affecting Treasury Cash Balance in November[1/]
(Weekly totals in billions of dollars)

October 28 projections

Projected Credits to Tax and Loan Accounts

Week ending (1966 dates)	Withheld Taxes 1966 (proj.)	1965 (actual)	1964 (actual)	Security Sales 1966 (proj.)	1965 (actual)	1964 (actual)
Nov. 2	.5	.7	.6	*	*	*
9	2.0	.9	.9	*	*	*
16	.6	.9	1.1	*	*	*
23	1.9	2.0	1.6	*	*	.8
30	.5	.5	.7	2.5	*	*

Projected Credits and Payments at Federal Reserve Banks

	Expenditures other than debt and agency transactions 1966 (proj.)	1965 (actual)	1964 (actual)	Debt and agency transactions 1966 (proj.)	1965 (actual)	1964 (actual)
Nov. 2	-2.4	-2.3	-2.0	- .2	- .5	*
9	-3.5	-3.2	-2.7	- .3	- .3	- .2
16	-3.1	-2.7	-2.7	.2	- .3	1.1
23	-2.4	-2.1	-1.9	- .1	*	.5
30	-1.8	-1.7	-1.8	.2	.4	*

1/ Signs indicate effect on Treasury cash balances. Projected changes in 1966 indicate estimated effects of each factor on Government deposits at commercial banks, since balances held with Federal Reserve are assumed to be kept constant by Treasury calls on commercial banks.

* Total change during week less than $100 million.

Private demand deposits. Such deposits at member banks include all demand deposits subject to reserve requirements, except those due to the U.S. Government. However, for purposes of projections, this series is broken down into net interbank and other private demand deposits(demand deposits adjusted), in part to take account of the different characteristics of these two components but also to facilitate separate estimates for all commercial banks and for the money supply.

Net interbank demand deposits recently have shown little growth and have been relatively stable otherwise from week to week, with most of the variation being of a seasonal nature. In view of these characteristics, interbank projections normally reflect estimated seasonal changes in coming weeks, although events which disturb the normal distribution of deposits and reserves, such as the airline strike last summer, occasionally add a nonseasonal element to this projection. In November, net interbank deposits were expected to move seasonally from week to week and to average slightly below the October average.

Projections of demand deposits adjusted (i.e., adjusted to exclude interbank and Federal Government) at member banks allow for large seasonal changes from week to week and month to month, as well as for growth, cyclical, and irregular fluctuations associated with a number of economic and institutional factors. Seasonal changes on average account for the greatest proportion of the total variation in these deposits, although the separation of seasonal and irregular influences for purposes of these projections has been complicated considerably by changes in tax payments and Treasury financing patterns. November seasonal projections allowed for an increase of about $600 million in demand deposits adjusted between the week ending October 26 and mid-November, followed by a decline of $800 million over the last 2 weeks of the month.

Nonseasonal factors in the initial November projection include the following:

1. An allowance for growth at a 4 per cent annual rate (slightly less than $100 million per week), which was assumed to be consistent with expected credit and money demands flowing from growth in real output.
2. A small shift of deposits from time to demand accounts, averaging less than $100 million for the month as a whole.
3. Further bank sales of the tax bills issued in October, constituting a drain of $500 million from private demand deposits in the two weeks ending November 9. The tax bill that was assumed to be issued for tax and loan credit late in November (see Table 1) was expected to cause similar drains from private demand deposits in early December.
4. A further drain of $500 million in the week ending November 9, associated with the accelerated payment of withholding taxes (see Table 1). It was assumed that part of this accelerated payment would be met with proceeds of CD maturities and part by business borrowing. The shifting forward of withholding payments of large corporations, formerly due on November 10 and 15, was expected to increase private demand deposits moderately in the week ending November 16, and to offset most of

the nonseasonal effect of accelerated payments due on the 18th. Accruals of this tax liability were expected to be substantially larger this November than in past years, due to increases in both the rate and base wage for computing OASDI withholdings.

5. A weekly average drain of $300 million in the week ending November 23, reflecting assumed overallotments in the cash refunding partially offset by attrition.

6. A shift of balances from Government to private demand deposits averaging $300 million per week more than seasonal, reflecting the increased rate of Government expenditures (see Table 1).

Total deposits (credit proxy). Projections of total member bank deposits subject to reserve requirements (the bank credit proxy) are derived from the 3 component projections described above. These deposit components are summed on a weekly and monthly average basis without seasonal adjustment, and then the aggregate series is adjusted for seasonal variation.

Projections of aggregate reserves

Weekly projections of required reserves are derived by multiplying the deposit projections described above by average reserve requirement ratios for all member banks. Most recently these ratios have averaged 14.65 per cent for demand deposits and 4.68 per cent for time deposits. These weekly projections are revised daily for use in the analysis of member bank reserve positions for the daily conference call. Revisions reflect additional daily estimates of required reserves country bank sample revisions each Tuesday, and revisions based on weekly member bank deposit reports available with a 1-week lag.

Monthly average projections of required reserves for November were derived by averaging the weekly projections. Addition of the existing average level of excess reserves--e.g., $350 million in November, reflecting the average of the 4 weeks ending October 26--provided an estimated level of total reserves; and subtraction of average member bank borrowings ($766 million) from total reserves gave nonborrowed reserves. These three aggregate series are currently seasonally adjusted on a monthly average basis only, although it may be possible to move to a weekly basis as time permits.

Projections of money supply and commercial bank time deposits

Money supply and commercial bank time deposits projections also are derived from the basic member bank deposit projections. The demand deposit component of the money supply is based on the weekly projections of member bank demand deposits adjusted. Weekly nonmember bank estimates are derived from expected weekly movements of country bank deposits which are interpolated from changes reported in earlier periods and from the nonmember/country bank deposit ratio as of December 31, 1965. Projections of weekly average Federal Reserve float, which are revised daily for the conference call, are deducted from the unadjusted deposit totals for consistency with the concept measured in the money supply, and both the weekly and monthly averages are seasonally adjusted. The money supply projection is completed by addition of a currency component projection. The currency projection at present allows for growth at a seasonally adjusted annual rate of 3 per cent.

Projections of time deposits adjusted at all commercial banks are derived from the member bank gross time deposit projection described above. Nonmember bank time deposits, which are available only in call reports, are estimated on the basis of the expected actual movement of country bank time deposits and the nonmember/country bank deposit ratio found in the December 1965 call. The level of country bank time deposits for the latest week is derived from the 300-bank reserve sample, and as indicated in the description of member bank projections above, the country bank projection allows for continued growth at the rate of $100 million a week. These gross time deposit projections are adjusted by deducting the latest estimated levels of interbank and Government time deposits for consistency with the all commercial bank concept. Both the weekly and monthly projections are adjusted for seasonal variation.

APPENDIX A

INFORMATION SOURCES FOR ASSUMPTIONS, PROJECTIONS, AND FINAL ESTIMATES OF DEPOSITS AND RESERVES

Type of Information	Use: Forming assumptions	Use: Direct input projec-tions	Use: Direct input final estimates	Availability
Selected data on underlying conditions				
Market interest rates	*			daily data, no lag
CD rates - prime banks in NY	*			Wednesdays - no lag
Survey of CD maturities	*			monthly, 1-week lag
Loans and investments:				
Weekly reporting banks	*			Wednesdays - 1 to 7 days lag
All commercial banks	*			middle and last Wednesdays of month, 2-week lag; semiannual call reports, 3- to 5-month lag
Information from Treasury Dept.				
Tax and loan calls	*	*		daily data, no lag
Assumed level of deposits at FR	*	*		daily data, no lag
Financing needs	*	*		very frequent contact
GNP projections	*			irregular; as outlook changes
Demand deposit turnover	*			monthly, 3-week lag
Data used in projections and final estimates				
Time and savings deposits:				
Country bank sample estimates		*		weekly averages of daily figures, no lag
Reserve city estimates by FR office		*		weekly averages of daily figures, 1-day lag
Flash wires--by class of bank, by category of time deposits	*		*	weekly averages of daily figures, 1-week lag
Final member bank data--by class of bank, by category of deposits	*		*	daily data, 3-week lag
Weekly reporting banks--CD's, detailed breakdowns	*			Wednesdays, 1- to 7-days lag
Deposits at nonmember banks			*	semiannual call reports, 3- to 5-month lag
Interbank and Gov't time deposits			*	Wednesdays, 1-week lag; semiannual call reports, 3- to 5-month lag
U.S. Government demand deposits:				
Treasury cash balance, tax and loan and at Federal Reserve, detailed receipts and expenditures, financings	*	*		daily data, 1-day lag

* Indicates uses of each type of information.

APPENDIX A (cont'd)

Type of Information	Use: Forming assumptions	Use: Direct projections	Use: Input final estimates	Availability
Flash wires--by class of bank		*	*	weekly averages of daily data, 1-week lag
Final member bank data--by class of bank			*	daily data. 3-week lag
Deposits at nonmember banks			*	semiannual call reports, 3- to 5-month lag
Private demand deposits:				
Preliminary estimates of required reserves, total and by type of deposits		*		daily estimates, 1-day lag
Country bank sample revisions of preliminary required reserves estimates		*		universe estimates, weekly averages of daily data, no lag
Bank of America reserve revisions		*		daily data, 5-day lag
Flash wires--net interbank and demand deposits adjusted by class of bank	*		*	weekly averages of daily data, 1-week lag
Final data--net interbank and demand deposits adjusted by class of bank	*		*	daily data, 3-week lag
Projections of Treasury cash balance, receipts, expenditures, financings	*	*		daily projections, 1 to 2 months ahead
Demand deposits due to foreign and mutual savings banks			*	Wednesdays, 1-week lag; semiannual call reports, 3- to 5-month lag
F.R. float		*	*	daily data, 1-day lag
Foreign and international balances at FR			*	daily data, 1-day lag
Deposits at nonmember banks			*	semiannual call reports, 3- to 5-month lag
Reserve aggregates:				
Member bank balances and borrowings at FR and reserve factors	*	*	*	daily data, 1-day lag
Preliminary estimates--vault cash, reserve aggregates and marginal reserves	*	*		daily data, 1-day lag
Country bank sample--required reserves and vault cash		*		universe estimates, weekly averages of daily data, no lag

* Indicates uses of each type of information

APPENDIX A (cont'd)

Type of Information	Use: Forming assumptions	Use: Direct projections	Use: input final estimates	Availability
Bank of America reserve revisions		*		daily data, 5-day lag
Basic and cumulative reserve position of Federal funds reporters	*	*		daily data, 1-day lag
Flash wires--reserve aggregates and marginal reserves	*	*	*	weekly averages of daily data, 1-week lag
Final data--reserve aggregates and marginal reserves	*	*	*	daily data, 3-week lag
System open market operations		*	*	daily data, no lag
Member bank deposit projections		*		weekly averages of daily data, 1- to 2-months ahead

* Indicates uses of each type of information.