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Excluding the Federal Financing Bank from Federal budget totals and other questionable budget practices combine to produce an inadequate and incomplete picture of Federal credit assistance. Findings/Conclusions: In its 4 years of operation, the Federal Financing Bank has helped agencies to borrow money at a cost savings. Although it was originally thought that the Bank would finance its activity by issuing its own securities in the private money and capital markets, nearly all of the Bank's borrowing has been from the Department of the Treasury. This borrowing arrangement saves money for agency borrowers and at present has small effect upon debt management and monetary policy. Problems created by the off-budget status of the Bank combine with other deviations of current budget practices to provide an understatement of Federal outlays. Purchase of Government-guaranteed borrowings is one of the most troublesome aspects of the Bank's off-budget status. Recommendations: Congress should: require that the Bank's receipts and disbursements be included in the Federal budget totals; require that the receipts and disbursements of all off-budget Federal agencies that borrow from the Bank be included in the budget totals; require that sales of Certificates of Beneficial Ownership be treated as borrowing in agency budgets rather than as asset sales; and monitor the Bank's growth to determine when, if ever, the indirect costs of the current borrowing arrangement with the Treasury outweigh the benefits of savings achievable on agency borrowing that this practice provides. (Author/SC)

3/20/77

03102



REPORT TO THE CONGRESS

BY THE COMPTROLLER GENERAL
OF THE UNITED STATES

Government Agency Transactions With The Federal Financing Bank Should Be Included On The Budget

In its 4 years of operation, the Federal Financing Bank has helped Federal agencies borrow money, at a cost savings. However, the transactions of the Federal Financing Bank affect the Government's budget and policy.

Excluding the Federal Financing Bank from Federal budget totals and other questionable budget practices combine to produce an inadequate and incomplete picture of Federal credit assistance. The current borrowing arrangement with the Treasury saves money for agency borrowers and at present has small effects upon debt management and monetary policy.



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-174958

To the President of the Senate and the
Speaker of the House of Representatives

This report is an analysis of the problems associated with the off-budget status of the Federal Financing Bank and its borrowing relationship with the Treasury. Neither the Bank's status nor its borrowing arrangement is crucial to the fundamental intermediation role the Bank was intended to play. They result, however, in real costs and inefficiencies.

The report addresses two issues:

- What is the best means of reflecting the credit assistance activity of the Federal Government in the budget while preserving the benefits from the intermediation role the Federal Financing Bank was intended to play?
- Does the borrowing arrangement between the Federal Financing Bank and the Treasury have any significant ill effects on the conduct of Treasury debt management and monetary policy?

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Director, Office of Management and Budget, and the Secretary of the Treasury.

A handwritten signature in black ink, reading "James B. Stacks".

Comptroller General
of the United States

COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

GOVERNMENT AGENCY TRANSACTIONS
WITH THE FEDERAL FINANCING BANK
SHOULD BE INCLUDED ON THE BUDGET

D I G E S T

The Federal Financing Bank was established on December 29, 1973. It was created to function as a financial go-between, purchasing the different kinds of debt and guaranteed obligations of Federal agencies and private borrowers and substituting its own borrowing for that of the agencies. Its accomplishments have been noteworthy. Through coordination of the timing aspects of agency borrowing and its standardization, agency borrowing costs have been reduced.

Two aspects of the Bank's activities are not strictly related to its essential role as a financial conduit. First, when the Federal Financing Bank was established, its receipts and disbursements were excluded from the budget totals. Second, it was originally thought that the Bank would finance its activity by issuing its own securities in the private money and capital markets. Instead, nearly all of the Bank's borrowing has been from the Department of the Treasury.

This report considers how these factors cause substantive changes in the meaning of Federal outlays and deficits, the design of Federal assistance programs, and the allocation of Federal resources. It also considers changes that have occurred in the level, composition, and maturity structure of the Federal debt, which may in turn affect the conduct of Treasury debt management and monetary policy.

These changes are not related to the basic role that the Bank was intended to play. They relate to the way the Bank's transactions intermingle with questionable budget practices to produce an inadequate and incomplete picture of Federal credit assistance activity. They could also potentially relate to the current borrowing arrangement with the Treasury.

The problems created by the off-budget status of the Bank combine with other deviations of

current budget practices from those recommended by the President's Commission on Budget Concepts. Most notable among these are the budget treatment of Certificates of Beneficial Ownership, Bank purchases of agency assets, and Bank purchases of Government-guaranteed borrowings of private entities. The combined effect of these factors provides an understatement of Federal outlays estimated to accumulate to nearly \$30 billion by the end of fiscal year 1978.

Federal Financing Bank purchases of the Government-guaranteed borrowings of private entities is one of the most troublesome consequences of the Bank's off-budget status. This practice has a potential for failures to design into loan guarantee programs the essential element of risk sharing and the potential for oversubsidization when guarantee programs are appropriate and use of credit assistance devices when such devices may be inappropriate.

Including the Bank's receipts and disbursements in the budget totals would eliminate most of the understated outlays that currently result from the way credit assistance that goes through the Bank is reflected in the budget. But, it would not greatly increase the rationality of decisions made regarding allocations of resources among Federal assistance programs.

Concerns about on-budget status for the Bank are valid largely because of the budget treatment given certain credit assistance transactions. If budget conventions were changed to reflect the true nature of these transactions, much of the agency borrowing currently going through an on-budget Bank would continue at a cost savings. Bank origination of the Government-backed borrowings of private entities is a questionable practice, and an on-budget Federal Financing Bank might eliminate this practice. The benefits of reduced interest costs to assisted private borrowers are questionable, and the cost savings from this practice may also be illusory.

When the Bank finances its purchases of agency debt through the Treasury, the liquidity mix of public holdings of the Federal debt is changed. The Treasury finances its lending to the Bank by issuing its own securities. Treasury securities are shorter term than the displaced agency securities the Bank purchases and, in all likelihood, the securities that the Bank would sell in the private money and capital markets if it could not rely on the Treasury.

Because of this, the maturity structure of the Federal debt is shortened. We estimate that by the end of fiscal year 1978, the average maturity of the Federal debt will have been reduced by about 3 percent as a result of the Bank's operations and its borrowing arrangement with the Treasury. We also estimate that the public's short-term Federal debt holdings will have increased by about \$12.1 billion and that long-term Federal debt holdings will have been reduced by nearly the same amount as a result of the Bank's activities and its borrowing arrangement with the Treasury.

Theoretically, this compositional shift in the maturity structure of the Federal debt should affect the Treasury debt management through its effect on the term structure of interest rates. It may also affect monetary policy by providing commercial banks with a greater stock of readily marketable assets that may be easily liquidated to finance loan expansion at the same time that the Federal Reserve Board is trying to curb loan expansion.

The empirical evidence generally supports the theory. But, the Bank's operations are small in relation to the operations of the Treasury and the commercial banking system. Thus, the compositional shift out of agency securities into Treasury securities induced by the Bank is estimated to have small effects on the maturity structure of the Federal debt, the term structure of interest rates, or monetary policy through fiscal year 1978. The Bank's lending activity would have to grow quite large before such effects could be considered serious.

AGENCY COMMENTS

Formal agency comments on this report were not requested. The draft report, however, was reviewed by staff of the Office of Management and Budget and the Department of the Treasury on an informal basis. These comments were considered in preparing the final report.

Treasury officials maintain that the overall maturity of the Bank's portfolio is about 4 years. The calculations in chapter 4 include the Bank's transactions in agency debt and Certificates of Beneficial Ownership in the fourth quarter of 1976 and the first quarter of 1977. Therefore, they do not include all of the Bank's transactions since its inception.

RECOMMENDATIONS

In view of the current and potential consequences resulting from the off-budget status of the Federal Financing Bank, deviations of current from recommended budget treatment of some Federal credit assistance activity, and the current borrowing arrangement between the Bank and the Treasury, GAO recommends that the Congress:

- Require that the Bank's receipts and disbursements be included in the Federal budget totals.
- Require that the receipts and disbursements of all off-budget Federal agencies that borrow from the Bank be included in the budget totals.
- Require that sales of Certificates of Beneficial Ownership be treated as borrowing in agency budgets rather than as asset sales.
- Monitor the Bank's growth to determine when, if ever, the indirect costs of the current borrowing arrangement with the Treasury outweigh the benefits of savings achievable on agency borrowing that this practice provides.

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ABBREVIATIONS

CBO **Certificate of Beneficial Ownership**
FFB **Federal Financing Bank**
GAO **General Accounting Office**

CHAPTER 1

INTRODUCTION

One of the more significant innovations in Federal finance in recent years was establishing the Federal Financing Bank (FFB) on December 29, 1973. According to testimony given for FFB's establishment, it was needed because: 1/

"Many existing Federal agencies are now required to finance their programs directly in the securities markets * * *. These agencies must develop their own financing staffs, and their abilities to cope with their principal program functions are lessened by the need also to deal with the complex debt management operations essential to minimizing their borrowing costs and avoiding cash flow problems which could disrupt their basic lending programs.

"Interest costs of the various Federal agency financing methods normally exceed Treasury borrowing costs by substantial amounts, despite the fact that these issues are backed by the Federal Government. Borrowing costs are increased because of the sheer proliferation of competing issues crowding each other in the financing calendar, the cumbersome nature of many of the securities, and the limited markets in which they are sold * * *.

"Under the proposed legislation these essentially debt management problems could be shifted from the program agencies to the Federal Financing Bank. Many of the obligations which are now placed directly in the private market under numerous Federal programs would instead be financed by the Bank. The Bank in turn would issue its own securities. The Bank would have the necessary expertise, flexibility, volume,

1/ U.S. Congress, House Committee on Ways and Means, Federal Financing Bank Act Hearings, Mar. 1, 1973, 93rd Cong., 1st sess., p. 2.

and marketing power to minimize financing costs and to assure an effective flow of credit for programs established by the Congress."

FFB has reduced the cost of borrowing by the executive branch agencies. FFB's establishment coordinated at least some agency borrowing. Standardizing the financial instruments used to finance Federal credit programs has occurred since all of FFB's current borrowing is from the Treasury.

We believe that creating a central facility for coordinating the debt management aspects of Federal credit programs is a good idea. The benefits of coordinating, standardizing, and hence reducing costs that accrue to such an institution within the Federal Government are substantial. In 1975 the cost savings resulting from FFB and its borrowing arrangement with the Treasury was estimated to be \$70 million. These savings are partly due to FFB's borrowing from the Treasury instead of the public.

PERSPECTIVE OF THE REPORT

Indirect costs resulting from FFB are not fully recognized. This report analyzes these indirect costs. Some of the costs are potential; some currently exist. They may be grouped into two main categories. First, FFB affects the meaning of Federal budget outlays and deficits. Related to this are considerations regarding the potentials for alterations in credit program design and questionable choices of Federal policy tools to achieve particular program objectives. Second, a potential exists for FFB to adversely affect the conduct of debt management and monetary policy. In this latter context, debt management policy does not refer to the coordination aspects of agency financing in which FFB's function provides definite benefits. Instead, we are referring to the Treasury debt management policy. Neither the off-budget status of FFB nor its borrowing arrangement with the Treasury is essential to its basic intermediation role.

In the next chapter we discuss certain aspects of the Federal Financing Bank Act, explain the basic role that FFB plays as a financial intermediary, and describe the types of transactions that FFB engages in. This is provided as a background for the analysis in the remainder of the report.

In chapter 3 the ways in which the off-budget status of FFB affects the meaning of budget outlays and deficits are discussed. FFB was established as an off-budget entity, but we believe that its operations are an integral part of the Federal Government operations and should be assessed together with other Federal operations within the context of the Federal budget. FFB's off-budget status removes a large segment of direct lending activity from the Federal budget totals.

Related to this are concerns about FFB's

- purchase of Government-backed loans that would have otherwise been financed in private markets;
- budget treatment of Certificates of Beneficial Ownership (CBOs), ^{1/} most notably those of the Farmers Home Administration, and FFB's purchase of these securities; and
- purchase of agency assets that would have otherwise been sold in private capital markets.

Under current budget conventions, each of these transactions is treated in a way which disguises the true nature of the transaction and leads to an understatement of the total financing activity of the Federal Government. All of these practices offer the potential for favoring credit assistance devices rather than alternative Federal assistance devices, which may be more efficient in assuring the achievement of program goals. This problem is most important in cases in which FFB purchases the Government-backed borrowing of private entities. ^{2/}

^{1/}Certificates of Beneficial Ownership represent "ownership" of interests in a pool of loans made and still held by a selling agency. These securities are sold by the agency and guaranteed by the Government. When they are sold, by statute they are treated in the budget as a sale of a loan asset, although the loans in which CBOs nominally evidence interest are still held by the administering agency. There are no real benefits to purchasers from the transactions in the underlying loans. GAO believes that sales of these securities do not differ in a meaningful way from borrowing and should be so reflected in the budget.

^{2/}An excellent source for the budget implications of FFB is Robert W. Kilpatrick and Thomas J. Cuny, The Federal Financing Bank and the Budget, Executive Office of the President, Office of Management and Budget, Technical Paper Series BRD/FAB 76-1, Jan. 26, 1976.

Concerns are also expressed about FFB financing of other off-budget activities.

In chapter 4 FFB's implications for the conduct of debt management and monetary policy are analyzed. It was originally thought that FFB would generally finance its lending by borrowing in the private money and capital markets. The possibility of borrowing from the Treasury was not ruled out, however. Currently, all FFB borrowing is from the Treasury. Treasury funds its lending to FFB by issuing its own securities. Treasury securities are more marketable than the agency securities that would have been issued in the absence of FFB. They are also more marketable than FFB borrowings would have been if FFB could not have relied on the Treasury for financing. Much of the savings attributable to use of FFB is the result of the greater marketability of Treasury securities. However, these conditions have led to a shortened maturity structure of the Federal debt and have increased the liquidity and marketability of the public's asset holdings.

As a result of the current borrowing arrangement with the Treasury, the efficiency with which debt management and monetary policy are conducted may be affected. The way in which this happens is complex, but the existence of this relationship between alterations in the maturity structure of public asset holdings and conduct of stabilization policy is reasonably well established. Despite this relationship, the present size of FFB is insufficient to raise concerns about detrimental effects. And, FFB would have to grow much larger before these effects would be cause for substantial concern.

CHAPTER 2

FFB's ROLE, FUNCTIONS, AND IMPLICATIONS

The Federal Financing Bank functions as a financial intermediary or go-between. It either lends funds to or purchases the loans of Federal agencies responsible for administering Federal credit programs and to those directly benefiting from Federal credit assistance. It obtains these funds by issuing its own securities. Its borrowings are held almost entirely by the Treasury. In this chapter we describe the types of transactions FFB engages in and the effects of these transactions on the nature of Federal assistance. We also summarize the effects of these transactions on the meaning of budget outlays and deficits and on the composition of the Federal debt.

FFB AS AN INTERMEDIARY

FFB was created on December 29, 1973, by the Federal Financing Bank Act (12 U.S.C. 2281). Its purpose is spelled out in section 2 of the act.

"The Congress finds that demands for funds through Federal and federally assisted borrowing programs are increasing faster than the total supply of credit and that such borrowings are not adequately coordinated with overall Federal fiscal and debt management policies. The purpose of this Act is to assure coordination of these programs with the overall economic and fiscal policies of the Government, to reduce the costs of Federal and federally assisted borrowings from the public, and to assure that such borrowings are financed in a manner least disruptive of private financial markets and institutions."

Section 9 of the act authorizes FFB to issue in the private markets and have outstanding up to \$15 billion of its own securities. FFB is also authorized to borrow from the Secretary of the Treasury without limit, subject to the Treasury's approval. Section 6 declares that FFB may purchase "any obligation which is issued, sold, or guaranteed by a Federal agency."

It is clear from the testimony given prior to approval of the act that FFB was not intended to be a program agency. Neither FFB nor the Secretary of the Treasury is authorized to make such judgments regarding the purposes of Federal

agency programs. Discretion is authorized only with regard to the debt management aspects of an agency borrowing operation. Accordingly, section 7(b) prohibits the Secretary of the Treasury from withholding approval of an agency borrowing operation for a period longer than 60 days unless there is a detailed explanation of the Secretary's reasons for doing so. In no case may approval be withheld for more than 120 days.

These above sections of the act imply that FFB is no more than a financial conduit. Prior to FFB, agencies sought the Treasury's approval of the terms and timing of most offerings, though these relationships were not formalized in all cases. In this sense, the relationship of the agencies to the Treasury is unchanged by the creation of FFB.

Through creation of a centralized Federal intermediary, it was felt that FFB would be a more attractive source of financing for agency borrowers than the private capital market because FFB could borrow more cheaply. There is little doubt that this is true. Lack of standardization, which translates into poor or nonexistent secondary markets, and the accompanying limited market interest in these securities caused interest rates to be higher than those that could be achieved through larger and more standardized FFB or Treasury offerings.

The potential benefits of FFB are related closely to those that flow from any intermediation process. That is, interest rates are reduced because of an ability to offer a more attractive source of loanable funds financed through the issuance of claims that are more attractive to lenders than face-to-face transactions. In spite of this, there are important differences between FFB and private sector intermediaries. For all practical purposes, FFB is a "blind" intermediary. Because of the constraints outlined in its act, FFB is a captive lender with decisions regarding important considerations, such as use of proceeds, outside of its control. The responsibility for those decisions remains with the borrowing or guaranteeing agency. Regardless of whether the original intent of the act was that FFB would be a private market borrower, the fact is that virtually all FFB borrowing has been from the Treasury.

FFB is one step removed from the discipline of the market. Interest rates set on its borrowing are those which the Treasury faces and adjusts to in view of its borrowing costs. The interest rates set on the loans FFB makes to the agencies or private credit market borrowers are set at a one-eighth of one percentage point markup from the Treasury

borrowing rates. In our report 1/ we found that FFB has accumulated a surplus of \$126 million. We recommended that FFB discontinue the practice of adding a fraction of a percent to the rates it charges on its loans in view of the lack of evidence supporting the existence of risks faced by FFB or the Treasury under the current arrangement that the markup is supposed to cover.

FFB is nothing more than a financial conduit. Nevertheless, FFB's existence has affected financial flows between the private and public sectors, and the alterations in these flows have repercussions which go beyond being strictly financial.

EFFECT OF FFB TRANSACTIONS ON FEDERAL OUTLAYS

FFB engages in four types of transactions. It purchases:

1. On- and off-budget agency debt securities that would otherwise have been sold to the private capital markets.
2. Agency Certificates of Beneficial Ownership that are guaranteed by the issuing agency and would otherwise have been sold in private capital markets.
3. Agency assets guaranteed by the agency that would otherwise have been sold to private capital markets.
4. Federally guaranteed borrowings of nongovernmental entities that would otherwise have been sold in the private capital markets.

Important differences exist between these transactions. These differences currently affect Federal budget outlays and the level and composition of Federal indebtedness. They also potentially affect choices made between types of Federal assistance devices.

BUDGET OUTLAYS AND THE NATURE OF FEDERAL ASSISTANCE

Except for Federally guaranteed loans to private borrowers, the paper which Federal agencies sell to FFB is used

1/"Audit of the Financial Statements of the Federal Financing Bank--Fiscal Years 1975 and 1976."

mainly to finance direct lending programs. 1/ Money is borrowed by agencies and then it is loaned out. There are two basic ways to do this. Government agencies can borrow funds through issuance of their own debt obligations and loan the proceeds from this borrowing, taking back paper showing the obligation of the borrower to pay back principal and interest. Or, they can make loans and then sell that paper in private capital markets.

In the first case, the Government retains ownership of the loans agencies have made. In the second case, ownership of the loan is transferred to the private sector; and the paper showing the loan, which is sold by the agency, is Government-backed for principal and interest. 2/

In the case of agency obligations and CBOs, the first method of financing is used. When agency assets are sold, the second method of financing is used. 3/

Two aspects of these three types of transactions need to be emphasized. First, the paper sold in all three of these transactions is used to finance direct loans. Regardless of whether the paper is sold to the private capital markets or FFB, the programs remain direct loan programs. Second, budget treatment of these transactions differs. Borrowing (debt transactions) is not reflected in the budget totals. Only the lending or direct expenditure activity financed by the borrowing counts as outlays.

In agency lending financed by the sale of agency obligations, the lending is reflected in the budget regardless of whether the source of loanable funds is the private capital markets or FFB (provided that the agency is on the budget) because sale of agency obligations is a debt transaction.

1/Two exceptions to this are borrowing by the Tennessee Valley Authority and the United States Postal Service. They borrow to finance direct expenditures.

2/In some cases, agencies may sell loans without such a guarantee. Since unguaranteed loans are relatively rare and since FFB could not purchase them, they are ignored for purposes of this report.

3/We consider CBO sales as agency borrowing. This is in conflict with current budget treatment, but is supported by the recommendations of the President's Commission on Budget Concepts.

In the case of an asset sale, though the Federal Government loans the funds, the administering agency offsets this loan outlay by selling the loan to the private capital markets or FFB. When the agency sells the loan to the private capital markets, it no longer holds the loan and, therefore, its original loan outlay is canceled by the proceeds from its sale. There was an outlay when the loan was made, and there is a negative outlay when the loan is sold. This same treatment applies when an agency sells a loan to FFB. That is, the net outlay effect in the agency's account is still zero. But the Federal Government still retains possession of the loan; and, logically, the loan should show up as an outlay in the budget as an asset purchase. There are two loan outlays--that made when the agency loans the funds and that made when FFB purchases the loan from the agency. There is one receipt--the proceeds to the agency when it sells the paper to FFB. But FFB's outlay does not show up on the budget totals because its outlays do not show up on the budget.

Under existing budget conventions and existing statutes, CBO sales are treated exactly the same as asset sales even though the loans which CBOs finance are still held by the agency. ^{1/} Regardless of whether these securities are sold into private capital markets or to FFB, the outlay effect in the agency account is the same. CBOs are not reflected in the budget as borrowing. If CBOs were reflected in the budget as borrowing, as we believe they should, the loan outlays of the agency financed by CBO sales would be reflected in the budget regardless of whether the private sector or FFB purchased

^{1/}With regard to the Farmers Home Administration, Public Law 93-135, title II provides "That the Secretary [of Agriculture] may, on an insured basis or otherwise, sell any notes in the fund or sell certificates of beneficial ownership therein to the Secretary of the Treasury, to the private market, or to such other sources as the Secretary may determine. Any sale by the Secretary of notes or of beneficial ownership therein shall be treated as a sale of assets for the purpose of the Budget and Accounting Act, 1921, notwithstanding the fact that the Secretary, under an agreement with the purchaser or purchasers, holds the debt instruments evidencing the loans and holds or reinvests payments thereon for the purchaser or purchasers of the notes or of the certificates of beneficial ownership therein * * *."

them. In terms of current budget treatment, when FFB purchases CBOs, the Federal Government retains the asset or loan. The agency's sale of this paper is reflected as a negative outlay, and the corresponding FFB outlay does not show up on the budget.

When FFB purchases the guaranteed obligations of private borrowers, guaranteed loans are converted into direct loans. When this occurs, Federal outlays that are not reflected in the budget increase. The outlay effects of this transaction do not appear in the administering agency's budget, regardless of whether the source of funds for the Government-backed obligations is the private securities market or FFB. This practice results in the most troublesome consequences for budgetary control of resource transfers within the Federal Government and between the public and private sectors.

FFB's off-budget status leads to direct loans occurring outside of the budget in the guise of guaranteed loans. Consequently, it offers the potential for a failure to design into appropriate loan guarantee programs the essential ingredients of risk sharing. In addition, the potential exists to favor credit assistance programs when they may not be appropriate. The potential for this to occur exists in all FFB transactions that occur off the budget under current budget conventions. It is most likely to be realized, however, for FFB purchases of Government-guaranteed borrowing of private borrowers.

The aspects of FFB's off-budget status are discussed in the next chapter.

FEDERAL DEBT FLOWS

FFB's transactions affect both the level and composition of Federal indebtedness. These effects are reviewed briefly for each of the four types of transactions we have described. In each of these transactions, it is important to keep in mind that the ultimate source of funds is always private money and capital markets.

1. FFB purchase of an agency obligation. Currently, all FFB borrowing is from the Treasury. Treasury finances its loans to FFB by selling its own securities. Because of this, when agencies sell their obligations to FFB, agency debt held by the public is reduced (over what it would have been) and holdings of the Treasury debt are increased. The level of Federal indebtedness is unchanged, but its composition does change. Agency debt is swapped for Treasury debt.

2. FFB purchase of Certificates of Beneficial Ownership. Because CBOs are not presently considered agency debt, FFB's purchase of this paper raises the level of Federal indebtedness. We believe that CBOs should be considered agency borrowing since the original loan remains in the hands of the agency. If one adopts this view, the level of Federal indebtedness is unchanged, but its composition is changed. Agency debt is swapped for Treasury debt.

3. FFB purchase of an agency asset. When this transaction occurs, the Federal Government retains possession of the loan. The transaction is financed through an increase in the Treasury debt, which increases the level of Federal indebtedness over what it would have been had the loan been sold in the private capital markets.

4. FFB purchase of the guaranteed loans of private borrowers. The effect of this transaction on the Treasury debt and on the level of Federal indebtedness is identical with the third transaction. The level of Federal indebtedness increases, all of which is in the form of the Treasury debt.

We believe, in a substantive sense, the first two types of transactions change the composition of Federal indebtedness, but not its level. Agency debt is swapped for Treasury debt. In the last two types of transactions, Federal indebtedness increases. All of the increase is in the form of Treasury debt. This also involves a compositional change in Federal indebtedness because the Federal debt has a heavier concentration of Treasury debt.

Changes in the composition and level of Federal debt affect the liquidity mix of the public's asset holdings. These changes in liquidity mix have implications for the efficiency with which debt management and monetary policy are conducted. We address this issue in chapter 4.

CHAPTER 3

IMPLICATIONS OF FFB'S OFF-BUDGET STATUS

Section 11(c) of the Federal Financing Bank Act places the receipts and disbursements of the Federal Financing Bank outside of the totals of the U.S. budget. To some extent FFB's off-budget status reflects the Department of the Treasury view that FFB is merely a passthrough mechanism for financing agencies using FFB. ^{1/} In this regard, Paul A. Volker, then Undersecretary of the Treasury for Monetary Affairs, said:

"The Federal Financing Bank is not a device to remove programs from the Federal budget; nor is it a device to bring programs back into the budget. The Bank would in no way affect the existing budget treatment of Federal credit programs. If a program is now financed outside of the budget, that treatment would continue. If a program is now financed in the budget, that treatment would continue. The bank is intended to improve the financing of all Federal borrowing activities regardless of their budget treatment." ^{2/}

This statement does not address the appropriateness of the "existing budget treatment." Under the FFB arrangement, the way in which budget totals reflect credit assistance activity does not change. Regardless of FFB, guaranteed loans appear outside the budget; CBO sales are still used to offset agency lending, asset sales are similarly treated, direct loans by on-budget agencies show up in the budget, and loans by off-budget agencies do not.

Concern about on-budget status for FFB rests on a preservation of budget neutrality. Related to this is the contention that because of outlay effects which would result with an on-budget FFB, agencies whose credit assistance activity is currently not reflected in the budget may have to return to the private capital markets for borrowing needs to

^{1/}The Federal Financing Bank--Its Role and Functions, Congressional Research Service, Library of Congress, June 1975, p. CRS-6.

^{2/}Hearings before the Committee on Banking, Housing and Urban Affairs, U.S. Senate, May 15, 17, and 18, 1972, p. 7.

avoid the outlay effects. This in turn would eliminate much of the cost savings resulting from FFB.

But, the question remains whether existing budget treatment best reflects Federal activities and, in addition, whether FFB's inclusion on the budget or changes in current budget practices would provide a different and more accurate depiction of Federal credit assistance activities.

RECOMMENDATIONS OF THE PRESIDENT'S COMMISSION ON BUDGET CONCEPTS

In its report, the President's Commission on Budget Concepts noted that

"To work well, the governmental budget process should encompass the full scope of programs and transactions that are within the Federal sector and not subject to the economic disciplines of the marketplace." 1/

According to this principle, if the marketplace does not impose the discipline for allocating resources, the budget process must. The Commission's 1967 report represents the last major review of budget presentation for the Federal Government.

The current budget treatment of FFB's transactions directly, or indirectly in combination with other budget practices, deviates from the Commission's recommendations.

FFB is off the budget. By the Commission's criteria for budget inclusion, FFB should be included in the budget totals. The primary criterion for exclusion was that the activity in question be fully owned and controlled by private parties. FFB is unquestionably owned and controlled by the Federal Government.

FFB makes direct loans to on- and off-budget agencies and to economic units outside the Federal establishment. The President's Commission on Budget Concepts recommended that direct lending activity be included in the Budget totals. The Commission recognized that although loans were probably different from direct expenditures in their economic impact,

1/Report of the President's Commission on Budget Concepts,
U.S. Government Printing Office, Washington, D.C., Oct.
1967, p. 24.

they still represent a transfer of resources within the Federal domain and between the public and private sectors. 1/

When FFB purchases on-budget agency debt obligations, the budget totals are not affected because the agency loans to the private sector from borrowed funds are reflected in the budget. When FFB purchases off-budget agency debt obligations used to finance lending or direct expenditure activity, the transaction is not reflected in the budget totals because the activities of other off-budget agencies are excluded from outlays. When FFB loans funds to economic units outside of the Federal establishment or purchases assets that would have otherwise been purchased by the private sector, budget outlays are understated by the amount of FFB outlays. It is not relevant to argue that had the private sector, instead of FFB, been on the other side of either of these transactions, the budget totals would be unaffected. What is important is that the private sector is not the source of funds; the Federal sector is. And, the outlays associated with those kinds of transactions do not appear in the budget totals.

FFB purchases CBOs from Government agencies. 2/ The most notable of these types of transactions are those which occur between FFB and the Farmers Home Administration. The discussion of budget treatment of CBOs is for the most part referenced to these securities. 3/

At the time of the Commission's report, sales of these types of instruments were treated as asset sales. Proceeds were used to reduce the loan outlays of the agencies selling this type of paper. The Commission was critical of this practice and recommended that:

1/Report of the President's Commission on Budget Concepts, U.S. Government Printing Office, Washington, D.C., Oct. 1967, pp. 48 and 49.

2/CBOs are sold to FFB by Farmers Home Administration, which is on the budget, and by the Rural Electrification and Telephone Revolving Fund of the Rural Electrification Administration, which is off the budget.

3/This is done to avoid greatly complicating the discussion.

"Participation certificates should be treated as a means of financing, not as an offset to expenditures which operates to reduce a budget deficit." 1/

The reason for the recommended treatment was that sale of these instruments does not involve the transfer of a Government-held asset to the private sector. Instead, the transaction involves sale of paper which is nominally tied to an underlying pool of direct loans made, serviced, and still held by the agency. No meaningful difference exists between the sale of a CBO and the sale of an agency obligation. These certificates are borrowings and should be treated as such in the budget. 2/

The complexities introduced by FFB purchase of these securities are as follows. If these certificates were given the recommended budget treatment, FFB purchases would have no effect on outlay totals. The transaction would be identical to FFB's purchase of on-budget agency debt with the outlay reflected in the budget through the lending activity of the agency (provided the agency is on the budget). Since current budget practice does not treat the obligations in the recommended way, FFB's purchase is an FFB outlay, the proceeds are used to reduce on-budget agency loan expenditures, and the budget totals are reduced by the amount of the FFB purchase.

1/Report of the President's Commission on Budget Concepts, U.S. Government Printing Office, Washington, D.C., Oct. 1967, p. 48.

2/Treasury Secretary Fowler and Budget Director Schultze disagreed with this recommendation. They felt that the sale of any credit agency obligation should be treated as an offset to loan expenditures. Their rationale was that as long as these obligations do not call upon the revenues or general borrowing of the Treasury, the net lending figure should reflect sale of these obligations as well as repayments. Regardless of which position one favors, FFB purchases of these instruments are a drain on Federal revenues or borrowing and these outlays are not reflected in the budget.

POTENTIAL FOR POOR DESIGN OF FEDERAL ASSISTANCE PROGRAMS

The Federal Financing Bank Act permits FFB to act as lender when agencies guarantee the debt of private sector borrowers. FFB purchases only fully guaranteed obligations; most of these are securities market instruments. This practice converts guaranteed loans into direct loans, which are not reflected in the Federal budget totals at the present time.

Loan guarantee programs are growing. Part of their popularity stems from the belief that they are costless. Because of this and because of FFB's off-budget status, there is a potential for the unwarranted growth of loan guarantees with an FFB connection. But the growth in loan guarantees would, to a large extent, be in name only. More important is the potential for poorly designed assistance programs because there is a potential for increasing use of full guarantees to achieve program goals where partial guarantees or more direct forms of Federal assistance are more appropriate.

Principles of risk sharing

As a general financial principle, 100-percent loan guarantees are something to be avoided--not encouraged. Loan guarantee programs to the maximum extent feasible should incorporate into their design risk sharing by both borrowers and private lending institutions. If borrowers and lenders are not exposed to commercial risk, the normal incentives for successful completion and management of the project on which funds are loaned are absent. Also, the probability that the loan guarantee program will achieve its intended objective is diminished.

Some fully guaranteed loan programs may require equity participation; others may not. If equity participation is required, the incentive on the part of the borrower to complete and successfully manage the assisted project varies in direct relation to the borrower's rate of equity participation. If no equity participation is required, not only are the desirable borrower incentives absent, but the risk to the project is higher because of its highly leveraged position and vulnerability to failure from variable revenue flows.

Regardless of the amount of equity participation required, fully guaranteed loans eliminate the normal incentives of private lenders to carefully evaluate the applicant's prospects and provide the necessary followup on the loan. In the absence

of normal lender incentives, the probability of the approved borrower's success and repayment of principal is reduced.

Implicit subsidy

Presumably, an advantage of FFB purchase of guaranteed loans is reduced interest costs to assisted borrowers. This is questionable. First, if a subsidy was not intended when the loan guarantee program was designed, reduced costs to assisted borrowers are not desirable. Second, the increased subsidy is only desirable when it increases the likelihood of successful achievement of goals. An increased likelihood of reduced debt service costs increasing success rates is doubtful in view of the absence of normal commercial incentives on fully guaranteed loans. Third, although interest costs to borrowers may be lower, costs to agencies may be higher. For, when FFB purchases fully guaranteed loans, agencies assume the full banking function with its attendant costs, particularly in the case of new loan guarantee programs.

Potential results

At the present time most FFB purchases of guaranteed loans are fully guaranteed instruments of private borrowers. For fully guaranteed loans the Government assumes all of the risk, and a close relationship between the borrower and the Government is desirable. A potential problem may arise if new loan guarantee programs are designed to conform with the types of programs in which there is current FFB involvement, rather than being designed to most efficiently accomplish program goals.

The design of loan guarantee programs and the merits of loan guarantees, direct loans, and other direct forms of Federal assistance have long been discussed. 1/ Loan

1/The major Government studies of Federal credit assistance that have addressed this issue are: Commission on Organization of the Executive Branch of the Government, "Task Force Report on Lending Agencies," (Washington, D.C.: Government Printing Office); Commission on Organization of the Executive Branch of the Government, "Federal Business Enterprises," (H. Doc. 152, 81st Cong.); The Report of the Commission on Money and Credit, (Englewood Cliffs, N.J.: Prentice Hall, Inc., 1961); Report of the Committee on Federal Credit Programs, which was published in 1963; A Study of Federal Credit Programs, Subcommittee on Domestic Finance, Committee on Banking and Currency, Vol. 1 (Washington, D.C.: Government Printing Office, 1964); and The Report of the President's Commission on Budget Concepts (Washington, D.C.: Government Printing Office, 1967).

guarantees can be effective policy instruments in some cases and ineffective in other cases. Partial guarantees are generally to be preferred to full guarantees since commercial incentives are lacking for full guarantee programs. In general, fully guaranteed loans should be justifiable on about the same basis as direct loans. Specifically, the reduced debt service costs from a partial guarantee are not sufficient to induce potential borrowers to undertake socially or economically worthwhile projects. Only a full guarantee with lower debt service costs or a direct loan with an even lower debt service cost will be sufficient to achieve program goals.

On the other hand, use of credit assistance in the form of either direct or guaranteed loans may be entirely inappropriate in cases where reduced debt service burdens achieved by the program are likely to be minor, because the risk to the project is not the major impediment to its undertaking, or when debt service burdens pose so large an impediment that neither partial nor fully guaranteed loans or direct loans are likely to achieve program goals.

As a general principle, we believe fully guaranteed loans should be avoided. If they can be justified, then direct loans are probably a better assistance device from the Federal perspective, because the Federal oversight role should be greater.

Because of FFB's off-budget status and the current budget treatment of loan guarantees, however, a potential exists for:

- The use of full guarantees purchased by FFB, when the commercial risk sharing is a more appropriate and less costly means of achieving program goals.
- Use of full guarantees, when the justifiable assistance device is direct loans, that instead of being included in the budget totals can be excluded from the budget totals and the budget process.
- A choice of credit assistance over direct expenditure forms of credit assistance, when the latter seems more likely to achieve program goals.

Putting FFB on the budget might eliminate these potential problems, but it would not solve any of the longstanding problems associated with the favored budget status of loan guarantees. Whether FFB is on or off the budget, loan guarantee programs might still be used where inappropriate, but at

least there would not be as large a potential for use of full guarantees or direct loans where they are not appropriate.

EFFECT ON OUTLAY TOTALS
OF AN ON-BUDGET FFB

If FFB's transactions were included in the budget totals, outlays would be affected in the following ways.

1. FFB purchase of on-budget agency debt. Outlay totals would be unchanged because when the proceeds from an FFB debt purchase are loaned out or otherwise spent by the agency, they would be included in the budget totals. Other transactions in this process would cancel each other, as they do now.
2. FFB purchase of off-budget agency debt. Under current budget rules relating to off-budget agencies, debt transactions (borrowing) between these agencies and the Treasury, and presumably between these agencies and an on-budget FFB, are not treated as outlays. Only transactions with the public are reflected as outlays. Thus, even if FFB were placed on the budget, the outlays of most off-budget agencies which finance their activity through FFB would remain outside the budget. If FFB is placed on the budget, then off-budget agencies borrowing from FFB should also be brought onto the budget.
3. FFB purchase of an agency asset. When there is a physical transfer of an on-budget or off-budget agency asset to FFB, the loan outlays of the agency would be reduced. FFB's purchase of the asset would be fully reflected in outlay totals as an FFB direct loan expenditure under current budget rules.
4. FFB purchase of CBOs. If current budget treatment of these transactions continues, FFB purchase of this paper would be reflected on the budget as FFB loan outlay. If these securities were treated as agency obligations (as we believe they should be), they would be included in the outlays of the agency selling the paper when the proceeds were loaned out. Either way, outlays would be increased by the amount of agency lending.
5. FFB purchase of guaranteed loans. If FFB continued to purchase guaranteed loans that would have otherwise been originated in private capital markets, the budget totals would fully reflect this direct loan expenditure in the FFB account.

Although FFB's transfer onto the budget would not correct all of the deviations of current from recommended budget practice, the effect on budget outlays would be nearly in keeping with recommendations from the Commission on Budget

Concepts. Although the current budget treatment of CBOs is incorrect in our view, the true nature of the transactions would be reflected in the outlay totals as FFB direct loans. But, they would not be reflected in the agency totals. Sales of assets to FFB would also be reflected as FFB direct loans, as would its purchases of loan guarantees if this practice continued. To the extent that agencies financing their lending and direct expenditure activity through FFB debt transactions remain off the budget, outlays would remain understated by the amount of that activity.

FFB has grown considerably since it began operations in 1974. Its loan holdings totaled \$25 billion as of October 1, 1976. Of this total, approximately \$15 billion was not included in the budget attributable to FFB. By 1978 it is estimated that FFB will hold \$48 billion in securities, of which about \$30 billion will represent a cumulative understatement of the budget totals attributable to FFB.

FFB purchases of off-budget agency debt are estimated to be a smaller proportion of its holdings in fiscal year 1977 and fiscal year 1978 than in prior years. This is because of the inclusion of the Export-Import Bank on the budget beginning in fiscal year 1977. Holdings of CBOs (primarily those of the Farmers Home Administration) occupy the most important portfolio position in future years. True agency asset holdings, as distinct from CBOs, are estimated to comprise only a small portion of FFB's portfolio in fiscal year 1978. FFB holdings of private guaranteed borrowings are expected to increase slightly in future years averaging about 16 percent of all FFB holdings in fiscal years 1977 and 1978. (See table 1.)

The anticipated growth in FFB's CBO purchases is cause for concern. By fiscal year 1978 it is estimated that FFB will hold \$20.5 billion in Farmers Home Administration certificates. These holdings are expected to account for almost 43 percent of all FFB holdings. As a result, since FFB's creation a total of about \$20 billion in direct lending activity by the Farmers Home Administration of the Department of Agriculture will have gone through FFB and, since FFB is off the budget, been excluded from the budget totals

SHOULD FFB BE PLACED ON THE BUDGET?

Would an on-budget FFB be the best means of correcting the way in which the Federal credit assistance which goes

Table 1

Relative Share of Outstanding Loans Held by
FFB by Type of Transaction

<u>Transaction</u>	<u>FY 1976</u>	<u>Transition quarter</u>	<u>Est. FY 1977</u>	<u>Est. FY 1978</u>
	------(Percent)-----			
FFB purchase of on-budget agency debt	9.73	10.57	27.57	28.25
FFB purchase of off-budget agency debt	34.88	31.34	9.93	9.73
Purchase of agency assets	1.26	5.26	3.75	1.14
Purchases of CBOs	40.00	38.65	42.81	44.55
FFB purchases of loan guarantees	14.08	14.19	15.94	16.33

Source: Special Analysis of the Budget of the U.S. Government, FY 1978, table E-2b.

through FFB would be reflected in the budget? Putting FFB on the budget would include in the activities of the Federal establishment most of the outlays of agencies which currently relate to FFB outside the budget. This would make the Federal budget surplus or deficit more meaningful, because it would make more accurate the spending and borrowing implied by those deficits. This in turn would make more meaningful conclusions about the aggregate economic impact of the Federal Government on the nation.

But, it would not include all of them; and, more important, under existing budget conventions, all on-budget agency lending and guaranteeing activity that is not now reflected in the budget would appear in the account of an on-budget FFB. This activity would be included in the general Government function rather than in the functions in which the agency lending programs are included. This might be avoided by (1) splitting the FFB account among the Federal functions so that the outlays are included in the same function as the agency's lending program or (2) devising a budget technique that would result in reporting the outlays in the accounts of the administering agency and offsetting these against the FFB account.

If the activities of lending agencies are not properly reflected in individual program or functional accounts, it is difficult to see how the budget process can properly allocate Federal resources among Federal credit programs, between credit programs and direct expenditure programs, and, ultimately between the public and private sectors of the economy.

The way FFB affects the meaning of Federal outlays and deficits is not solely a function of its off-budget status. The problem with the way Federal credit assistance going through FFB is reflected in the budget results from the combined effects of FFB's off-budget status and other deviations of actual from recommended budget treatment of these activities.

For example, FFB purchases of on-budget agency obligations are properly reflected in the budget now because of the way that borrowing is reflected in the budget and because these agencies are on the budget. If off-budget agencies which currently engage in debt transactions (borrow) with FFB were placed on the budget, their lending and direct expenditure activity would be reflected on the budget in their respective accounts, regardless of the budget status of FFB.

If CBOs were given the recommended budget treatment--namely, if sales of these securities were treated as borrowing rather than asset sales which reduce loan outlays--then FFB purchase of these issues would be reflected in the accounts of the borrowing agencies, regardless of the budget status of FFB.

The combined effects of eliminating the off-budget status of agencies that borrow from FFB to finance lending and of proper budget treatment of CBOs would bring a considerable amount of lending and direct expenditures, currently occurring outside of the budget, onto the budget.

Asset sales to FFB are currently properly treated in the selling agency's account. When these securities are sold to FFB, a problem arises because the Federal Government retains possession of the loans and overall outlays are understated by the amount of FFB purchases. If FFB remains off the budget, this problem will continue to exist unless the Federal Government's continued ownership of the paper is reflected as an outlay in the account of the agency selling the paper. It might be argued that since the Federal Government still retains possession of the asset, the best place to reflect this is in the agency account. This treatment would increase the agency's outlays and would technically be at variance with recommended budget practices.

FFB purchase of guaranteed loans is a questionable practice, because its off-budget status may lead to an inappropriate increase in direct loan programs disguised as loan guarantee programs. Putting FFB on the budget might eliminate the current and potential problems associated with this practice.

The concern that if FFB is included on the budget, many of the transactions that currently go through FFB would no longer occur appears legitimate in view of the current budget treatment of Federal credit programs. Agencies may have to return to the private capital markets to finance loan programs in order to avoid the outlay impacts that would result from dealing with FFB. This in turn would eradicate the cost savings that have been achieved through FFB's creation.

Because of outlay effects, guaranteed loans to private borrowers might no longer be purchased by an on-budget FFB. However, this is desirable. It is not an undesirable result in view of the potential problem which FFB's current status poses for design of Federal assistance programs and because the cost savings achievable under the present arrangement for loan guarantees may be illusory.

CBOs might also be sold in private capital markets rather than to an on-budget FFB. But the only reason this would occur is because the present treatment of these transactions disguises their true nature. If such sales were treated as borrowing, they could continue to be sold to an on-budget FFB at a cost savings.

Asset sales by agencies are a more difficult problem. Since current budget treatment of these transactions in the agency's account is correct, the outlay effects of sales of these securities to an on-budget FFB might cause them to be sold in the private capital markets, sacrificing the cost savings achievable through FFB. This problem could be overcome by scoring the outlays in the agency's account. Technically, this would be incorrect. In this case, one needs to decide whether the benefits from cost savings on asset sales to an off-budget FFB exceed the costs of failing to fully reflect the scope of Federal lending activity in the budget. In view of the other problems that FFB's off-budget status creates, we believe that the benefits from cost savings on asset sales are not worth the continued off-budget status of FFB.

Budget neutrality has to do with preserving the budget treatment of agency transactions with FFB in the agency's

account. This in turn involves assuring continued funding of programs. But there are two ways to view budget neutrality as it relates to the budget status of FFB. It can either be viewed in terms of current budget treatment, or it can be viewed in terms of proper budget treatment of agency transactions with FFB. Under existing budget conventions, the only way to preserve budget neutrality and achieve the benefits that flow from FFB appears to be with an off-budget FFB. But, aside from FFB's off-budget status, if other budget conventions which we have raised concerns about were changed to more accurately reflect the true nature of credit assistance activity, certain activities would continue to be financed through FFB.

If off-budget agencies financing activity through FFB were placed on the budget, depending on the nature of their transactions with an on-budget FFB, some would continue (CBO sales and agency borrowing) with proper budget treatment. CBO sales by on-budget agencies would continue to flow through FFB because having changed the way that these securities are reflected in the budget, FFB's budget status would be irrelevant to the agency selling CBOs. To this extent, with proper budget treatment, an on-budget FFB should be neutral in its effects under a proper regime of budget conventions. On the other hand, neutrality could not be preserved in view of the outlay impacts for FFB loans to private guaranteed borrowers and probably could not be preserved for loan sales to FFB. In the former case, this is desirable. In the latter case, a cost savings may have to be sacrificed.

RECOMMENDATIONS TO CONGRESS

The combined effect of FFB's off-budget status and other deviations of actual from recommended budget treatment of credit assistance activities with an FFB connection result in

- an inaccurate depiction of some Federal credit assistance;
- the potential for poor design of credit assistance devices and poor choices between those and other Federal assistance devices; and
- a dilution of the accuracy of Federal outlays and deficits.

Placing FFB on the budget would, by itself, improve upon the last of these problems; but it would not solve the former two.

In order for Federal credit assistance activity currently going through FFB to be more adequately reflected on the budget, we recommend that the Congress require that

- FFB's receipts and disbursements be included in the Federal budget totals;
- the receipts and disbursements of off-budget agencies that borrow from FFB be included in the budget; and
- CEOs be treated as agency obligations and, therefore, be treated in the Federal budget as borrowing.

CHAPTER 4

IMPLICATIONS OF FFB OPERATIONS ON THE CONDUCT

OF DEBT MANAGEMENT AND MONETARY POLICY

Changes in the mix of public holdings of the Treasury and agency debt result from FFB operations. These changes affect the liquidity of public asset holdings. Treasury securities are more liquid than agency securities. Through induced changes in the liquidity mix of the public's asset holdings, FFB may potentially affect monetary and debt management policy.

The effect of changes in the maturity composition and liquidity of the public's holdings of Government securities on the term structure of interest rates, on the maturity structure of the Federal debt, and on the ease with which the Federal Reserve Board is able to control credit availability cannot be precisely quantified. But arguments with specific examples and evidence may be cited to show that these effects exist. The importance of FFB-induced shifts in liquidity depends on the size of the shift as well as on the strength of relationships between public holdings of liquid assets, the maturity structure of interest rates, and the ability of the Federal Reserve Board to control credit availability.

DEBT MANAGEMENT POLICY

Economic stabilization is not an explicit goal of debt management policy. Deficits, the amount of borrowing necessary to finance deficits, and the effect of borrowing on the level of the public debt are more appropriately categorized as results of fiscal policy. Debt management policy is oriented more toward manipulation of the existing stock of public debt toward shorter or longer maturities in order to reduce the costs of borrowing. But, in doing this, debt management policy affects the liquidity mix of the public's asset holdings and therefore could have an indirect effect upon economic stabilization.

All loans currently made by FFB are financed by borrowing from the Treasury. The Treasury in turn borrows from the public by issuing its own securities. Thus, the annual increase in Treasury debt resulting from FFB operations is about equal to FFB's annual net lending activity. The accounting for outlays from FFB net lending are smaller than its total net lending outlays because certain of its loan outlays appear as outlays in the accounts of borrowing

agencies that are included in the agency budget totals. To attribute these outlays to FFB would be double counting. Relationships between Federal outlays, FFB net lending outlays, the Treasury and agency borrowing, and other means of financing deficits are shown in table 1.

Changes in Federal debt aggregates

The increase in the Treasury debt induced by FFB since 1974 accumulated to \$25.9 billion by October 1, 1976, and is estimated to be \$48 billion at the end of fiscal year 1978. (See line 17.) Gross Federal debt includes both agency debt and Treasury debt. Because the operations of the FFB displace a large amount of agency with Treasury debt, the increase in gross Federal debt is less than the increase in the Treasury debt. This increase due to FFB was \$15 billion on October 1, 1976, and is estimated to be \$29.8 billion by the end of fiscal year 1978.

But, the FFB-induced increase in the gross Federal debt is a poor measure of FFB's effect on Federal indebtedness. This is because CBOs are not currently treated as borrowing, and therefore are not considered agency debt. In our opinion, there is no difference in substance between CBOs and agency debt. If CBOs are treated this way, there is no effect on the level of Federal indebtedness when they are sold to FFB. Agency debt is swapped for the Treasury debt. Because CBOs are not considered agency debt and therefore part of the gross Federal debt, the increase in gross Federal debt due to FFB does not reflect the reduction in agency debt resulting from FFB purchase of CBOs. Thus, the increase in gross Federal debt due to FFB overstates the effect of FFB transactions with agencies and private guaranteed borrowers on the level of Federal indebtedness.

After adjusting for CBOs, the increase in Federal borrowing due to FFB operations accumulated to \$5.5 billion on October 1, 1976. It is expected to total \$8.8 billion by the end of fiscal year 1978. This increase is the estimated amount of increased Federal borrowing that will be required to finance FFB purchases of true agency assets and origination of guaranteed loans that would have otherwise originated in the private sector. This figure represents the increase in Federal liabilities attributable to the existence of FFB. It measures the extent to which contingent liabilities have been converted into direct liabilities. Without FFB, this increase in Federal indebtedness would probably not have occurred. Table 2 presents the adjusted figures in lines 22 through 24. CBO sales are shown in line 20.

Table 2

Relationships Between Federal Deficits,
Federal Borrowing, and FFB Activity

	FY 1974	FY 1975	FY 1976	Transition Quarter	Est. FY 1977	Est. FY 1978
----- (millions) -----						
1. Unified budget deficit	\$-3,460	\$-43,604	\$-66,461	\$-12,973	\$-57,198	\$-46,950
2. Off-budget agency deficit (FPB net lending outlays)	-2,675	-9,544	-7,196	-2,767	-10,785	-9,156
	<u>(-102)</u>	<u>(-6,180)</u>	<u>(-6,131)</u>	<u>(-2,623)</u>	<u>(-8,739)</u>	<u>(-5,994)</u>
3. Total deficit (1 + 2)	<u>\$-6,135</u>	<u>\$-53,149</u>	<u>\$-73,657</u>	<u>\$-14,740</u>	<u>\$-67,983</u>	<u>\$-56,107</u>
Financed by:						
Borrowing:						
4. From the public (5 + 6 + 7)	\$ 3,008	\$55,853	\$82,922	\$18,027	\$62,000	\$55,500
5. --Treasury debt	16,918	58,953	87,244	14,269	71,734	69,642
6. --Agency debt	803	-1,069	19	244	-1,388	-1,394
7. From Government accounts	14,813	7,031	4,341	-3,514	8,346	12,748
8. Other means of financing:	3,127	2,295	-9,265	-3,287	5,983	607
9. Total financing	6,135	53,149	73,657	14,740	67,983	56,106
10. Borrowing from the public Consists of:						
11. --Treasury debt	2,097	51,876	82,916	17,775	63,223	56,823
12. --Agency debt	911	-1,023	6	251	-1,223	-1,323
13. Public debt held by:						
14. --Non-Federal public	-3,370	47,532	73,195	15,787	4/58,106	4/51,502
15. --Federal Reserve	5,467	4,344	9,721	1,988	4/5,117	4/5,321
16. FFB induced:						
17. --Increases in Treasury debt	602	12,698	9,111	3,476	12,154	9,563
18. --Reductions in agency debt	500	6,518	2,980	853	3,415	3,966
19. --Increases in gross Fed- eral debt	102	6,180	6,131	2,623	8,739	5,994
20. Adjusting for CBOs	-	5,000	3,966	1,037	6,282	5,099
21. FFB-induced:						
22. --Reduction in agency borrowing	500	11,518	6,496	1,890	9,697	9,068
23. --Increase in Treasury borrowing	602	12,698	9,111	3,476	12,154	9,963
24. --Increase in Federal borrowing	102	1,180	2,615	1,586	2,457	895

a/Estimates. Assumes a desired rate of growth in the money stock (M1) of 4 percent per year and a money multiplier of 2.8. Money stock was \$307 billion at the end of the transition quarter.

Source: Special Analysis of the Budget of the U.S. Government, FY 1976-78, tables C-1, C-2, E-2, and E-2b.

GAO note: Figures may not add due to rounding.

FFB-induced increases in the Treasury debt are large relative to total increases in the Treasury debt after fiscal year 1974, particularly during the transition quarter. Similar ratios for gross Federal debt are lower because of the agency debt offset, and the ratios for FFB-induced increases in Federal borrowing are quite small except in the transition quarter. These ratios are presented in lines 25, 26, and 27 of table 3.

The FFB-induced cumulative increase in Federal borrowing is about 2.9 percent of the increase in total Federal borrowing on October 1, 1976, and is estimated to decline to 2.6 percent by the end of fiscal year 1978. Of a total of \$337.5 billion increased Federal borrowing estimated to occur between fiscal years 1974 and 1978, only \$8.8 billion is directly attributable to FFB.

Changes in the maturity composition of the Federal debt

Compositional changes between agency and the Treasury debt securities induced by FFB affect the maturity composition of the Federal debt and the liquidity of public asset holdings. In general, agency debt is not as liquid as the Treasury debt of comparable maturity. If it were, there would be a question about the effectiveness of FFB in achieving a cost savings on agency borrowing. The main reason for the lower liquidity of agency securities is the lack of a well organized secondary market in these securities. This in turn is attributable to a lack of familiarity with agency securities. Treasury securities, on the other hand, are traded in the deepest and most resilient secondary market in the world, particularly in the shorter and intermediate maturities.

Aside from this obvious difference in liquidity between agency and Treasury securities, the maturity structure also differs. Agency securities have a longer maturity structure than Treasury securities and are less liquid for this reason. We estimated this difference in order to measure changes that have occurred in the average maturity of the Federal debt and in the public's liquid asset holdings. The latter measure may be expected to affect the term structure of interest rates.

In order to measure changes in maturity composition of the Federal debt resulting from FFB-induced displacement effects, we compared the maturity structure of new money Treasury financings with the maturity structure of FFB purchases of agency obligations and CBOs. We assumed that

Table 3

Selected Measures of FFB-Induced Effects
on Gross Federal Debt, the Treasury Debt, and Agency Debt

	FY 1974	FY 1975	FY 1976	Transition quarter	Est. FY 1977	Est. FY 1978
----- (percent) -----						
25. Ratio of FFB-induced increase in gross Federal debt to total increase in gross Federal debt $(19 \div (5 + 6))$.572	10.676	7.026	18.073	12.423	8.783
26. Ratio of FFB-induced increase in gross Federal borrowing to total increase in gross Federal borrowing $(24 \div (20 + 5 + 6))$.572	1.876	2.866	10.199	3.206	1.220
27. Ratio of FFB-induced increase in Treasury debt to total increase in Treasury debt $(17 \div 5)$	3.558	21.539	10.443	24.360	16.943	14.306
----- (millions) -----						
FFB-induced increase in gross Federal debt held by:						
--Public $((4 - 15) \div (5 + 6))$ x 19	\$-14.069	\$ 4,965.545	\$5,143.019	\$2,898.801	\$7,066.507	\$4,407.058
--Federal Reserve $(15 \div (5 + 6))$ x 19	31.291	463.788	682.986	359.300	635.678	467.326
--Government accounts $(7 \div (5 + 6))$ x 19	84.783	750.666	304.993	-635.101	1,036.813	1,119.615
FFB-induced increase in Treasury debt held by:						
--Public $(14 \div 5)$ x 17	-119.916	10,238.008	7,643.845	3,845.792	9,844.987	7,367.886
--Federal Reserve $(15 \div 5)$ x 17	194.530	935.662	1,015.176	484.287	866.980	761.223
--Government accounts $((7 + 12 - 6) \div 5)$ x 17	527.382	1,524.328	451.978	-854.323	1,442.031	1,833.888
34. FFB-induced reduction in agency debt held by:						
--Public (18)	500.000	6,518.000	2,980.000	853.000	3,415.000	3,968.000
--CBOs (20)	-	5,000.000	3,966.000	1,037.000	6,282.000	5,099.000

the maturity structure of displaced agency borrowings would have been approximately the same as that which exists on FFB purchases.

The average term to maturity differs substantially between the Treasury debt and FFB financings. The Treasury's new money financings had an average maturity of 3.57 years; FFB financing had maturities averaging 9.7 years. The largest difference occurs in the long and short ends of the market. (See table 4.) The difference between long-term debt relative shares is due partly to the fact that long-term Treasury borrowing is currently constrained by existing law.

For purposes of measuring the effect that FFB has had on the average maturity of the Federal debt, it was necessary to net the average maturity figure of FFB financings of CROs. For, in the absence of FFB, these securities would be part of the Federal debt. The average maturity of FFB purchases of agency debt was 9.04 years. (See footnote, table 4.) The average maturity of the increased Treasury debt is estimated to be around 3.6 years.

Gross Federal debt is estimated to be \$785 billion by the end of fiscal year 1978. With no FFB, this figure would be about \$30 billion less. We were unable to obtain a figure on the average maturity of the Federal debt; but regardless of what the true figure is, ^{1/} we estimate that the FFB-induced compositional shifts between the Treasury and agency securities

^{1/}The average maturity of marketable interest-bearing public debt held by private investors was 2.75 years as of March 1977. This debt comprises about 45 percent of total Federal debt at the end of 1977, and its average maturity establishes a lower bound on what the average maturity of the Federal debt is likely to be. An upper bound was established by assuming that all other securities comprising the Federal debt have an average maturity of 20 years. If this is the case, the average maturity of the Federal debt would be around 12 years.

Table 4

Maturity Structure of Treasury's New Money
Financings and FFB Loans

	Amount issued (billions)	Average maturity (years)	Maturity composition (percent)
Treasury new money			
financing FY 1975-76 (note a)			
90 to 180 day Treasury bills (note b)	\$ 39.660	.375	31.47
181 to 365 day Treasury bills (note c)	13.061	.750	14.33
Notes (1 to 7 years, 1975; 1 to 10 years, 1976) (note d)	32.678	4.880	40.73
Bonds (over 7 years, 1975; over 10 years, 1976) (note e)	5.638	20.523	4.47
Total	\$126.037	3.570	45.80
FFB activity (agency debt & CBOs)			
Oct. 1976 to Mar. 1977 (note f)			
90 to 180 day issues	\$ 1.385	.311	18.70
181 to 365 day issues	3.558	8.613	48.02
Notes (1 to 10 years)	2.465	16.509	33.27
Bonds (over 10 years)			
Total	\$ 7.410	9/9.689	

a/Source: All data from U.S. Treasury Bulletin, United States Department of the Treasury, Washington, D.C., Apr. 1977.

b/U.S. Treasury Bulletin, Apr. 1977, Table PDO-3.

c/U.S. Treasury Bulletin, Apr. 1977, Tables PDO-4 and PDO-7. New 181-365 day bills for cash less retirements.

d/U.S. Treasury Bulletin, Apr. 1977, Tables PDO-4 and PDO-7. New notes for cash less retirements.

e/U.S. Treasury Bulletin, Apr. 1977, Tables PDO-4 and PDO-7. New bonds for cash less retirements.

f/Source: Federal Financing Bank, Oct. 1976 to Mar. 1977 activity.

g/For purposes of calculating the maturity of the displaced gross Federal debt, this figure should be adjusted for CBOs. When the figure shown is netted for CBOs, FFB purchases of agency securities had an average maturity of 9.04 years.

will have reduced the average maturity of the Federal debt by between 3.5 and 3.8 percent by the end of fiscal year 1978. ^{1/} Whatever the average maturity of the Federal debt is, it will be between 3.5 and 3.8 percent lower than it would have been without FFB.

Effect of FFB-induced changes in maturity composition of borrowing on the term structure of interest rates

Debt securities sold by the Treasury are purchased by Government agencies, including the Federal Reserve Board, as well as by the public. Purchases of the Treasury debt by budget agencies have been substantial in certain years. On the other hand, budget agency investment in agency debt has not been substantial. Our interest in this section is in measuring compositional shifts in securities held by the public, not by Government agencies. For, the liquidity mix of the public's holdings of Government securities affects the term structure of interest rates. We, therefore, net out increases in the Treasury debt of those securities held by the Government and assume that all reductions in agency debt between 1974 and 1978 would have been held in private portfolios.

FFB-induced increases in the Treasury debt held by the non-Federal Reserve public and by the Federal Reserve are shown in lines 31 and 32 of table 3. These figures are obtained by multiplying the FFB-induced increase in Treasury debt by the ratios of public and Federal Reserve purchases of the Treasury debt to total the Treasury debt flotations. FFB-induced reductions in agency debt and CBOs are shown in lines 18 and 20 of table 2.

This data is summarized in the following table.

^{1/}This is the range of percentage changes in average number of years to maturity implied by increases in Federal debt of \$48 billion, with an average maturity of 3.57 years, and decreases in Federal debt of \$18.2 billion, with an average maturity of 9.04 years (when the average maturity of outstanding Federal debt is allowed to range between 3 and 12 years). Percentage changes are insensitive to the assumptions made regarding average.

Table 5

FFB-Induced Increases in Treasury Debt and
Reductions in Agency Debt Held by the Public

	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>Transition quarter</u>	<u>Est. FY 1977</u>	<u>Est. FY 1978</u>
	----- (millions) -----					
Treasury debt held by the public						
Non-Federal						
Reserve public	-\$120	\$10,238	\$7,644	\$3,486	\$ 9,845	\$7,368
Federal Reserve	<u>195</u>	<u>936</u>	<u>1,015</u>	<u>484</u>	<u>867</u>	<u>761</u>
Total Treasury debt	<u>75</u>	<u>11,174</u>	<u>8,659</u>	<u>3,970</u>	<u>10,712</u>	<u>8,129</u>
Less agency debt held by the public						
Agency securities	500	6,518	2,980	853	3,415	3,969
CBOs	-	<u>5,000</u>	<u>3,966</u>	<u>1,037</u>	<u>6,282</u>	<u>5,099</u>
Total agency debt	<u>500</u>	<u>11,518</u>	<u>6,946</u>	<u>1,890</u>	<u>9,696</u>	<u>9,068</u>
Total	-\$425	\$ <u>-344</u>	<u>\$1,713</u>	<u>\$2,080</u>	\$ <u>1,015</u>	\$ <u>-939</u>

The net figures shown at the bottom of the table represent the increase or decrease in Federal borrowing from the public. Because in certain years Treasury securities sales to budget agencies have been large, these net figures are smaller than the increase in Federal borrowing of \$8.8 billion discussed earlier. The increase in Federal borrowing from the public between 1974 and 1978 is estimated to total only \$3.1 billion.

To measure the compositional shift between short- and long-term securities held by the public, which is induced by FFB, the percentage of distribution of maturity structures for the Treasury and FFB financing was multiplied by increases in the Treasury debt and reductions in agency debt due to FFB. (See tables 4 and 5.)

The results indicate that FFB operations have led to average yearly increases in debt maturing within 1 year of about \$2.1 billion and nearly equal reductions in long-term debt. Cumulative increases in short-term debt are estimated to be \$12.1 billion by the end of fiscal year 1978 at the same time that long-term debt will have been reduced

by around \$11.3 billion. These estimates are presented in table 6.

These increases in the supply of short-term securities should raise short-term rates above what they would have been in FFB's absence. Similarly, the reduced supply of long-term securities should be expected to relieve pressures in that end of the market and reduce long-term rates.

We analyzed the interest rate effects of FFB-induced changes in the maturity composition of public holdings of the Federal debt. Although FFB operations result in a slight shortening of the maturity of the Federal debt, the compositional shifts from long- to short-term securities are not large enough to have much effect on interest rates. The largest FFB-induced shift into short-term securities is estimated to be \$3.1 billion in fiscal year 1977. According to our analysis (app. I), in order for FFB-induced increases in short-term debt to raise short-term rates by 1 full percentage point, annual compositional shifts into short-term debt would have to be about \$85 billion per year.

There should be little cause for concern about FFB's effects on the average maturity of the Federal debt or interest rates. FFB's operations are presently too small to produce any significant effects.

MONETARY POLICY

Economic stabilization is the overriding goal of monetary policy. Theoretically, the Federal Reserve Board can control credit availability in the economy through alterations in the reserve positions of commercial banks. The degree of control which the Federal Reserve Board is actually able to exert is partly determined by the liquid asset holdings of the commercial banking system and the public. Since these holdings are influenced by FFB, some relation exists between FFB and the workings of monetary policy.

FFB's current operations may affect the ability of the Federal Reserve Board to control credit availability over the course of the business cycle. As indicated, the current FFB borrowing arrangement with the Treasury increases the liquidity of the public's asset holdings. We have estimated that since FFB began operations in fiscal year 1974, short-

Table 6

FFB-Induced Changes in the
Maturity Structure of Federal Borrowing

	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>Transition quarter</u>	<u>Est. FY 1977</u>	<u>Est. FY 1978</u>
----- (millions) -----						
Treasury debt						
Less than 1 year	\$ 34.2	\$5,117.5	\$3,965.8	\$1,813.3	\$ 4,906.1	\$ 3,723.1
1 to 10 years	37.1	5,556.7	4,306.1	1,974.3	5,327.1	4,042.6
Over 10 years	3.3	499.4	387.1	177.5	478.8	363.4
Less agency debt						
Less than 1 year	93.5	2,153.9	1,298.9	353.4	1,813.3	1,695.7
1 to 10 years	240.1	5,530.9	3,335.5	907.6	4,656.5	4,354.5
Over 10 years	166.4	3,832.0	2,310.9	628.8	3,226.2	3,016.9
Net increase or decrease in:						
Short-term debt	-59.3	2,963.6	2,666.9	1,459.9	3,092.8	2,027.4
Intermediate-term debt	-203.0	25.8	970.6	1,066.7	670.6	-311.9
Long-term debt	-163.1	-3,332.6	-1,923.8	-451.3	-2,747.4	-2,653.5
Cumulative increase or decrease in:						
Short-term debt	-59.3	2,903.7	5,570.6	7,030.5	10,123.3	12,150.7
Intermediate-term debt	-203.0	-177.2	792.8	1,859.5	2,530.1	2,218.2
Long-term debt	-163.1	-3,495.7	-5,419.5	-5,870.8	-8,618.2	-11,271.7

term public debt holdings of private investors and the Federal Reserve Board have increased by \$12.1 billion over what they would have been in FFB's absence. 1/

According to John Culbertson,

"There is * * * a social cost of additional public holdings of liquid assets which * * * undercuts the complex logic of the financial system, and makes the economy more unstable and less controllable." 2/

The stock of liquid asset holdings affects monetary policy as follows. Suppose the rate of economic activity is high and inflationary pressures are building. The Federal Reserve Board might be expected to take steps to curb the rate of spending in order to reduce inflationary pressures by attempting to reduce credit availability. This could be done by trying to reduce excess reserve positions of commercial banks through open market sales, making borrowing at the discount window or through interbank transactions less attractive, or increasing commercial bank reserve requirements. The extent to which any of these policies will be effective depends in part on the amount of noncash liquid assets held by commercial banks. If liquid asset holdings are substantial, commercial banks may sell off such securities to meet increased required reserve positions, avoid the discount window, replenish excess reserves, or maintain lending activity.

Interest rates usually rise when the economy is expanding. Consequently, there would be an incentive for those holding idle money balances to purchase the liquidated assets

1/It is not entirely clear that this is the best measure of increased liquidity as it affects monetary policy. If public and agency short-term debt were equally liquid, this increase would almost perfectly reflect the increase in liquidity due to FFB. But, agency securities are probably not as liquid as Treasury securities. A more appropriate measure of increased liquidity might lie between the net increase figure of \$12.1 billion and the gross increase in short-term Treasury debt held by the public of \$19.6 billion, which is attributable to FFB.

2/John M. Culbertson, "Discussion" in Issues in Federal Debt Management, proceedings of a conference held in June 1973, Federal Reserve Bank of Boston, p. 33.

of the commercial banking system. Also commercial banks would have an incentive to lend out the proceeds from sale of liquid assets rather than accumulate them as excess reserves. The opportunity cost of holding idle money balances increases for both commercial banks and the nonbank public when interest rates are rising.

This mechanism means that the greater the amount of liquid assets held by the public, the greater the potential for liquidating large volumes and expanding credit just when the Federal Reserve Board may be trying to restrict credit.

FFB's borrowing arrangement is linked with the conduct of monetary policy because the Treasury finances deficits and refinances borrowing with securities that are shorter term, more easily marketable, and therefore more liquid than the agency debt that FFB displaces. The stock of liquid assets, in theory, should affect the ability of the Federal Reserve Board to control the availability of credit. This in turn depends partly on the way in which commercial banks may finance loan expansion during periods of credit restriction by liquidating Treasury securities.

We verified the existence of the theoretical relationships described above. Our analysis is contained in appendix II, and the results are summarized below.

According to our findings, loan expansion by commercial banks was significantly higher during periods of restrictive monetary policy than during periods of relative credit ease. This result can be attributed to the large loan expansion which occurred during the 1972 and 1974 period of credit restriction. In all other periods, loan expansion was unaffected by restrictive monetary policy. This seeming ineffectiveness of monetary policy in reducing loan expansion is partly explained by a consistent pattern of commercial bank Treasury security liquidations during restrictive credit periods. Between 1959 and 1976, the average quarterly liquidation of Treasury securities by commercial banks attributable to restrictive monetary policy was \$2.49 billion.

The seeming ineffectiveness of the Federal Reserve Board is somewhat misleading. Loan demand is generally higher when the rate of economic activity is high. Our estimates indicate that with the exception of the 1972 to 1974 period, loan expansion during tight money periods did not differ significantly from that during easy money periods. This indicates that monetary policy had some effect on curbing loan demand because if nothing had been done, loan expansion might

have been greater. But, since something was done, loan expansion would have been lower if commercial banks could not liquidate Treasury securities.

In spite of the evidence supporting the theoretical relationships described above, the increased liquidity due to FFB has a near-term potential for only marginal effects on the ability of the Federal Reserve Board to control credit availability.

Assuming that commercial banks hold a reasonably stable proportion of the stock of outstanding Treasury securities, according to available data, commercial banks might be expected to buy about 25 percent of the increase in privately held Treasury securities attributable to FFB. If the net increase in short-term Treasury securities attributable to FFB were \$12.1 billion, ^{1/} by 1978 commercial banks could be expected to purchase \$3 billion of this increase. If we use the gross increase in short-term Treasury securities figure of \$19.6 billion, the commercial banking system would be expected to purchase about \$4.9 billion of the increase. Commercial bank liquidations of Treasury securities averaged 4 percent of their holdings during restrictive credit periods between 1959 and 1976. If we apply this percentage to our casual estimate of FFB-induced increases in Treasury securities held by commercial banks, we get a potential quarterly liquidation figure of \$120 million by 1978 that is due to FFB. This figure is about 4.8 percent of the historical average quarterly rate of liquidation by commercial banks during restrictive credit periods. The same figure for gross increases in short-term Treasury securities is about 7.9 percent.

These figures are rough, but they indicate that FFB is unlikely to affect greatly the conduct of monetary policy. FFB's activities are not large enough, compared to those of the Treasury and the commercial banking system, to more than barely affect the monetary policy. No cause for concern exists therefore over the compositional shifts between Treasury and agency securities estimated to occur through fiscal year 1978.

SUMMARY

Through its borrowing arrangement with the Treasury, FFB is able to alter the maturity structure of the Federal debt toward greater liquidity. It is estimated that the net increase in liquid Treasury security holdings of the public

^{1/}The estimate discussed on p. 34.

attributable to FFB will be \$12.1 billion by the end of fiscal year 1978. Theoretically, this increase affects debt management by shortening the average maturity of the Federal debt and through its effect on the term structure of interest rates. It affects monetary policy by providing commercial banks with a greater stock of assets that may be liquidated to finance loan expansion when the Federal Reserve Board is trying to curb loan expansion.

The evidence supports the theory. But, because FFB's operations are small in relation to the operations of the Treasury and the commercial banking system, the FFB-induced compositional shift out of agency securities into Treasury securities is estimated to have small effects on the maturity structure of the Federal debt, the term structure of interest rates, or monetary policy. FFB's lending activity would have to grow considerably before such effects could be serious.

The effects estimated in this chapter do not result solely from FFB's existence. Rather, the effects result from the combination of FFB's existence (in terms of its lending) and its borrowing arrangement with the Treasury. The increase in the Federal debt resulting from FFB's activity would be the same if FFB sold its own securities. But, unless it financed its operations with the same short maturity structure of borrowing as the Treasury, the estimated effects of FFB operations on the maturity of the Federal debt, on the term structure of interest rates, and on monetary policy would be lower than we have estimated. It is unlikely that the maturity structure of FFB's financing would be as short as the Treasury's. Currently, FFB borrows from the Treasury with maturities to match the maturities of its loans. The average maturity of FFB's lending is estimated to be about 9 years. To the maximum extent possible, if FFB issued its own securities, it would be desirable to match the maturity structure of its borrowing with that of its lending.

AGENCY COMMENTS

Formal agency comments on this report were not requested. The draft report, however, was reviewed by staff of the Office of Management and Budget and the Department of the Treasury on an informal basis. These comments were considered in preparing the final report.

Treasury officials maintain that the overall maturity of FFB's portfolio is about 4 years. The calculations in chapter 4 include FFB's transactions in agency debt and Certificates of Beneficial Ownership in the fourth quarter of 1976

and the first quarter of 1977. Therefore, they do not include all of FFB's transactions since its inception.

RECOMMENDATION TO THE CONGRESS

The potential effects described will not occur soon for they are only possible in the long run. Currently, it does not seem necessary to change FFB's borrowing arrangement with the Treasury. It results in cost savings to agency borrowers and has no significant ill effects on debt management or monetary policy.

Nevertheless, it is important that the Congress be aware of the longrun potential that this arrangement has for undesirable effects on the conduct of debt management and monetary policy. We therefore recommend that the Congress monitor FFB's growth with a view toward determining when, if ever, the indirect costs of the current Treasury borrowing arrangement outweigh the benefits that the practice provides in savings achievable on agency borrowing.

ESTIMATED EFFECT OF FFB-INDUCED CHANGES IN THE MATURITY
COMPOSITION OF THE FEDERAL DEBT ON INTEREST RATES

FFB-induced increases in the supply of short-term securities should raise short-term rates above what they would have been in FFB's absence. Similarly, the reduced supply of long-term securities should relieve pressures in that end of the market and reduce long-term rates.

The empirical evidence for the effects of compositional shifts in Government securities on relative interest rates is sketchy. Evidence produced to date indicates that compositional shifts between short- and long-term securities affect levels of short- and long-term rates, but only minimally.

We applied the results from two studies of this effect to our data on net increases or decreases in short- and long-term securities induced by FFB. ^{1/} Our results, presented in table I-1 are based on calculations done by Nordhaus and Wallich. ^{2/}

Based on the estimates developed by Okun and Scott, it appears that FFB-induced changes in the maturity structure of Government debt have not much affected the term structure of interest rates. When we take a simple average of the Okun and Scott estimates, FFB-induced increases in short-term debt may raise short-term interest rates between 1 and 4 basis points (that is, by 1 to 4 percent of 1 percentage point). FFB-induced reductions in long-term debt are estimated to raise, not lower, long-term rates by no more than about 1.2 basis points during any year between 1974 and 1978.

^{1/}Arthur M. Okun, "Monetary Policy, Debt Management and Interest Rates: A Quantitative Proposal," pp. 142-188 in Financial Markets and Economic Activity, edited by Donald Hester and James Tobin, New Haven, Yale University Press, 1967; and Robert Haney Scott, "Liquidity and the Term Structure of Interest Rates," Quarterly Journal of Economics, 79 (Feb. 1965), pp. 135-145.

^{2/}William D. Nordhaus and Henry C. Wallich, "Alternatives for Debt Management," pp. 9-26, in Issues in Federal Debt Management, proceedings of a conference held in June 1973, Federal Reserve Bank of Boston.

Table I-1

Estimates of Changes in Short- and Long-Term Interest Rates
Due to FFB Operations: Fiscal Years 1974 through 1978

	FY 1974	FY 1975	FY 1976	Transition quarter	Est. FY 1977	Est. FY 1978
------(billions)-----						
Federal debt outstanding (note a)	486.200	544.100	631.900	646.400	716.700	785.000
Increase in short-term debt due to FFB	-.059	2.964	2.667	1.460	3.092	2.027
Reduction in long-term debt due to FFB	-.163	-3.332	-1.924	-.451	-2.747	-2.654
Ratio of induced:						
--Increase in short- term debt to total	-.00012	.00545	.00422	.00226	.00431	.00258
--Decrease in long- term debt to total	-.00033	-.00612	-.00304	-.00070	-.00383	-.00338
Estimated change in short- and long-term interest rates (note b)						
---Okun effects:						
Short (2.20)	-.026	1.199	.928	.497	.948	.568
Long (.83)	-.027	-.508	-.252	-.058	-.318	-.281
---Scott effects:						
Short (12.77)	-.153	6.960	5.389	2.886	5.504	3.295
Long (-4.76)	.158	2.931	1.455	.335	1.835	1.619
Average (basis points)						
Short	-.090	4.080	3.158	1.692	3.226	1.932
Long	.065	1.212	.602	.138	.758	.669
Change in long-short spread	.155	-2.868	-2.556	-1.554	-2.468	-1.263

a/Source: Special Analysis, Budget of the U.S. Government, FY 1978, table C-3, end of fiscal year data.

b/Basis Points. Calculated by multiplying estimates in table 2, Nordhaus and Wallich, by ratios of FFB-induced increases in short- and long-term debt to total debt.

This latter result is somewhat perplexing. It is attributable to the dominance of Scott's estimate of positive interest rate effects of shifts out of long-term bonds. But, that estimate may result from the fact that the Treasury tends to float long-term bonds when interest rates are relatively low. Thus, one would tend to observe increases in long-term Treasury debt coincidentally with lower long-term rates. This identification problem has not been adequately overcome in any of the work done to date.

Another possible explanation for the inverse relation between compositional changes at the long end of the Government securities market and long-term rates is that shifts out of long-term securities and into short-term securities raise short-term rates. These rates may dominate the yield structure. When the relative share of short-term securities is increased, short-term rates rise. This increase, in turn, may be transmitted along the entire yield structure, raising the level of rates across all maturities.

Despite the shortcomings of the estimates, compositional changes between short- and long-term securities due to FFB do not seem large enough to have strong effects. The largest shift into short-term securities is estimated to be \$3.1 billion in fiscal year 1977. If we believe the estimates for this sort of shift on short-term rates, then in order for FFB-induced increases in short-term debt to increase short-term rates by 1 full percentage point, the shift to short-term debt would have to be around \$85 billion per year. ^{1/} Even if the estimates understate the true effect, FFB operations do not at present seem large enough to produce a compositional shift from long- to short-term securities capable of having much more than barely perceptible interest rate effects.

^{1/}Based on the average level of Federal debt outstanding of \$635 billion between fiscal years 1974 and 1978.

ESTIMATED COMMERCIAL BANK PORTFOLIO RECOMPOSITIONS
DURING PERIODS OF RESTRICTIVE MONETARY POLICY

According to John Culbertson, "There is * * * a social cost of additional public holdings of liquid assets which precisely parallels the social cost of redundant cash balances and zero incentive to economize cash. It undercuts the complex logic of the financial system and makes the economy more unstable and less controllable." 1/

Short-run variations in the rate of spending are constrained by the availability of finance. 1/ Theory suggests that the greater the amount of liquid assets held by the public, the greater the ability of the public at opportune times to liquidate those assets out of their portfolios in exchange for cash balances. These cash balances may in turn be used for extending credit into other areas or for financing consumption expenditures. One of the crucial ingredients of the theory is that those purchasing the assets do so with idle money balances. 2/ This means that the greater the amount of liquid assets held by the public, the greater the potential for converting money balances that would otherwise not have been loaned out or spent into active money balances capable of financing increased rates of expenditure.

Activation of idle money balances is most likely to occur when interest rates are rising above their contemporary average and when expected rates of inflation are high. At these times, the opportunity cost of holding idle money balances becomes high. It is also at these times that the Federal Reserve Board might be trying to restrain credit availability.

The way in which the stock of liquid asset holdings affects monetary policy would be as follows. Suppose that the rate of economic activity is high and that inflationary pressures are building. The Federal Reserve Board might be

1/John M. Culbertson, "Discussion" in Issues in Federal Debt Management, proceedings of a conference held in June 1973, Federal Reserve Bank of Boston, p. 33.

2/Warren L. Smith, "Monetary Policy and the Structure of Markets," in Readings in Money, National Income and Stabilization Policy, ed., Warren L. Smith and Ronald Teigen, Richard D. Irwin, Inc. (Homewood, Ill., 1965), pp. 356-372.

expected to take steps to curb the rate of spending in order to reduce inflationary pressures through attempts to reduce credit availability. This could be done by attempting to reduce excess reserve positions of commercial banks through open market sales, making borrowing at the discount window less attractive, or increasing commercial bank reserve requirements.

The extent to which any of these policies will be effective depends in part on the amount of noncash liquid assets held by commercial banks. If liquid asset holdings are substantial, they may be sold off to meet increased required reserve positions, avoid the discount window, replenish excess reserves, or maintain lending activity. Interest rates usually rise during periods when the rate of economic activity is high. Because of this, there would be an incentive on the part of those holding idle money balances to purchase the liquidated assets of the commercial banking system. An incentive would also exist on the part of commercial banks to loan out proceeds from the sale of liquid assets rather than accumulate them as excess reserves. The opportunity cost of holding idle money balances increases for both commercial banks and the nonbank public when interest rates are rising.

This means that the greater the amount of liquid assets held by the public, the greater the potential for their liquidation in large volumes and expansion of credit when the Federal Reserve Board may be seeking to reduce the rate of spending through reductions in credit availability. Liquid asset holdings are one reason for the slack that may potentially exist between achievement of desired policy goals and what actually happens.

In addition to the instability that theoretically can result from portfolio adjustments of the commercial banking system, liquid asset sales may also be expected by the nonbank public when expected rates of inflation are high. The proceeds from such sales may be used to finance consumption expenditures or may be loaned out. This in turn would aggravate inflationary trends.

EMPIRICAL EVIDENCE SUPPORTING SHIFTS IN PORTFOLIOS OF COMMERCIAL BANKS DURING PERIODS OF CREDIT RESTRAINT

In order to test for the phenomenon we have been describing, we compared changes in loans and U.S. Government securities held by commercial banks during periods of monetary restriction and ease over the period beginning in the second quarter of 1959 and ending in the fourth quarter of 1976.

In 1958 Warren L. Smith presented evidence supporting the notion of compositional shifts out of U.S. Government Securities in order to finance loan expansion based on experience from the 1954 to 1957 period of credit restraint ^{1/} In order to test for a higher level of generality for Smith's conclusions, we examined the portfolio swaps between loans and Treasury securities by commercial banks during periods of credit restraint and credit ease. These periods are:

<u>Credit restraint</u>	<u>Credit ease</u>
1959-II to 1960-I	1960-II to 1965-III
1965-IV to 1966-IV	1967-I to 1968-III
1968-IV to 1970-I	1970-II to 1972-III
1972-IV to 1974-IV	1975-I to 1976-IV

Our definition of credit restraint periods is somewhat subjective. They were defined by examining movements in four key credit aggregates around a simple linear trend from 1959 to 1976. These credit aggregates were the Federal funds rate, the level of the 3-month Treasury bill rate, and the percentage changes in the money stock (M1) and the monetary base. Whenever a sustained movement of the interest rate variables from below the trend line to above the trend line began, that quarter was picked as a candidate for the beginning of a credit restraint period. The reverse was true for the monetary aggregates. That is, we looked for sustained movements from above the trend line to below the trend line. When the interest rate and monetary variables began retracing their movements (usually the quarter following the peak or trough), the period of credit restraint was defined to end.

The definition of credit restraint periods given above is subjective because all four credit aggregates did not move in unison with each other. Periods of credit restraint were therefore defined to include quarters in which the strongest collective influence of all variables seemed to exist. But, different people might have differing opinions on when this occurred.

Adopting the approach used by Smith, the aggregates and quarterly averages of the principal factors affecting the money supply are presented in tables II-1 and II-2 during

^{1/}"Warren L. Smith, *Monetary Policy and the Structure of Markets*," in *Readings in Money, National Income and Stabilization Policy*, ed. Warren L. Smith and Ronald Teigen, Richard D. Irwin, Inc. (Homewood, Ill., 1965), pp. 356-372.

Table II-1

Principal Factors Affecting the Money Stock
During Periods of Credit Ease and Credit Restraint

	<u>Credit restraint period</u>			
	<u>1959-II</u>	<u>1965-IV</u>	<u>1972-IV</u>	<u>1974-IV</u>
	<u>1960-I</u>	<u>1966-IV</u>	<u>1970-I</u>	<u>1974-IV</u>
	----- (billions) -----			
Change in loans held by commercial banks	12.40	23.16	31.33	147.47
Change in U.S. Government securities held by commercial banks	-8.80	-4.47	-12.17	-11.67
Change in time deposits and certificates of deposit	-.93	-17.73	-10.17	-67.77
Other factors	-2.27	6.81	4.70	-33.06
Change in money supply	.40	7.77	13.69	34.97
				<u>214.36</u>
				<u>-37.31</u>
				<u>-96.60</u>
				<u>-23.62</u>
				<u>56.83</u>

	<u>Credit ease period</u>			
	<u>1960-II</u>	<u>1967-I</u>	<u>1970-II</u>	<u>1975-I</u>
	<u>1965-III</u>	<u>1968-III</u>	<u>1972-III</u>	<u>1976-IV</u>
	----- (billions) -----			
Change in loans held by commercial banks	77.93	34.06	75.56	25.73
Change in U.S. Government securities held by commercial banks	1.03	10.13	10.97	44.89
Change in time deposits and certificates of deposit	-56.67	-31.13	-77.20	-94.00
Other factors	2.41	8.14	27.60	52.21
Change in money supply	24.70	21.20	36.93	28.80
				<u>213.28</u>
				<u>67.02</u>
				<u>-259.00</u>
				<u>90.33</u>
				<u>111.63</u>

Source: Data Resources Incorporated.

Table II-2

Average Quarterly Changes in Factors Affecting the Money Supply
During Periods of Credit Ease and Credit Restraint

	<u>Credit restraint period</u>				<u>Total</u>
	<u>1959-II</u> <u>1960-I</u>	<u>1965-IV</u> <u>1966-IV</u>	<u>1968-IV</u> <u>1970-I</u>	<u>1972-IV</u> <u>1974-IV</u>	
	------(billions)-----				
Change in loans held by commercial banks	3.10	4.63	5.22	16.39	8.93
Change in U.S. Government securities held by commercial banks	-2.20	-.89	-2.03	-1.29	-1.55
Change in time deposits and certificates of deposit	-.23	-3.55	-1.70	-7.53	-4.03
Other factors	-.57	1.36	.78	-3.67	-.98
Change in money supply	.10	1.55	2.28	3.89	2.37
	------(billions)-----				
	<u>Credit ease period</u>				<u>Total</u>
	<u>1960-II</u> <u>1965-III</u>	<u>1967-I</u> <u>1968-III</u>	<u>1970-II</u> <u>1972-III</u>	<u>1975-I</u> <u>1976-IV</u>	
	------(billions)-----				
Change in loans held by commercial banks	3.54	4.87	7.56	3.22	4.54
Change in U.S. Government securities held by commercial banks	.05	1.45	1.10	5.61	1.42
Change in time deposits and certificates of deposit	-2.58	-4.45	-7.72	-11.75	-5.51
Other factors	.11	1.16	2.76	6.53	1.92
Change in money supply	1.12	3.03	3.69	3.60	2.38

Source: Data Resources Incorporated.

credit ease and restraint. The most important information is contained in table II-2.

The quarterly growth of the money supply during each of the periods of credit restraint was considerably lower than during periods of credit ease, with the exception of the period after 1972. Furthermore, except for the 1972 to 1974 period, loan expansion at first glance appears to have been moderately checked during periods of monetary restraint, but not to the extent that one might expect based on the growth in the money stock. For example, during the 1965 to 1966 period of credit restraint, the growth in the money stock was about one-half its rate of growth in the ensuing period of credit ease. Yet, loan expansion was only slightly lower during the period of credit restraint than in the 1967 to 1968 period.

There are two things to notice about loan expansion between 1959 and 1976. First, with the exception of the period after 1972, loan expansion is trended upward. This raises a question about whether monetary policy had any effect at all on checking loan expansion by commercial banks because, in our sample, restraint periods precede periods of relative credit ease. Second, during periods of credit restraint, loan expansion appears to be financed mainly through the sale of U.S. Government securities and time deposit inflows in view of the decline in increases in the money stock. Time deposit inflows are lower during periods of credit restraint, but a presumed commercial bank desire to economize on money balances coupled with relatively low reserve requirements on time deposits mean that a given inflow of time deposits can support a substantial amount of lending during these periods.

From 1959 to 1972, it appears that a policy of credit restraint had little effect on the rate of growth of commercial bank lending activity, particularly when the trended nature of this variable is recognized. Furthermore, it appears that Treasury liquidations partially explain this result. Treasury securities were always sold off during periods of credit restriction and almost always accumulated during periods of credit ease.

This does not mean that monetary policy had no effect on curbing loan demand, however. Loan demand is generally higher when the rate of economic activity is high. The data indicates that except for the 1972 to 1974 period, loan expansion during tight money periods did not differ substantially from that during easy money periods. This indicates that monetary policy had some effect on curbing loan demand because if nothing had been done, loan expansion might have been greater.

But, in view of the fact that something was done, loan expansion would have been lower if commercial banks could not liquidate Treasury securities.

The 1972 to 1976 period is different from earlier years. This period's results dominate the results for the entire period. The averages for the entire period indicate that loan expansion was greater during restrictive than during ease periods. In addition, the growth in the money supply was not effectively checked. This is misleading. We prefer the interpretation that the Federal Reserve Board was able to effectively control money growth when it wished to do so, but this had little if any effect on loan expansion by commercial banks. This interpretation is to some extent explained by liquidation of Treasury securities.

We verified this general impression using multiple regression techniques. In this analysis, changes in commercial bank holdings of loans and Treasury securities were correlated with variables that theoretically should explain such changes. Potentially, multiple regression analysis enables one to control the full range of influences thought to affect the dependent variable and to isolate and measure the effect of certain key influences on the dependent variable. However, this potential is rarely fully realized.

The hypothesis tested was as follows. Loan expansion by commercial banks is not significantly affected by restrictive monetary policy because loans are financed during tight money periods with the proceeds from liquidation of U.S. Treasury securities.

The model which we entertained relates changes in holdings of loans and Treasury securities to

- two key credit aggregates designed to measure the rate of high-powered money expansion and the relative cost of borrowed reserves;
- time deposit inflows, which are also a means of financing loan expansion;
- the rate of inflation; and
- a crude proxy for restrictive or easy monetary policy.

Definitions of the variables used and expectations regarding the singular influence of explanatory variables follow.

Dependent variables

1. Quarterly change in loans held by commercial banks (DALB)--The quarterly increase or decrease in commercial bank loan holdings between 1959 and 1976.

2. Quarterly change in U.S. Treasury securities held by commercial banks (DBFB)--The quarterly increase or decrease in commercial bank holdings of U.S. Government securities between 1959 and 1976.

3. Quarterly change in combined commercial bank holdings of loans and U.S. Government securities (DA)--The quarterly increase or decrease in commercial bank holdings of loans and U.S. Government securities from 1959 to 1976.

Independent variables

1. Level of loan holdings of commercial banks (ALB)---The quarterly level of loan holdings of commercial banks from 1959 to 1976. Preliminary data analysis indicated that both levels of and first differences in this variable were trended upward. In order to account for the trend in DALB, its level was included as an explanatory variable. We could have used percentage changes in loan holdings as a dependent variable and possibly eliminated the need for ALB, but we felt that this would make interpretation of results more difficult.

2. Level of U.S. Government security holdings of commercial banks (BFB)--The quarterly level of U.S. Government security holdings of commercial banks from 1959 to 1976. This variable was included in equations designed to estimate DBFB for the same reasons that levels of loan holdings were included in equations designed to estimate DALB.

3. Level of combined holdings of loans and U.S. Government securities by commercial banks (A)--The quarterly level of combined loan and Government security holdings of commercial banks from 1959 to 1976. This variable was included in equations designed to estimate DA for the same reasons that ALB and BFB were used to estimate their respective first differences.

4. Quarterly rate of growth of the monetary base--annualized basis (PMB)--The quarterly percentage change in the monetary base annualized from 1959 to 1976. The monetary base consists of member bank reserves at Federal Reserve banks, vault cash, and currency in circulation. It is partly through

growth in the monetary base that loan expansion and acquisition of securities may occur. We expect that the greater the rate of growth in the monetary base, the greater the quarterly increase in both loans and U.S. Treasury securities holdings by commercial banks. The monetary base was one of the variables whose movements were examined to define credit ease and restraint. In spite of this, we feel that this variable must be included along with our proxy for monetary policy because it is expected to explain movements in loans and U.S. Government securities that are less discrete and occur in addition to those explained by a posture of credit restraint or e.a.e.

5. Quarterly rate of growth of time deposits--annualized basis (PTD)--The quarterly percentage increase or decrease in time deposit inflows to commercial banks annualized between 1959 and 1976. In chapter 4, we saw that inflows of time deposits provide an alternative to demand deposits for financing loan expansion. We expect that the greater the rate of growth of time deposits, the greater the expansion of both loans and U.S. Government securities holdings.

6. Quarterly rate of growth of the consumer price index--annualized basis (PCPI)--The quarterly percentage increase or decrease in the Consumer Price Index annualized from 1959 to 1976. We used this variable as a proxy for inflationary expectations, but have no a priori basis for expecting it to positively or negatively affect changes in loan and Treasury security holdings.

7. Interest rate spread between the 3-month Treasury bill rate and the Federal funds rate--(RT-FF)--The difference between the quarterly level of interest rates on 3-month Treasury bills and the Federal funds rate. The Federal funds rate is established by the Federal Reserve Board as a range within which interbank loans may be made. The higher the Federal funds rate is relative to the Treasury bill rate, the lower the incentive to borrow to finance loan expansion, and the greater the incentive to liquidate Treasury securities. We have no basis for expecting loan expansion to be affected directly by the spread, but we do expect that the higher the Federal funds rate relative to the Treasury bill rate, the greater will be the liquidation of Treasury securities to finance a given amount of loan expansion. Thus, we expect a direct relationship between changes in Treasury security holdings and RT-FF.

8. Monetary policy (MD)--A dummy variable equal to one during periods of credit restraint (defined in ch. 4) and zero, otherwise. We expect loan expansion to be

insignificantly affected by the monetary policy variable. This means that regardless of the posture of monetary policy, loan expansion by commercial banks is relatively unaffected. We expect a significantly negative relationship between holdings of Treasury securities and restrictive monetary policy.

The formal statement of our null hypotheses is as follows.

$$\begin{array}{ll} H_0: & \partial \text{DLTB} / \partial \text{MD} = 0 \\ H_0: & \partial \text{DLTB} / \partial \text{MD} < 0 \end{array}$$

The source of all data used in this analysis is the Data Resources, Incorporated, Central Data Base.

There were numerous ways of measuring the variables described above. In addition, there were other proxies for potential loanable funds, relative costs of obtaining those funds, and reserve position influences. We decided on the actual variables, used as described above, and the way they were measured after examining correlation matrices of various configurations of independent variables. The configurations that produced intolerable intercorrelations between the monetary policy dummy and other independent variables were rejected. The independent variable set described above produces no intercorrelations between monetary policy and other independent variables exceeding .51 during the 1959 to 1976 period.

RESULTS

Changes in loan and U.S. Government securities holdings by commercial banks were regressed on the above described independent variables for the entire 1959 to 1976 period and for two subperiods. The partitioning of the sample was done to test for the stability of relationships in view of our observation that the 1972 to 1974 tight credit period seemed to dominate the average tendency for expansion of loans during restrictive credit periods. The results are presented in table II-3.

The signs on the coefficients conform fairly well with our expectations, but in many cases the coefficients are not significantly different from zero at the 95 percent level. The coefficient on the monetary policy dummy variable in equation 1 indicates that over the entire 1959 to 1976 period, loan expansion averaged \$4.7 billion higher during restrictive credit periods than it was during nonrestrictive periods. The coefficient is statistically significant at the 95 percent level. This seems to result from the large loan expansion that occurred during the 1972 through 1974 period. Comparing the

Table II-3

Relationships Between Commercial Bank Portfolio Shifts
and the Posture of Monetary Policy
Results from Multivariate Regression Analysis

Equation number	Dependent variable	Independent variables										R ²	D.W.
		Constant	ALB	BFB	A	PMB%	PTD%	PCPI%	RT-FF	MD			
1.	DALB	-2.51 (1.64)	.0058 (.82)			1.394 (4.47)	.0875 (.65)	-1.137 (2.97)	-3.56 (4.06)	4.69 (3.63)	.55	.95	
2.	DBFB	-4.30 (2.03)		.0602 (1.84)		-.002 (.01)	-.0274 (.37)	.560 (3.53)	1.48 (2.94)	-2.49 (3.52)	.46	1.56	
3.	DA	-5.03 (3.33)			.0173 (2.92)	1.223 (4.38)	-.1237 (1.03)	-.948 (2.82)	-2.08 (2.64)	2.44 (2.10)	.61	1.08	
Period 1959-II to 1967-IV													
4.	DALB	1.44 (1.35)	-.0001 (.009)			-.640 (3.36)	-.0370 (.55)	.038 (.14)	-.68 (.85)	.88 (1.33)	.41	.80	
5.	DBFB	9.38 (1.69)		-.1660 (1.88)		-.056 (.43)	.1074 (1.76)	-.021 (.09)	1.81 (2.11)	-1.72 (2.73)	.37	1.42	
6.	DA	-.40 (.32)			.0062 (.73)	.503 (3.49)	.0650 (1.33)	.107 (.53)	.29 (.50)	-.52 (1.06)	.72	1.90	
Period 1968-I to 1976-IV													
7.	DALB	-6.86 (1.94)	.0133 (1.24)			2.099 (3.43)	.0702 (.28)	-1.923 (3.32)	-4.41 (3.19)	7.32 (3.00)	.57	1.45	
8.	DBFB	-4.04 (1.20)		.0600 (1.32)		.107 (.31)	-.0400 (.28)	.621 (2.35)	1.52 (1.85)	-3.58 (2.58)	.46	1.79	
9.	DA	-9.94 (2.94)			.0228 (2.61)	2.129 (3.88)	.0240 (.10)	-1.590 (3.15)	-2.93 (2.35)	4.07 (1.85)	.55	1.46	

Note: T values in parentheses.

monetary policy coefficients for the 1959 to 1967 and 1968 to 1976 subperiods in equations 4 and 7, note that no significant difference existed between loan expansions during tight and easy credit periods during the earlier period. But during the later period, loan expansion was significantly greater during tight than during easy credit periods.

Changes in Treasury securities holdings were significantly negative during tight credit periods for the entire 1959 to 1976 period and for the two subperiods. Thus, we accept Ho2. We have reservations about rejecting Ho1 because of the dominance of the aberration that occurred between 1972 and 1974. We find it somewhat difficult to accept the generality that loan expansion is higher during tight money periods. At any rate, based on these results, no evidence indicates that loan expansion by commercial banks is curbed by restrictive monetary policy.

These results, coupled with our casual observations contained above, lead us to conclude that between 1959 and 1976 monetary policy was not particularly effective in curbing loan expansion by commercial banks. This result is at least partly explained by the consistent pattern of commercial bank Treasury securities liquidations, the proceeds of which were loaned out during these restrictive periods.