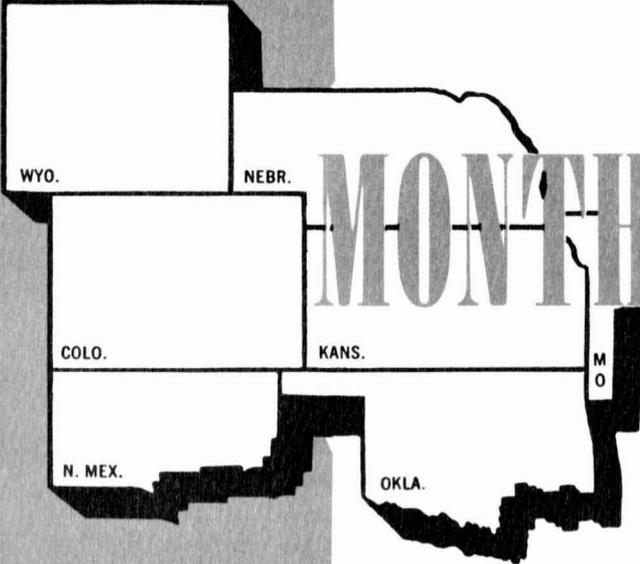


July-August 1967



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# Specialized Mortgage Marketing Facilities

*By J. A. Cacy*

THE HOUSING needs of the Nation's population and the institutions serving these needs have long been subjects of public concern. Last year's sharp decline in residential construction activity and in the flow of mortgage funds served to renew and intensify public interest in this sector of the economy. As in other similar periods, the events of 1966 have generated various proposals designed to prevent their recurrence. Some of these proposals involve measures intended to improve the marketability of residential mortgages. In this connection, many observers have concluded that efficiently operating specialized mortgage marketing facilities offer a partial solution to the problems encountered by construction and mortgage market participants. Such facilities, it is argued, would allow a better allocation of credit and real resources between housing and other sectors of the economy and would reduce the degree of instability in the flow of mortgage funds and in construction activity.

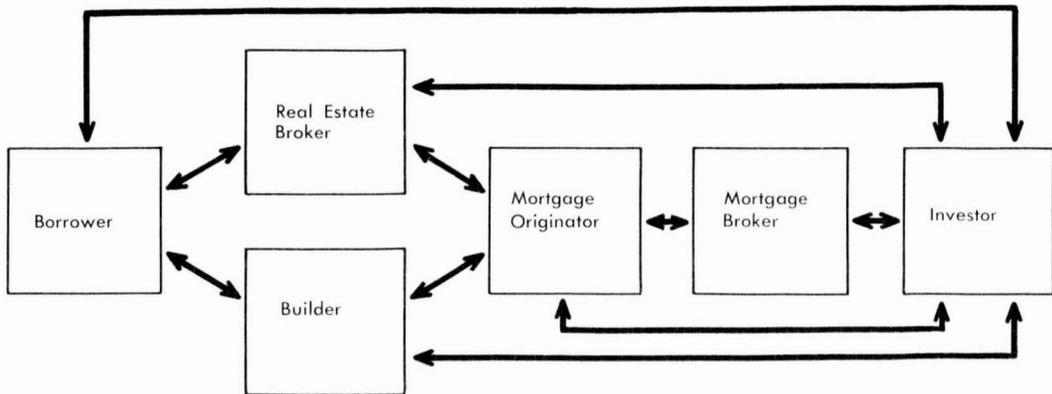
This article is directed toward an examination of existing specialized mortgage marketing facilities. The examination begins with a general discussion of the nature and functions of specialized marketing arrangements, and proceeds to an outline of the organization of the residential mortgage market. Existing specialized mortgage marketing facilities are then described, and an analysis of their adequacy is presented. This is followed by an identification

of some obstacles preventing the further development of existing arrangements, and a discussion of measures designed to foster such a development. Finally, some brief comments are offered concerning the objectives of policy with regard to the residential construction and mortgage markets.

## NATURE AND FUNCTIONS OF SPECIALIZED MARKETING FACILITIES

In financial markets, borrowers or sellers of assets must communicate with lenders or buyers of assets; time and resources must be devoted to bringing market participants together. Because this type of activity is subject to economies of scale, specialized enterprises have undertaken to provide specialized marketing facilities for many assets. These firms, which may be referred to as marketmakers, provide centrally located facilities which are used by market participants to communicate, undertake transactions, and determine asset prices and other terms on which funds are made available. Also, marketmakers frequently collect and disseminate information useful to market participants. In the broad sense intended here, a marketmaker may be either a dealer who assumes positions in assets or a broker who only brings participants together. Members of the New York stock exchange, for example, are marketmakers as are dealers in U. S. Government securities.

**Chart 1**  
**THE ORGANIZATION OF THE MORTGAGE MARKET**



**THE ORGANIZATION OF THE MORTGAGE MARKET**

Both the income of the marketmaker and his contribution to the economic well-being of the community derive mainly from his ability to reduce the cost of effecting asset transfers. Indeed, this cost may be used as one measure of both the marketability of the assets involved and the technical efficiency of financial markets. By reducing these costs, the marketmaker enhances the marketability of assets and increases the efficiency of financial markets. Also, by serving as a source of market information and advice, marketmakers contribute to the efficiency of financial markets in a more indirect manner. In these various ways, specialized marketing facilities improve the efficiency of the market mechanism in directing and redirecting flows of funds, and enhance the ability of market participants to adjust to rapidly changing economic conditions.

Specialized facilities may serve either primary or secondary markets. New assets are created and placed in the portfolios of initial holders in primary markets, whereas existing or seasoned assets are bought and sold in secondary markets. To illustrate, investment banking firms provide specialized facilities for the primary corporate securities market, while stock exchanges are examples of secondary marketing facilities.

Some familiarization with the organization of the mortgage market is necessary to understand the nature of the existing specialized mortgage marketing facilities. The institutions operating in the market and the communications channels employed by mortgage borrowers and lenders are indicated in Chart 1. The various organizations (or participants) positioned in the communications network provide the institutional framework which supports the operations of the primary mortgage market—operations which result in the provision of debt financing for the construction and/or purchase of residential property, and determine the terms on which funds are made available. In addition, certain elements of this framework provide, in a limited way, secondary market facilities.

The operations of the market require that the participants perform several functions. There is first the marketmaking or brokerage function of providing for communication between borrowers, lenders, sellers, and buyers. Second, the mortgage instrument must be originated. Originating a loan consists of performing or coordinating the performance of necessary or desirable services that precede or

accompany the creation of a mortgage instrument, such as property inspection and appraisal, borrower credit rating, and the preparation of auxiliary legal instruments. The result of these activities is the creation of a negotiable financial asset owned by the originator. Another function is the provision of financing, both short- and long-term. Long-term or permanent financing is the holding of the mortgage as an investment. Interim or short-term financing is provision of credit for construction, or from the time the loan is originated and funds transferred to the borrower until the mortgage is acquired by a long-term lender. The provision of the latter type of credit is called mortgage warehousing. Finally, the loan must be serviced; that is, repayments of principal and payments of interest must be collected.

Some mortgage market participants perform all functions, while others specialize. Short-term credit is provided by commercial banks, and to a lesser extent by savings and loan associations and mortgage companies. Mortgage companies are the major originating and servicing specialists. Savings and loan associations, commercial banks, mutual savings banks, and life insurance companies provide a major portion of the long-term financing. Also, many long-term lenders originate and service the mortgages they hold and provide the necessary facilities for communication with borrowers.

The real estate broker, the builder, the mortgage originator, and the mortgage broker are all a part of the communications network. As shown by Chart 1, the ultimate mortgage borrower may deal directly with a long-term mortgage lender or he may contact a real estate broker or a builder. The real estate broker or the builder may refer the borrower to a mortgage originator or to a permanent investor. The originator in turn may deal directly with the investor or may employ the services of a mortgage broker. The broker ordinarily will have direct contacts only with originators and long-term lenders.

### EXISTING SPECIALIZED MORTGAGE MARKETING FACILITIES

The specialized originators are important participants in the market, and these enterprises together with mortgage brokers provide specialized mortgage marketing facilities. Many long-term lenders have not found the establishment of local mortgage-originating facilities or the maintenance of sufficient servicing facilities desirable. Others have not been able to originate the volume of mortgages they desire to hold. In consequence, these permanent investors have entered into agreements with originating-servicing firms—mainly mortgage companies. These companies originate mortgages, assemble them in blocks, and sell them to long-term lenders in what is referred to by industry participants and observers as the secondary mortgage market. The mortgages are then serviced by the originator. The servicing fee paid by the long-term lender is the major source of income for the originator-servicer. In obtaining outlets for mortgages, the originator-servicer may obtain the aid of mortgage brokers. These firms neither originate nor service mortgages; they are paid a fee by the originator based on the value of the mortgages placed. In addition to the marketing facilities provided by private enterprises, the Federal National Mortgage Association buys and sells Government-underwritten mortgages. The activities of FNMA will be discussed further in a later section.<sup>1</sup>

### ADEQUACY OF EXISTING FACILITIES

In assessing the adequacy of existing specialized marketing facilities, there are three points

<sup>1</sup>Mortgages are marketed through arrangements not mentioned in the text. For example, savings and loan associations sell participations in conventional mortgages to other associations. These transactions ordinarily are arranged by direct contact between the long-term lenders. Also, the Mortgage Guaranty Insurance Corporation, a private mortgage insurance firm, provides a brokerage service at no charge to firms wishing to buy or sell MGIC-insured mortgages.

that may be discussed: (1) the nature of the operations of the originator-servicer, (2) the extent to which the facilities serve all segments of the market, and (3) the extent to which permanent investors employ existing facilities for making portfolio adjustments.

The operations of the originator may take several forms. One form arises when a permanent investor commits funds for a specific project, such as a tract of houses, before construction begins. The originator may prepare preliminary plans and submit them to the investor for approval. If the investor finds the plans acceptable, he agrees to provide the permanent financing. When the project is completed, the houses sold, and the loans closed, the originator transfers or "sells" the mortgages to the permanent investor. Another type of operation involves an allotment arrangement. An originator typically will maintain servicing agreements with several permanent investors. As a part of an agreement, an investor may allot a certain sum of money to the originator; that is, the investor agrees to accept from the originator, during a certain period of time, mortgages equal to a specified total dollar amount. The type of mortgages desired may be indicated in the servicing agreement, and the originator will keep well informed on the investor's requirements. In some cases, mortgages are transferred to a regular correspondent under an agreement which contains no specified commitment or allotment. Mortgages are simply offered to the investor, and may be refused by him at any time. Or, an originator may sell mortgages to an investor who is not a regular correspondent and who has no servicing agreement with the originator, although most of the business of most originators is conducted with servicing correspondents.

The various operating procedures and the transactions arising from them may be distinguished on the basis of the type of contract or agreement entered into by the originator and the investor. Some transactions involve a con-

tract for the future delivery of mortgages at a price agreed upon in the contract, while others involve a contract for the immediate delivery of the mortgages at the current market price. It is obvious that originators who sell mortgages for immediate delivery must maintain an inventory of mortgages, and that they will be subject to the risk of price changes. (When an originator enters into a contract for future delivery, he may be said to be acting as a mortgage broker. When he carries uncommitted inventories and sells for immediate delivery, he is a dealer in mortgages. The originator who performs the function of a broker should not be confused with the firms known as mortgage brokers mentioned above.) By maintaining inventories for sale, the originator increases the alternatives available to investors and thereby enhances the value of his services. He also performs the broader function of offsetting week-to-week or month-to-month variations in the flow of mortgage funds between ultimate borrowers and lenders. Frequent changes in the cost and/or availability of funds to borrowers not warranted by basic supply and demand conditions thus are prevented. Originator-servicer-dealers may possibly be in a position to effect longer run cyclical fluctuations in the mortgage market. This would require that they "speculate" in mortgages, increasing their inventories when they believe mortgage rates are too high and reducing them when rates are felt to be too low.

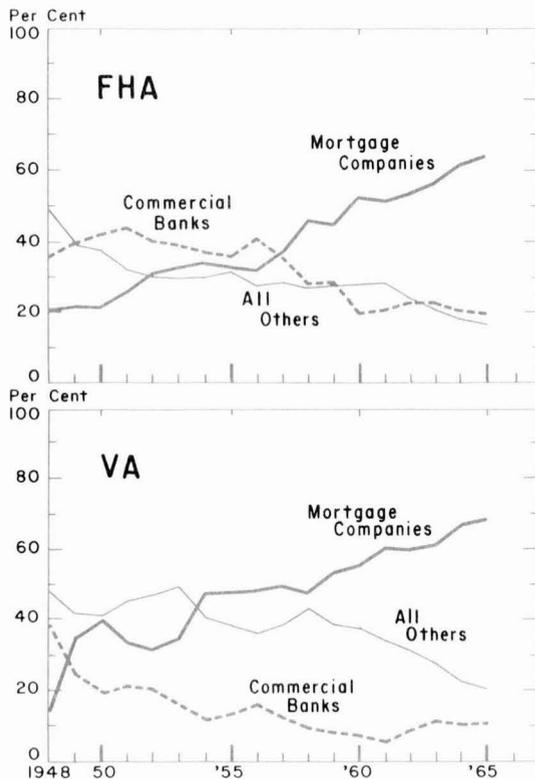
There is no way to determine, from available data, the relative importance of immediate delivery and future transactions. Industry operatives have indicated that, before 1960, most originators preferred to operate with prior commitments but, during the present decade, the trend has been toward immediate delivery. This would seem to represent a welcome development. The full-fledged dealer is less likely to be a mere extension of a particular permanent investor, is more likely to be a strong independent competitive force in the market, and will

be more strategically positioned to perform the functions of a specialized marketing facility.

In connection with the extent to which existing facilities serve all segments of the market, the originator-servicer is very important in the Government-underwritten sector, and his importance is growing. As can be seen from Chart 2, the percentage of the total dollar volume of both Federal Housing Administration and Veterans Administration originations attributable to mortgage companies—the major originating-servicing specialists — has been steadily increasing throughout the postwar period. By 1965, these firms accounted for 64 per cent of FHA and 68 per cent of VA

**Chart 2**

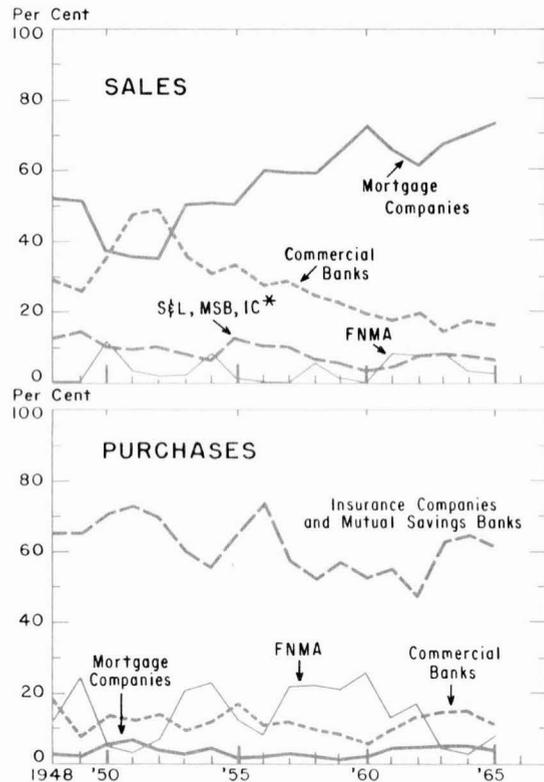
**GOVERNMENT UNDERWRITTEN MORTGAGE ORIGINATIONS**



SOURCE: Federal Housing Administration and Federal Home Loan Bank Board.

**Chart 3**

**FHA MORTGAGE SALES AND PURCHASES**



\*Savings and Loan Associations, Mutual Savings Banks, Insurance Companies.

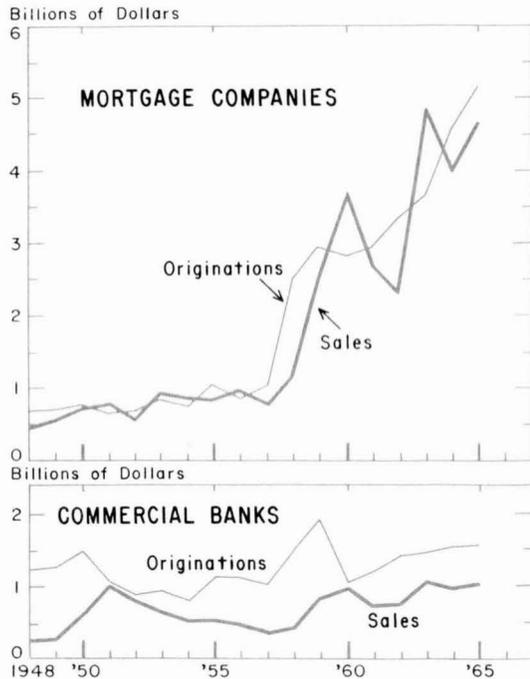
SOURCE: Federal Housing Administration.

originations. Furthermore, as can be seen from Chart 3, most of the sales of FHA mortgages are made by mortgage companies.<sup>2</sup> Chart 4 shows that mortgage companies do not hold their originations. In each of the postwar years, the difference between the volume of FHA mortgages sold by these firms and the volume originated has been quite small.

Some commercial banks have entered the mortgage originating and servicing business. The extent of this activity is difficult to determine from available data for several reasons. First, some banks operate mortgage companies

<sup>2</sup>Sales data is not readily available for VA mortgages.

**Chart 4**  
**FHA MORTGAGE ORIGINATIONS AND SALES**  
**BY MORTGAGE COMPANIES AND**  
**COMMERCIAL BANKS**



SOURCE: Federal Housing Administration.

as separate entities, and their activities are reflected in the figures on mortgage companies. Secondly, unlike mortgage companies, commercial banks place in portfolio a significant portion of their originations. Chart 4 shows that, for banks, FHA originations exceeded sales in each of the postwar years. Finally, there is no way to determine the extent to which the sales figures represent portfolio reductions by banks not in the originating-servicing business.

Most of the Government-underwritten mortgages sold by the specialized mortgage originators are purchased by insurance companies and mutual savings banks. (See Chart 3.) In fact, insurance companies and mutual sav-

ings banks acquire a large percentage of their Government-underwritten mortgages by purchase. Commercial banks acquire some Government-underwritten mortgages by purchase, but considerably fewer than they originate. Apparently those commercial banks which do not operate a mortgage company type of business originate most of their Government-underwritten mortgages. Savings and loan associations acquire even fewer Government-underwritten loans by purchase than do commercial banks, both absolutely and in relation to total acquisitions. For the most part, savings and loan associations originate and service their Government-underwritten mortgage holdings.

Specialized mortgage marketing facilities are employed less extensively in the conventional than in the Government-underwritten sector. Transfer and origination data are less readily available for conventional loans, but from scattered data and knowledge of industry practices, one can conclude that a considerably larger percentage of conventional than of Government-underwritten mortgages are originated, held, and serviced by the same institution. It is known, for example, that mortgage companies service only a very small percentage of conventional debt outstanding. Insurance companies appear to be the only long-term lenders that extensively employ originator-servicers in regard to conventional loans. Mutual savings banks apparently operate in much the same manner in the conventional sector as do savings and loan associations and commercial banks. This is not surprising since mutual savings banks, like many commercial banks and savings and loan associations, have been subject to geographic restrictions on their conventional lending and, consequently, do not hold conventional mortgages on properties in widely dispersed geographic areas. As pointed out above, the services of the originator-servicer are tailored to the needs of the national lender. As mutual savings banks take advantage of liberalizations in geographic restrictions and

increase their national conventional lending, the originator-servicer will probably become more important in the conventional sector. However, it should be pointed out that even for insurance companies—which are national lenders in the conventional as well as in the Government-underwritten market—the importance of the originator-servicer is not as great with regard to their conventional loans as to their Government-underwritten holdings.

There is little definite information available to determine the extent to which existing specialized marketing facilities extend outside the confines of the market for recently originated mortgages and are employed by permanent investors to adjust their mortgage portfolios. Market participants indicate that transactions of this type are infrequent. Insurance companies, mutual savings banks, and savings and loan associations do sell some FHA mortgages (see Chart 3), although the volumes involved are not large. The extent to which these transactions are directly negotiated between the investors is not known. Some of these sales are arranged by mortgage brokers, and in some cases the mortgages are sold to mortgage companies. As Chart 3 shows, mortgage companies purchase a small volume of FHA mortgages. These firms, however, are interested primarily in maintaining and increasing their servicing volume, and do not appear to be interested in buying and selling mortgages, as such.

#### REASONS FOR LIMITED DEVELOPMENT OF EXISTING FACILITIES

It has been shown that existing specialized mortgage marketing facilities are confined primarily to Government-underwritten, newly originated mortgages. The facilities appear to operate adequately in this sector of the market as a distributive mechanism for new mortgage instruments. There are no specialized secondary marketing facilities in the sense in which such were earlier defined—that is, facilities

which mortgage investors employ to buy and sell seasoned mortgages. Transactions of this nature do occur, of course, and some seasoned mortgages pass through the existing specialized marketing channels. Also, the Federal National Mortgage Association is designated as a secondary market facility, and one of its stated purposes is to support “the general secondary mortgage market.” However, FNMA’s activity is very closely associated with the primary market. Most of FNMA’s mortgage purchases are from originator-servicers. By buying mortgages from originators that cannot be placed with permanent investors, the Association helps support the primary market and reduces the risk involved in the dealer activities of the originator. The policy, usually adopted, of refusing to purchase seasoned mortgages prevents FNMA from being employed as a portfolio adjusting mechanism.<sup>3</sup> The Association does sell mortgages from portfolio, and these

<sup>3</sup>The law requires that FNMA restrict purchases, under the secondary market operation, to mortgages which were approved by the VA for guarantee or by the FHA for insurance subsequent to August 2, 1954. The Association has from time to time established more restrictive age requirements. The history since 1954 of these requirements is as follows:

<i>Period</i>	<i>Age Requirement</i>
August 2, 1954, to November 23, 1956	Statutory cutoff (mortgages approved for insurance or guarantee on or after August 2, 1954, eligible for purchase)
November 23, 1956, to June 30, 1958	4-month cutoff (mortgages must be offered to FNMA within 4 months of the date of approval for insurance or guarantee)
June 30, 1958, to September 12, 1959	12-month cutoff
September 12, 1959, to November 28, 1962	4-month cutoff
November 28, 1962, to January 18, 1966	Statutory cutoff
January 18, 1966, to February 3, 1967	4-month cutoff
February 3, 1967, to present	Statutory cutoff

sales can be characterized in no other way than secondary transactions.

The reasons for the limited development of specialized mortgage marketing facilities are not difficult to discover. In the first place, the mortgage instrument is not ideal for open market trading. The asset being traded is not homogeneous or highly standardized. Each mortgage loan is unique, and the individual mortgage is too small to be denominated into homogeneous trading units. The prospective holder must have detailed knowledge of the property and borrower characteristics of each loan. This usually will mean among other things that the property must be physically inspected each time a loan is traded. Trading in mortgages is therefore quite costly and this discourages the development of specialized marketing facilities.

Besides rendering trading in mortgages costly, the heterogeneous nature of mortgage loans encourages market segmentation, which further discourages trading. It is a common observation that the home mortgage market is highly segmented, but the meaning of the term is not always clear. In this paper, segmentation is interpreted to mean the tendency for many of the various home mortgage markets to be dominated by a certain type of lender or by a small group of lenders. Segmentation in this sense results primarily from lender specialization, that is, the practice of some lenders of holding a certain type of mortgage almost exclusively. The heterogeneous nature of mortgage loans encourages market segmentation by encouraging specialization. The need to collect and evaluate specific information on individual loans tends to lead lenders to concentrate on holding certain types of homogeneous mortgages in an effort to lower their acquisition and other costs.

The importance of segmentation from the present perspective is that it discourages the development of specialized marketing facilities because it narrows the market for particular

mortgage loans. Marketing firms will have difficulty generating a profitable volume of trading unless there is a broad potential demand for each asset in which they deal. It may be mentioned that the term "segmentation" usually conveys derogatory implications when used in reference to the mortgage market. Specialization, however, is not necessarily undesirable since it may contribute to efficiency. When specialization results from noneconomic or arbitrary constraints on a lender's portfolio choices and results in narrowing the alternatives available to borrowers, it may, besides discouraging the development of marketing arrangements, prevent the optimum allocation of resources.

Market segmentation is encouraged by the institutional and legal structure under which mortgage lenders operate as well as by the nature of the instrument. In the first place, legal considerations influence the amounts the various lenders allocate to mortgages relative to the amounts allocated to other assets. Aside from regulations which directly affect the percentage of total assets held in mortgages, public policy encourages segmentation within the home mortgage market. Geographic lending restrictions are an example. These restrictions require a lender to specialize in holding mortgages on certain properties—those located within his legally determined lending area. Other features of the institutional and legal structure encourage market segmentation. For example, nonuniform restrictions on lending terms prevent some lenders from competing for certain types of mortgages, and render these types the province of other lenders.

Market segmentation is accompanied by an attitude on the part of lenders toward mortgages that further discourages the development of specialized marketing facilities. Many market participants operate on the assumption that mortgages, once acquired, will be held and not sold. This attitude has probably contributed to the differentiations in the mortgage instrument.

If little thought is given to reselling, there will be no attempt, when originating mortgages, to tailor them to meet the requirements of a larger market. Each lender establishes standards and employs methods without reference to the preferences of other lenders. Furthermore, local lenders familiar with local conditions may not need to maintain the records and follow the procedures that would produce the information needed by lenders not familiar with the local conditions.

There are several reasons for this attitude. Of course, the absence of a well developed trading market is one. Beyond this, it should be recognized that nonprice competition is important in the mortgage market. One feature of a less than perfect financial market is the importance of the customer relationship. One of the reasons some mortgage lenders prefer to hold and service their mortgages is to maintain and develop the customer relationship. This is especially true of institutions in which deposit growth depends to some extent on the maintenance of the customer relationship. Another factor fostering the prevailing attitude is the existence of more convenient methods of making short-run portfolio adjustments, and the absence of any felt need to undertake large adjustments in mortgage portfolios. For example, the most important mortgage lenders, the savings and loan associations, have experienced rapid savings inflows during most of the postwar period. Having limited investment outlets, these lenders have had little incentive to sell mortgages from portfolio. Furthermore, they have a convenient means of making adjustments through the Federal Home Loan Bank System.

Something in the nature of a closed circle appears to be operative here. The nature of the mortgage instrument discourages the development of specialized marketing facilities and encourages segmentation, which is inimical to the development of specialized market facilities. Public policy supports segmentation.

Because specialized facilities are poorly developed, and for other reasons, mortgage lenders adopt the attitude that mortgages, once acquired, are not sold. This attitude contributes to differentiation in the market, thereby accentuating the inherent characteristics of the instrument.

As has been noted, this circle has been penetrated, to some extent, in the Government-underwritten sector. Mortgage insurance and guarantee have reduced the heterogeneous nature of the instrument and the relative absence of restrictions with regard to Government-underwritten mortgages has made the development of a national market possible. In this environment, specialized marketing facilities have experienced a limited development.

#### MEASURES FOR EXPANDING SPECIALIZED FACILITIES

The foregoing analysis provides guideposts in considering measures for expanding the scope and improving the operations of existing facilities. These measures would need to be directed toward reducing the costs of trading in mortgages and reducing the degree of market segmentation.

The cost of trading in mortgages may be reduced either by reducing the heterogeneity of the instrument, or by mitigating the effects of heterogeneity. Mortgage insurance is one method of eliminating differences among loans that arise from differences in borrower and property characteristics. As has been stated, one of the reasons for the development of marketing facilities in the Government-underwritten sector of the market is that mortgage insurance and guarantee has increased the homogeneity of mortgages. If a block of mortgages is fully insured by a bankruptproof insurer, the potential holder of such loans will not be concerned with borrower and property characteristics, and will find the evaluation of each individual mortgage less urgent. The cost of making mortgage transfers is thus reduced.

It may be noted in passing that neither FHA nor VA mortgages are fully insured in the sense that the default potential of individual loans is completely irrelevant to the holder. Such insurance may not be possible. Aside from mortgage insurance, homogeneity could be increased by more uniform origination procedures, lending practices, and state mortgage laws. Also, a classification or rating system for uninsured mortgages, while not eliminating differences among loans, might reduce trading costs by increasing efficiency in the use of information.

Market segmentation could be reduced by eliminating the public policies that encourage segmentation. In this connection, several things could be done. Perhaps the two most important are: the liberalization or elimination of the remaining geographical restrictions on mortgage lenders, and the uniform application of maximum loan-value ratios and permissible terms among different types of institutions. The objective would be to remove the arbitrary obstacles that prevent competition among mortgage lenders and discourage the development of a national market in conventional loans.

#### CONCLUDING COMMENTS

As indicated in the introduction, there currently is considerable discussion of mortgage marketing facilities. The establishing of facilities under the sponsorship of the Federal Government has been considered. It may be pointed out that, in many cases, the type of facilities under discussion are not meant to perform the marketmaking function, which has been stressed in this article. Rather, marketmaking facilities are viewed by many as organizations that would purchase mortgages from private firms and hold them in portfolio. A one-way market, so to speak, is contemplated. Aside from Government sponsorship, the essential difference between such organizations and presently operating private long-term mortgage lenders is the method of financing mort-

gage holdings. Holdings would be financed by selling some sort of debenture in the capital markets. It is argued that in this way the mortgage market would gain access to funds not now available and such funds would be more stable than present sources. If these arguments are valid, the establishment of facilities of the type being discussed would not only increase the supply of mortgage funds, but would tend to reduce the degree of cyclical instability of the supply. However, it would appear that the main goal in establishing such facilities is to directly augment the supply of mortgage funds.

The foregoing reference to goals suggests the importance of recognizing that the problems faced by construction and mortgage market participants must be considered in the context of a broader problem—the allocation of the Nation's limited resources to various uses. From the perspective of this article, this broader problem may be said to have two dimensions. First, there is the long-run allocation of resources between housing and other goods and services. This relates to the trends in construction activity and in the supply of mortgage financing over a long period of time. Secondly, there is the problem of construction and mortgage market instability, which relates to the fluctuations in construction and in the flow of mortgage funds around the long-run trends.

To illustrate the first dimension of the problem, consider the 21 years from 1946 through 1966. During this period, construction was begun on approximately 30 million nonfarm residential housing units, or an average of 1.5 million per year. The adequacy of this number is the long-run issue. Should there have been more, or possibly fewer? Suppose it is held that housing needs were not adequately met and that the volume of starts should have been larger. Since the Nation's total resources are limited, such a position implies that a smaller volume of resources should have been devoted

to the production of goods and services other than housing.

As stated earlier, many observers have concluded that efficiently operating mortgage marketing facilities would allow a better allocation of resources between housing and other sectors of the economy. For many observers, a better allocation means a shift in favor of housing; measures designed to expand the operations of existing mortgage marketing arrangements may have resource allocation implications that would be considered undesirable. For example, the removal of barriers to competition among mortgage lenders may result in the diversion of certain sources of funds, which are now more or less earmarked for the mortgage market, into other markets. Indeed, more competitive markets may fail to provide funds to the housing sector in quantities that would be considered adequate by those concerned with the goals of society. In this case, consideration could be given to measures that would alter the flow of funds without impairing efficiency and that would allow an assessment of the extent of the alteration.

Consider now the second dimension of the problem. Suppose it is agreed that housing needs were met adequately during the 1946-66 period. Suppose further that complete stability in construction activity—as measured by the number of nonfarm housing starts—is desirable

and that, ideally, 1.5 million units would have been started in each of the 21 years. On these assumptions, the volume of starts in 1966 was too low. By the same token, the level of construction activity was too high during the 1963-65 period. The illustrative nature of this discussion is emphasized. No one would argue that complete stability is desirable, even if attainable. Nevertheless, the analysis reveals clearly that one must keep in mind the distinction between the long-run course of construction activity and judgments concerning its adequacy, on the one hand, and on the other hand, year-to-year fluctuations and judgments concerning stability.

Arguments were cited earlier to the effect that specialized mortgage marketing facilities would reduce the degree of instability of the flow of mortgage funds and in construction activity. Most observers probably adhere to this view. Even here, however, disclaimers may be encountered. It may be argued, for example, that the speculative activity that may accompany the development of a highly organized mortgage market may at times increase rather than reduce the market's instability. This could be prevented by recognizing the possibility and by providing those governmental agencies having responsibilities with regard to financial markets with the necessary authority and tools to undertake appropriate action.

# The Process of Federal Spending and Economic Activity

By Glenn H. Miller, Jr.

**A**N UNDERSTANDING of the chronology and mechanics of the Federal spending process and of the basis on which expenditures are recorded in the various Federal budgets is widely recognized as especially important in assessing the degree and the timing of impact of Government operations on the economy. The purposes of this article are, first, to describe the Federal expenditure process in some detail, and second, to relate that process to economic performance, illustrating the relationship with indicators of defense activity in recent years.

## THE MECHANICS OF THE EXPENDITURE PROCESS

The opening section of this article is a summary of the mechanics of the expenditure process within the Federal Government—from the President's request to Congress for funds to support his program, through congressional authorization of programs and appropriation of funds, to the obligation and expenditure of the funds by the operating agencies. In the United States, the Federal budget document is the means by which the President submits his program for the coming year to Congress and requests the spending authority to carry it out. There are two separate stages of congressional decisionmaking involved in the budget process.

In the first step, Congress enacts legislation approving the programs, functions, and activities for which expenditures are to be made, but does not provide the spending power to carry them out. Congressional *authorization* of programs precedes the granting of funds, which is considered separately. The second stage is congressional *appropriation*.

### Appropriation

The House of Representatives traditionally initiates appropriations measures. Within the House, the major authority and power over appropriations rest with the various subcommittees of the Appropriations Committee and with the subcommittee chairmen. Senate action on appropriations generally follows that of the House. Following the compromising of differences in conference committee, when necessary, and after being passed by Congress, appropriations bills go to the President for his approval. No item veto of appropriations measures is permitted.

It is within the *appropriations* stage of the budget process that the terminology becomes somewhat complex. What the President requests, and what the operating agency receives from Congress as a result of the appropriations process, is permission or authority to commit or obligate the U. S. Government for

**Table 1**  
**NEW OBLIGATIONAL AUTHORITY**  
**BY FUNCTION**

(In billions of dollars)

Function	Administrative Budget Funds			Trust Funds		
	1966 Actual	1967 Esti- mate	1968 Esti- mate	1966 Actual	1967 Esti- mate	1968 Esti- mate
National defense	67.4	75.1	77.9	1.4	2.3	1.7
International affairs and finance	5.5	4.8	5.1	.2	*	*
Space research and technology	5.2	5.0	5.0	*	*	*
Agriculture and agricultural resources	5.0	5.1	3.1	*	*	*
Natural resources	3.4	4.5	3.6	.1	.2	.2
Commerce and transportation	3.9	4.3	3.3	4.1	4.5	5.8
Housing and community development	1.8	2.2	3.0	.7	4.6	.8
Health, labor, and welfare	9.3	11.1	12.4	29.4	38.4	40.8
Education	4.3	4.6	5.2	*	*	*
Veterans benefits and services	6.0	6.5	6.7	.7	.8	.8
Interest	12.1	13.5	14.2	—	—	—
General government	2.5	2.7	2.7	*	*	*
Allowances for:						
Civilian and military pay increases	—	—	1.0	—	—	—
Contingencies	—	.2	.8	—	—	—
Total new obligational authority	126.4	139.6	144.0	36.7	50.8	50.2

\*Less than \$50 million.

SOURCE: *The Budget of the United States Government: 1968*, p. 44.

certain expenditures. This is sometimes referred to as “financial authorization,” something quite distinct from the “program authorization” which precedes it. The grant of permission to an agency to commit the Government to future expenditures is known as *obligational authority*.

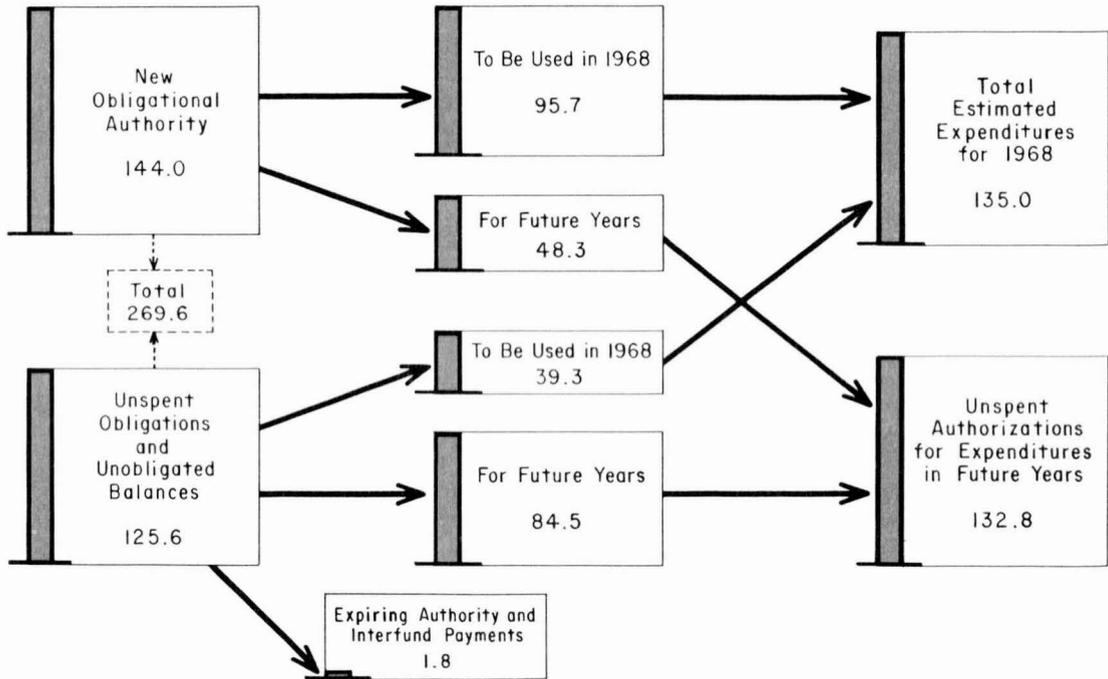
At the beginning of a given fiscal year, total obligational authority available to those divisions of the Federal Government empowered to make expenditures is of two kinds: *existing obligational authority* and *new obligational authority* (NOA). In the budget document, the President recommends that the Congress appropriate *new obligational authority* of a certain amount so that the agencies may obligate the Government to future expenditures, in order to perform certain functions and carry out certain programs. Table 1 shows, by major function, the total amounts of new obligational authority actually granted for fiscal 1966 and

recommended for fiscal 1967 and fiscal 1968.<sup>1</sup>

Only data on new obligational authority are shown in Table 1, but there are two additional sources from which expenditures may originate in a given year. First, commitments previously made under earlier grants of permission may not yet have led to final expenditures—for example, goods may have been ordered or contracted for but not yet delivered, inspected, approved, and paid for. Second, obligational authority originally granted for a period greater than one year may not yet have been committed—that is, an agency may enter a new fiscal year with unobligated balances still at

<sup>1</sup>Remember that these figures do not show actual or estimated Federal *expenditures* for those years, as measured by any of the three familiar forms of the budget described in “The Budget, Fiscal Action, and Short-Run Economic Change: Part 1,” *Monthly Review*, Federal Reserve Bank of Kansas City, January-February 1967, pp. 4-8.

**Chart 1**  
**EXPENDITURES RELATED TO OBLIGATIONAL AUTHORITY, ADMINISTRATIVE BUDGET,**  
**FISCAL 1968**  
 (In billions of dollars)



SOURCE: *The Budget in Brief—Fiscal Year 1968*, p. 53.

its disposal for future commitment and expenditure. Thus, expenditures for the year ahead may come from new obligational authority, from unobligated balances of obligational authority from earlier years, and from existing unspent obligations.

Expenditures, as reported in any of the three types of Federal budget statements, are therefore closely dependent on, but not identical either in amount or timing to, the amounts of obligational authority (old and new) that make up most of the financial substance of the President's budget message, the budget document, and congressional action on appropriations measures. The estimated relationship between obligational authority and expenditures for fiscal 1968 is shown in Chart 1 for the administrative budget. Total obligational

authority of \$269.6 billion was estimated to be available, composed of \$144 billion of NOA and \$125.6 billion of unspent obligations and unobligated balances. Of that amount, \$135 billion is to be spent in fiscal 1968—\$95.7 billion from NOA and \$39.3 billion from prior authority, both encumbered and unencumbered. After deducting \$1.8 billion in expiring authority and interfund payments, \$132.8 billion of obligational authority and unspent obligations remains to be converted to expenditures some time after the end of fiscal 1968. The remainder includes \$48.3 billion from 1968 NOA and \$84.5 billion from authority granted in earlier years.

New obligational authority comes in three forms: *ordinary appropriations*, *contract authorizations*, and *authorizations to spend from*

**Table 2**  
**NEW OBLIGATIONAL AUTHORITY BY TYPE**  
(In billions of dollars)

Type	Administrative Budget Funds			Trust Funds		
	1966 Actual	1967 Esti- mate	1968 Esti- mate	1966 Actual	1967 Esti- mate	1968 Esti- mate
Authorizations requiring current action by Congress:						
Appropriations†	109.0	121.2	126.3	0.4	0.5	0.8
Reappropriations	*	*	*	—	—	—
Authorizations to spend debt receipts	.8	2.0	.1	—	—	—
Contract authorizations	1.1	.7	.2	.1	4.6	.9
Total authorizations requiring current action by Congress	<u>110.9</u>	<u>123.9</u>	<u>126.5</u>	<u>.5</u>	<u>5.1</u>	<u>1.7</u>
Authorizations not requiring current action by Congress (permanent):						
Appropriations†	12.9	14.6	15.2	30.5	39.4	41.7
Authorizations to spend debt receipts	.2	.1	.9	.3	4.1	.2
Contract authorizations	2.3	1.0	1.4	5.4	2.3	6.7
Total authorizations not requiring current action by Congress (permanent)	<u>15.5</u>	<u>15.7</u>	<u>17.5</u>	<u>36.2</u>	<u>45.8</u>	<u>48.6</u>
Total new obligational authority	<u>126.4</u>	<u>139.6</u>	<u>144.0</u>	<u>36.7</u>	<u>50.8</u>	<u>50.2</u>

\*Less than \$50 million.

†Excludes appropriations to liquidate contract authorizations: Administrative budget funds, 1966, \$2.5 billion; 1967, \$2.3 billion; 1968, \$1.8 billion. Trust funds, 1966, \$4.6 billion; 1967, \$5.1 billion; 1968, \$5.4 billion.

SOURCE: *The Budget of the United States Government: 1968*, p. 44.

*debt receipts*. The first of these forms—the ordinary appropriation—is the most common.

An appropriation allows a Government agency (1) to commit the Government by orders, contracts, and so forth for specific types and amounts of future expenditures and (2) to make the future expenditures as the commitments are fulfilled.<sup>2</sup>

According to fiscal 1968 budget estimates, ordinary appropriations were nearly 95 per cent of total NOA requested (Table 2).

The first part of the definition of an appropriation quoted above applies to a *contract authorization*; the second does not. That is, an agency receiving a contract authorization

may obligate itself but cannot spend to meet the obligation until it receives from Congress an "appropriation to liquidate contract authorizations." Since the latter permits expenditures only, and does not authorize further commitments, it is *not* included in NOA. The contract authorization form of NOA is used generally when there will be more than a year between the incurring of an obligation and the time an expenditure becomes necessary.

The second relatively minor form of NOA is the *authorization to spend from debt receipts*. Agencies may be permitted to borrow directly from the public, or from the Treasury's public debt receipts, in order to make commitments and expenditures. Since many of these authorizations do not appear in appropriations bills and thus are not considered in the Appropriations Committees as part of the normal budget

<sup>2</sup>U. S., Congress, Subcommittee on Economic Statistics of the Joint Economic Committee, *The Federal Budget as an Economic Document*, 87th Cong., 2nd Sess., 1962, p. 10.

process, they are sometimes referred to as “backdoor financing.”

As is seen from Table 2, some NOA requires current action by Congress (that is, it must be granted on a year-by-year basis), while other NOA becomes available from time to time under already existing laws, or permanent authorizations (that is, with no further action by Congress on a year-by-year basis). Thus, one feature of the authorization of NOA is whether it is current or permanent. Current appropriations make up a far larger share of total NOA than do permanent appropriations (Table 2):

In either case, the *amount* of NOA granted may be noted specifically by Congress (*definite appropriations*), or it may not be specified, with the amount left to be determined by subsequent circumstances (*indefinite appropriations*). The following examples of the various types of appropriations of NOA are all drawn from the administrative budget.

**Current definite**—to the legislative branch for compensation of the Vice President, members of the Senate and of the House of Representatives.

**Current indefinite**—to the Post Office Department as contributions to the postal fund, in an amount determined by the amount postal revenues fall short of obligations.

**Permanent definite**—to the Treasury Department Bureau of Accounts, a \$6,000 statutory award paid annually as a result of a private relief act.

**Permanent indefinite**—to the Treasury Department for payment of interest on the public debt.

A third feature of an ordinary appropriation, in addition to whether it is granted under current or permanent authorization, and whether it is for a definite or an indefinite amount, concerns the time limits imposed on an agency’s authority to incur obligations. Most ordinary appropriations are *one-year*

*appropriations*, which allow an agency to incur obligations during only one fiscal year with the authority expiring at the end of that time. *Multiple-year appropriations* are made for a specified period longer than one year, while *no-year appropriations* are available for obligation until the purposes of the grant are accomplished. Some appropriations for research, most for construction, and nearly all trust fund appropriations are of the no-year type. In each case, obligated balances are carried forward until expenditures are made in payment of the obligations. In addition to obligated balances not yet spent, unobligated balances also may be carried forward in the cases of multiple-year and no-year appropriations. Furthermore, where specific time periods are established for incurring commitments—that is, one-year and multiple-year appropriations—Congress may reappropriate the lapsed obligational authority. Such *reappropriations* are counted in NOA (Table 2).

### Apportionment and Allotment

After obligational authority has been granted by Congress, the Bureau of the Budget—following review of the agencies’ plans concerning the rate at which obligations are to be made—apportions the obligational authority. By setting the rate at which spending agencies may obligate the Government to future expenditures, the need for deficiency or supplemental appropriations is lessened. *Apportionment*, then, is a form of administrative control exercised by the Bureau of the Budget, and, as such, gives the executive department some additional leverage over the obligation and spending of funds.

With the apportionment of NOA to the agencies, and its *allotment* to the various organizational units within them, the Government spending process has arrived at the point at which direct contact with the private sector of the economy is first made—the incurring of obligations.

Such obligations include the currently accruing liabilities for salaries and wages, certain contractual services, and interest; entering into contracts for equipment, construction, and land; approval of agreements to make loans; and other commitments requiring the payment of money.<sup>3</sup>

At this stage, the private sector begins to react to the impact of Government spending programs—if it has not already done so on an anticipatory basis. Also from this point, the process is no longer under the sole discretionary control of the Government, which is now only one of two parties to the transactions.

### Expenditure

Cash expenditure is not necessarily concurrent with the incurring of an obligation by an agency. In some instances, expenditures may coincide with, or very shortly follow commitments made, as in the following examples: wages and salaries paid to Government employees; interest payments on the public debt; purchases of existing assets; transfer payments such as social security benefits; and grants to state and local governments. Another kind of Federal expenditure involves the private sector's employment of resources on the Government's behalf, and results in the production of goods and services that eventually are sold to the Government. Here the lag between obligation and expenditure tends to be considerably longer. It takes time for private producers and suppliers to draw plans, obtain resources, negotiate subcontracts, solve technical difficulties, undertake production, and deliver the product. The Government, like a private firm, generally makes payment after the goods are delivered, inspected, and approved. Thus, the employment of resources and the production of goods precedes delivery to, and payment by, the Government. The lag between obligation and expenditure is shorter for soft goods and

services than for hard goods, and shorter for goods that can be purchased from the inventories of producers than for goods produced on order or under special contract.

Expenditures are recorded in the administrative budget on a "checks drawn" basis and in the cash budget on a "checks cashed" basis, while the national income and product accounts (NIPA) budget includes spending on a "goods delivered" basis. However, the impact of Federal programs on the economy dates at least from the time obligations are incurred, as employment of resources begins and production gets underway.

This production in the private sector of goods and services for sale to the Government is not usually reflected in Federal budget data as the production proceeds, despite the fact that the Government is clearly affecting the economy.<sup>4</sup>

As a result, some of the effect of Government purchases of goods and services on total economic activity occurs well before the expenditures show up in any of the three Federal budgets.

Some Government purchases, of which military procurement is the most significant, are made under arrangements whereby some payments are made to private firms before final delivery. Such *progress payments* or *advance payments* reduce the time lag between obligation and expenditure, and their use causes "data on Government expenditures presumably [to] reflect more precisely the use of resources by the private economy."<sup>5</sup>

### THE EXPENDITURE PROCESS AND ECONOMIC ACTIVITY

What is the significance of the mechanics of the Federal expenditure process for the analysis of short-run economic activity? Answers to this question are not hard to find. For example, it has been noted that the im-

<sup>3</sup>*The Budget of the United States Government: 1968*, p. 171.

<sup>4</sup>*The Federal Budget as an Economic Document*, p. 19.  
<sup>5</sup>*Ibid.*, p. 20.

portance of Government's influence on the performance of the economy "is due to both the absolute size of the Federal sector and its tendency often to fluctuate independently of the private economy, to be an exogenous or relatively independent variable in any aggregative analysis."<sup>6</sup> Policy aspects also enter the picture, as in the following quotation:

The Federal Government exerts a potent influence on the economy not only because it constitutes such a large segment of the total economy, but also because of its commitment to foster high-level employment and economic growth. For these reasons, it becomes crucial to pinpoint as accurately as possible when and how the Government's activities impinge upon economic activity.<sup>7</sup>

Economists concerned with current business developments are especially interested in the timing of the impact of Federal spending (particularly the purchase of goods and services). And it is here that the familiar Federal accounts are misleading. Federal expenditures in each of the three budgets represent the endpoint in the Government spending process, while the major impact of spending programs on the economy is likely to have occurred earlier in the process. Expenditure occurs when production has been completed, and delivery and/or payment made, while "the primary impact of government procurement on the level of economic activity occurs in advance of the actual government expenditure."<sup>8</sup>

The incurring of obligations, especially the letting of contracts and placing of orders, gen-

erally is accepted as the most significant point of impact of Government procurement on economic activity. When a Government agency places contracts or orders with a private firm, the latter generally begins to order materials, hire workers, and place subcontracts. In turn, these steps will inspire similar action elsewhere in the economy. As production moves ahead, the inventory component of gross national product (GNP) increases, for production on Government order appears as private inventory investment (in both goods in process and finished goods). Yet, until the final products are delivered to the Government and paid for, none of the measures of Government spending will reflect the increase in economic activity. When the goods are delivered, the recorded increase in Government spending tends to cancel out the reduction in private inventories in the GNP accounts; thus leaving no apparent effect on the level of total economic activity at that time—"the contribution to purchasing power has been made earlier during the contract placement and production stages."<sup>9</sup>

The fact that changes in Government orders, and the changes in economic activity resulting therefrom, are reflected in changes in Government spending only after a considerable time lag has led to the conclusion that "the Federal purchases figures are a misleading clue to the current impact and the timing of the cyclical impact of the Federal Government on output."<sup>10</sup> To overcome this problem, the analyst needs to understand the Federal expenditure process, to know where that process most significantly impinges upon the private sector and upon economic activity as a whole, to adjust his thinking concerning the relevance of the three familiar Federal budgets, and to make use of the data that are available on such things as obligations incurred, contracts awarded, and so on.

<sup>6</sup>Murray L. Weidenbaum, in U. S., Congress, *The Federal Budget as an Economic Document*, Hearings before the Subcommittee on Economic Statistics of the Joint Economic Committee, 88th Cong., 1st Sess., 1963, p. 67.

<sup>7</sup>Joseph Scherer, "On Measuring Fiscal Policy," *The Journal of Finance*, December 1965, p. 689.

<sup>8</sup>Murray L. Weidenbaum, "The Federal Government Spending Process," in U. S., Congress, Subcommittee on Fiscal Policy of the Joint Economic Committee, *Federal Expenditure Policy for Economic Growth and Stability—Papers Submitted by Panelists*, 85th Cong., 1st Sess., 1957, p. 500.

<sup>9</sup>*Ibid.*, p. 499.

<sup>10</sup>Scherer, p. 684.

Among the things to be considered is that advance and/or progress payments for goods that have been ordered will show up as expenditures in the administrative and cash budgets before production is completed and delivery made. Thus, "a case can be made that the cash budget 'times' the Federal impact for purchases of goods closer to the actual production period . . . [Therefore] cash budget expenditures more closely approximate the real activity in the economy than a record based on deliveries."<sup>11</sup> However, current cash budget data are published in seasonally adjusted form only for total receipts and expenditures. Monthly cash expenditure figures by functional classification are available but are not seasonally adjusted. Furthermore, advance and progress payments are not shown separately but are simply included in the over-all figures.

When there is little change in the level of Government activity, there is less need for concern about the timing of its impact. There are times, however, when Federal spending is rising or falling rapidly, and Government procurement of goods and services is a particularly dominant force in the economy. At such times, an understanding of the Federal spending process and the timing of its impact is especially important for a proper interpretation and evaluation of current and future economic developments.

This is particularly true because the early stages of the process often show up in the private sector rather than in the public sector, and it is important to understand where the underlying demand originates.<sup>12</sup>

### Defense Spending in Recent Years

Because of the state of the world since the end of World War II, defense purchases of goods and services have been a relatively large

share of total Federal purchases, and changes in defense spending have had a significant influence on over-all economic activity, in terms of both amount and timing of impact. Federal spending for military purposes has been especially important during the last two fiscal years, as it will probably continue to be for some time. Furthermore, defense purchases—especially for procurement and research—are particularly representative of the long lags that can occur between orders and deliveries (expenditures in the NIPA budget sense), which give rise to difficulties in assessing the timing of impact of Federal operations on economic activity.

In a speech before a National Industrial Conference Board meeting in October 1966, Gardner Ackley noted that ". . . on July 28, 1965, . . . the President requested a supplemental appropriation for Vietnam, and it became clear that the fighting there had taken on a new character." At about that time a significant change in the rate of economic advance occurred. Increased military programs and expectations brought about by the awareness of a new environment were contributing factors. Rising business capital outlays "both reflected and reinforced the economic impact of the defense step-up," while consumer spending, in turn, responded strongly to increased defense and plant and equipment expenditures.

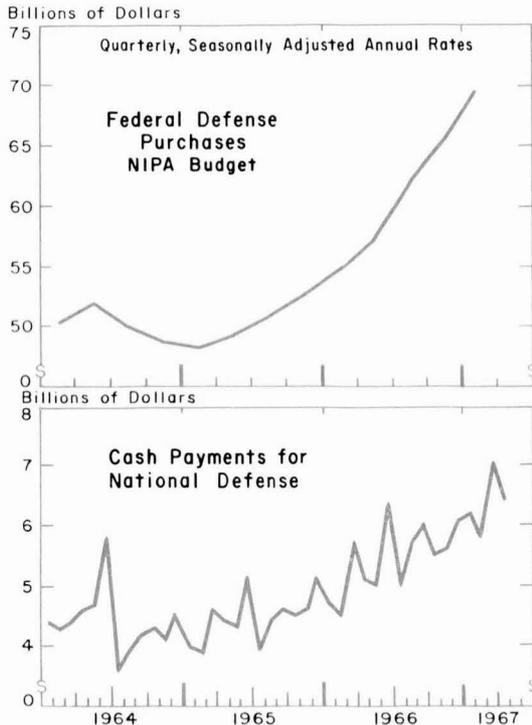
It may therefore be informative to trace the performance of certain indicators of defense orders, defense production, and defense expenditure during the past few years, concentrating on events since the beginning of fiscal 1966. The series examined here are taken from sources that are readily available and general in nature, such as the *Survey of Current Business*, the *Treasury Bulletin*, the *Federal Reserve Bulletin*, *Business Cycle Developments*, and the Bureau of the Census release on manufacturers' orders, shipments, and inventories. For further detail and refinement on these matters, one may turn to sources such as the

<sup>11</sup>Scherer, p. 688.

<sup>12</sup>Weidenbaum, "The Federal Government Spending Process," p. 505.

**Chart 2**

**FEDERAL GOVERNMENT PURCHASES OF GOODS AND SERVICES FOR NATIONAL DEFENSE; AND CASH PAYMENTS TO THE PUBLIC FOR NATIONAL DEFENSE, 1964-67**



SOURCES: U. S. Department of Commerce, *Survey of Current Business*, and the *Federal Reserve Bulletin*.

Department of Defense *Monthly Report on Status of Funds*, the Department of the Treasury *Monthly Statement of Receipts and Expenditures of the United States Government*, as well as the Treasury's experimental release on gross obligations incurred.

Perhaps the most familiar series on defense spending is Federal purchases of goods and services for defense purposes, a category within the NIPA budget showing the value of current output purchased by the Federal Government for national defense (Chart 2). Since it is constructed to be consistent with the national income accounts framework, expendi-

tures are recorded upon delivery of the items purchased, which gives rise to a lag between defense expenditures on the one hand and defense orders and production (and thus the economic impact of military activity) on the other. Defense purchases of goods and services at a seasonally adjusted annual rate declined through the first 3 quarters of fiscal 1965, then rose at a fairly steady rate for the next 5 quarters, and increased more rapidly yet in the first 3 quarters of fiscal 1967. From these data, it might be inferred that increasing Federal military activity did not have an economic impact until the fourth quarter of fiscal 1965, and that the rate of impact became significantly greater in fiscal 1967.

Data on Federal cash payments to the public for the national defense function are also shown in Chart 2. This alternative presentation of defense expenditures is not comparable to the purchases data, first, because it is in monthly totals, not seasonally adjusted, and second, because it is cash budget data, and therefore recorded on a payments basis rather than a delivery basis. Progress payments on defense contracts, which range around 70 to 75 per cent of a contract's total amount, are included in the cash budget data. Though both seasonal and irregular fluctuations are apparent, the overall movement of cash payments for national defense has been steadily upward since the beginning of fiscal 1965.

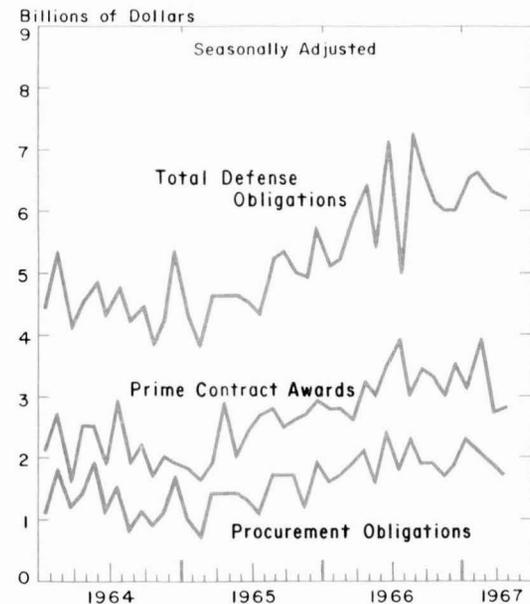
Although the inclusion of progress payments makes the cash budget data coincide somewhat more closely with defense production, it does not solve the problem of the lag between obligations and expenditures. It is still useful to look at the available data on defense obligations and military prime contract awards. Obligations, or commitments to purchase goods and services, are represented in Chart 3 in two series: procurement obligations and total defense obligations. Procurement includes the acquisition of equipment such as aircraft, ships, and combat vehicles, and of ammunition. Total

defense obligations also include research and development activities, as well as compensation of personnel and other items. Among the problems involved in using obligations data are double-counting arising from such things as contracts between the services, and the sometimes erratic behavior of the series as obligations are shifted about within a fiscal year.

The data in Chart 3 are seasonally adjusted by the Bureau of the Census before publication. After declining briefly from a sharp peak registered in December 1964, both total obligations and procurement obligations rose until about the end of fiscal 1966. Since that time, their movement may be described as stable-to-slightly-declining. That is, commitments to purchase goods and services for defense, including military hardware, apparently have leveled off on a high plateau.

**Chart 3**

**TOTAL DEFENSE DEPARTMENT OBLIGATIONS, DEFENSE DEPARTMENT PROCUREMENT OBLIGATIONS, AND MILITARY PRIME CONTRACT AWARDS TO U.S. BUSINESS FIRMS, SEASONALLY ADJUSTED, 1964-67**



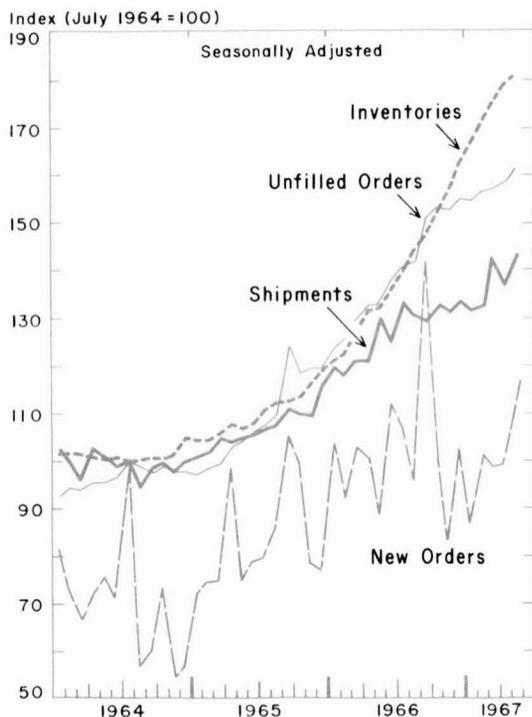
SOURCE: Bureau of the Census, *Business Cycle Developments*.

The third series appearing in Chart 3, military prime contract awards to U.S. business firms, avoids some of the problems of the obligations series mentioned above but at the same time itself has some problems of coverage, *e.g.*, the absence of purchases from foreign firms and domestic nonprofit institutions, and contracts or orders with U. S. private business excluded from the series for various reasons. In general, the performance of the contract awards series has been much like that of the obligations series, with the rising movement beginning in the spring of 1965 and an apparent leveling off beginning with the first months of fiscal 1967.

The Bureau of the Census includes a defense products grouping consisting of the aircraft and aircraft parts, communications equipment, and ordnance industries in its monthly publication of survey results concerning manufacturers' orders, shipments, and inventories. Since these series are on an industry basis, they include data for both civilian and military uses and therefore do not reflect purely defense information. The seasonally adjusted series on new orders, shipments, unfilled orders, and inventories of the defense products industries are presented in Chart 4 as indexes with the first month of fiscal 1965 equal to 100, and in Table 3 in actual dollar amounts.

In spite of the differences in coverage, the new orders series is seen to have performed in an over-all manner similar to the obligations and contract awards series since the middle of fiscal 1965. The other three series in Chart 4 have moved relatively more smoothly than the widely fluctuating new orders series and its close relatives in Chart 3. In fiscal 1965, shipments, unfilled orders, and inventories of defense products rose only moderately. From July 1964 to July 1965, shipments increased by 6.3 per cent, unfilled orders by 7 per cent, and inventories by 10.7 per cent. Following the sharp change in the military situation in mid-1965, defense commitments expanded rapid-

**Chart 4**  
**MANUFACTURERS' SHIPMENTS, INVENTORIES,**  
**AND ORDERS, DEFENSE PRODUCTS**  
**INDUSTRIES, SEASONALLY ADJUSTED, 1964-67**



SOURCE: Bureau of the Census, *Current Industrial Reports*.

ly. As a result, unfilled orders (production backlogs) also increased sharply in fiscal 1966 (July 1965 to July 1966), rising by 31.1 per cent. The increase in shipments did not keep pace, although going up by 24.5 per cent; and inventories also rose by 25.9 per cent. (Inventories of the defense products industries are made up almost wholly of materials and goods in process. It has been estimated, for example, that at the end of April 1967 more than 95 per cent of the inventories held by manufacturers in the defense products industries were materials and supplies or work in process.)

Both shipments and unfilled orders of the defense products industries have tended to respond to the leveling off of defense obligations,

contracts, and new orders that has occurred in fiscal 1967, with shipments appearing to have leveled off earlier than unfilled orders. Defense products inventories, however, have con-

**Table 3**  
**VALUE OF MANUFACTURERS' SHIPMENTS,**  
**INVENTORIES, AND ORDERS,\***  
**DEFENSE PRODUCTS INDUSTRIES†**  
**JANUARY 1964-APRIL 1967**  
 (Billions of dollars)

Date	New Orders	Shipments	Unfilled Orders	Inventories
1964—January	2.7	2.2	19.1	5.5
February	2.4	2.2	19.4	5.5
March	2.2	2.1	19.4	5.4
April	2.4	2.2	19.6	5.4
May	2.5	2.2	19.7	5.4
June	2.3	2.2	19.8	5.4
July	3.3	2.2	20.6	5.4
August	1.9	2.1	20.3	5.4
September	2.0	2.2	20.1	5.4
October	2.4	2.2	20.4	5.4
November	1.8	2.1	20.0	5.4
December	1.9	2.2	20.0	5.6
1965—January	2.4	2.2	20.0	5.6
February	2.4	2.2	20.3	5.6
March	2.5	2.3	20.5	5.7
April	3.2	2.2	21.4	5.8
May	2.5	2.3	21.4	5.7
June	2.6	2.3	21.7	5.8
July	2.6	2.3	22.0	6.0
August	2.8	2.3	22.5	6.0
September	3.4	2.4	25.5	6.0
October	3.3	2.4	24.4	6.1
November	2.6	2.4	24.6	6.3
December	2.5	2.5	24.6	6.4
1966—January	3.4	2.6	25.4	6.5
February	3.0	2.6	25.8	6.6
March	3.4	2.6	26.6	6.8
April	3.3	2.6	27.2	7.1
May	2.9	2.8	27.3	7.1
June	3.7	2.7	28.3	7.3
July	3.5	2.9	28.9	7.5
August	3.2	2.8	29.2	7.7
September	4.7	2.8	31.0	7.9
October	3.3	2.9	31.4	8.2
November	2.7	2.9	31.3	8.5
December	3.4	2.9	31.8	8.7
1967—January	2.8	2.9	31.7	9.0
February	3.3	2.9	32.2	9.2
March	3.2	3.1	32.3	9.4
April	3.3	3.0	32.6	9.6
May	3.9	3.2	33.3	9.7

\*All data are seasonally adjusted.

†Communications equipment, complete aircraft, aircraft parts, and ordnance.

SOURCE: Bureau of the Census, *Current Industrial Reports*.

tinued to climb steadily through May 1967. From July 1966 through May 1967 shipments rose only 6.9 per cent, unfilled orders 15.2 per cent, and inventories 29.3 per cent.

The pressure of excess demand on capacity in the defense products industries, where capacity is shared between military and civilian output, may be examined by use of the ratio of unfilled orders to shipments. This ratio was virtually the same at the end of fiscal 1965 as at its beginning. From July 1965 to July 1966, the ratio increased by about 5 per cent, while the same ratio for all durable goods rose by about 19 per cent. From July 1966 to April 1967, however, the increase for the defense products ratio (7 per cent) was greater than that for all durables (5 per cent). But as Chart 5 shows, the ratio for defense products has been moving sidewise-to-downward since September 1966.

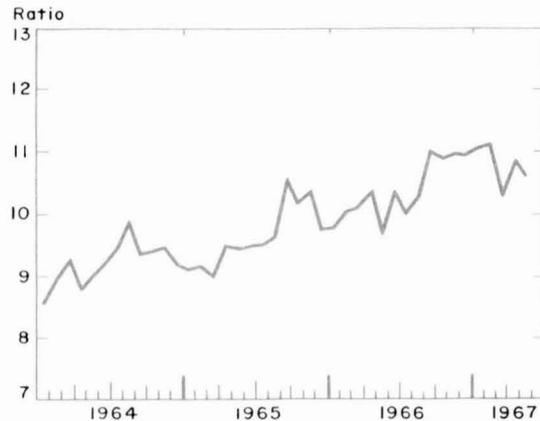
#### SUMMARY

In recent years, military programs have been a particularly significant part of the total impact of Federal action on the economy. At the same time, those programs are prime examples of the lag between the initial impact of a program and its eventual appearance in the familiar measures of Federal spending. Data presented in Charts 2 through 5 illustrate some of the relationships involved, especially for the period since the beginning of fiscal 1967 (July 1966). The series showing commitments to purchase—here, obligations and contract awards in Chart 3 and new orders in Chart 4—are the first to reflect changes in programs. After reaching very high levels in the opening months of fiscal 1967, they have tended to exhibit sidewise-to-downward movements since early fall.

The next stage in the total process may be called the production stage, in which shipments of output are made. As pressures on capacity mount, backlogs of unfilled orders increase and the ratio of unfilled orders to shipments rises.

Chart 5

#### RATIO OF MANUFACTURERS' UNFILLED ORDERS TO SHIPMENTS, DEFENSE PRODUCTS INDUSTRIES 1964-67



SOURCE: Bureau of the Census, *Current Industrial Reports*.

But as production catches up with commitments, backlogs cease to rise as rapidly and the unfilled orders-shipments ratio tends to level off. Again, data for fiscal 1967 show unfilled orders and shipments still increasing, but at a comparatively subdued pace, and the ratio between them showing little increase and, most recently, some decline.

Even though new orders virtually have stopped increasing and unfilled orders are growing at a slower rate, there is still a sizable amount of output in the defense products pipeline. Thus inventories, composed mainly of materials and goods in process, had not (as of May 1967) ceased the rapid growth of the prior 18 months. In this respect, the behavior of defense products inventories looks much like that of Federal expenditures for defense in the NIPA budget, where they are recorded on a delivery basis—the end point of the Federal expenditure process. Defense spending so recorded (Chart 2) has continued to rise

strongly through the first 3 quarters of fiscal 1967.

Thus, the lack of congruence between these measures of defense activity, and the desirability of not depending on any one of them by itself in current business analysis, seems well illustrated by their performance in fiscal 1967. To put it more succinctly: commitments have leveled off, shipments and backlogs have reduced their rate of increase, while inventories and recorded expenditures have continued to grow at least as rapidly as in the immediately preceding year.

#### POSTSCRIPT

While this article was in preparation, two especially important developments occurred of

interest to those concerned with the impact on the economy of Federal programs, especially defense programs. The first is the publication of *Economic Effect of Vietnam Spending, Volume I: Statements of Witnesses and Supporting Materials, Hearings before the Joint Economic Committee*, a compilation of reports and testimony by experts both inside and outside the Federal Government. The second is the announcement of the issue by the Department of Defense of a new monthly report entitled *Selected Defense Department Indicators*. The new report is intended to provide a regular monthly compilation of economic data to permit better assessment of the impact of defense programs on the economy. The first issue was released on June 30, 1967.

# Deposit Variability

## At Commercial Banks

By *Frederick M. Struble*  
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CHANGES IN bank liquidity conditions during the current business expansion begun in early 1962 have been difficult to assess fully. There is no doubt about what has happened to asset liquidity positions at most banks. Clearly they have declined. Rather there is uncertainty and disagreement over what has happened to the variability of deposits at most banks—a principal determinant of bank liquidity requirements. Uncertainty exists primarily because of differences of opinion about the effect that shifts in deposit composition, which occurred coincidentally with the changes in asset composition, had on the variability of total deposits at most banks.

Growth of time and savings deposits far surpassed that of demand deposits at banks over this period, resulting in a marked increase in the ratio of total time and savings deposits to total deposits. Traditionally, this type of shift in deposit composition has been viewed as reducing the variability of total deposits, since demand deposits have generally been thought to be more variable than time and savings deposits. This assumption has never been conclusively established empirically, however, so that it is open to some question. This is particularly true with regard to the nature of the recent growth in time and savings deposits,

for a considerable part of it was in the form of time deposits—and at large banks in large certificates of deposit—rather than savings deposits. Whether time deposits, as opposed to savings deposits, are less variable than demand deposits is especially in doubt. Moreover, even if both time and savings deposits were less variable than demand deposits at the start of this period and remained so throughout, it does not follow necessarily that the variability of total deposits must have declined. The variabilities of both total demand deposits and total time and savings deposits may have trended upward over this period. In addition, the timing of inflows and outflows into each of these major deposit categories may have been altered so that they became more reinforcing—therefore contributing to greater variability—rather than offsetting. Thus it is conceivable that the shift in deposit composition may have tended to reduce the variability of total deposits, but that other developments may have been sufficiently strong to more than offset this tendency.

To date, the most obvious way to resolve this uncertainty—by examining actual changes in deposit variability—has been essentially precluded. Data indicating the fluctuations in deposits at large groups of banks are unsuitable

for this purpose, since they do not reflect shifts in deposit balances among banks, an important source of deposit instability at individual banks. What is required is a measure of deposit fluctuations at individual banks which may then be averaged in order to gain an impression of the general experience of banks with this problem. Available data of this kind are confined to that presented in but a few recent empirical studies, which were all quite limited in scope. Moreover, none of these studies examined year-to-year changes in deposit variability.

The main purpose of this article is to supply a part of these needed facts. Evidence indicating the variability of deposits at a large number of member banks in the Tenth Federal Reserve District over the six-year period, 1961-66, is presented. In order to point up the nature of the problem, however, consideration will first be given to certain theoretical issues and the results of recent empirical studies bearing on these issues.

#### THEORETICAL ISSUES AND RECENT EMPIRICAL EVIDENCE BEARING ON THEM

Three assumptions are implicit in the position that the increase in the ratio of total time and savings deposits to total deposits reduced the variability of total deposits. The first of these is that the variability of total time and savings deposits was below that for demand deposits prior to the change in deposit composition and that the difference between these variabilities remained essentially unchanged after the shift in deposit composition occurred. The second assumption is that the variabilities of both deposit categories remained essentially unchanged over this period or at least did not increase sufficiently to more than offset any effects of change in composition. Finally, there is the assumption that the relationship of the timing and direction of fluctuation in these two major categories—as opposed to their magnitude—did not change materially.

The validity of the first assumption is most crucial to this position, since upon it rests the proposition that an increase in the proportion of time and savings deposits will *tend* to reduce the variability of total deposits. The final two assumptions, on the other hand, are only partly connected with the hypothesis about the effects of a shift in deposit composition. That is, while it is possible that the process of change in deposit composition may have a consistent effect on the level of variabilities of both demand and time accounts or on the timing between their outflows and inflows, other factors may also influence these relationships. Therefore, it is possible that the shift in deposit composition may tend to reduce the variability of total deposits but this tendency may not be apparent because of coincidental changes in other conditions. Instead, all that may happen is that the level of total deposit variability is held to a lower level than it would have been if the change in deposit composition had not occurred.

The assumption that demand deposits are more variable than time and savings deposits has been questioned recently on *a priori* grounds. Objection has been voiced to the long-standing contention that because demand deposits have a higher turnover rate they must necessarily be subject to greater degrees of variation. It has been pointed out that the turnover rate of a deposit category—the ratio of total debits over some period of time to the average deposit balance over this period—is but one factor determining its variability. Equally important is the relationship between the timing and relative magnitude of debits and credits to these accounts. It is possible, for example, that a deposit category may have a relatively high turnover rate and yet have a relatively low degree of variability, if debits (withdrawals) are simultaneously offset by credits (inflows) of approximately equal magnitude. Thus, to establish that demand deposits are more variable than time and savings de-

posits, it is necessary to examine directly the actual variability of these two major deposit categories.

Recent empirical investigations focusing on actual fluctuations in the two deposit categories do tend to support the assumption that demand accounts are more variable than total time and savings accounts.<sup>1</sup> The evidence presented in each of these studies, however, was obtained from an examination of deposit fluctuations for a small sample of banks over a comparatively short period of time. Consequently, this evidence must be viewed as providing tentative rather than conclusive support for the assumption.

This is particularly true with regard to the question of whether various types of time deposits, as opposed to savings deposits, are actually less unstable than demand deposits. In the one study which examined this question it was found that fluctuations in time deposits were roughly four times as great as those for savings deposits and that large negotiable certificates of deposit fluctuated about five times as much as savings deposits.<sup>2</sup> In addition, the evidence presented in this study indicated that increases in the proportion of either certificates of deposit or other types of time deposits did not reduce total deposit variability. These results would suggest that, at the very least, the recent increase in the proportion of time deposits in total time and savings deposits may have increased the variability of this category. Assuming for the moment that this did occur and that at the same time the variability of

demand deposits remained unchanged, it follows that the effects of the increase in the proportion of total time and savings deposits on the variability of total deposits would have become progressively smaller with the passage of time.

Changes in other conditions also may have brought about an increase in the variability of total demand deposits as well as total time and savings deposits, thereby offsetting the tendency for the variability of total deposits to decline. For example, the more competitive involvement of banks in the market for financial savings, which made possible the rapid growth in time and savings deposits, may have increased their vulnerability to deposit losses. This would occur when changes in other financial markets increased the attractiveness of competing forms of financial assets. Moreover, transfers from demand accounts in order to take advantage of the enhanced earnings on time accounts tend to reduce the level of idle balances held in demand accounts, thereby increasing their variability. And apart from the possible influence of this development, it is possible that the postwar trend toward economizing on the level of idle funds may have continued over the period.

The third assumption implicit in the position that the shift in deposit composition reduced the variability of total deposits in recent years is concerned with the relationship between the timing and direction of changes of demand deposits on the one hand and the timing and direction of changes in total time and savings deposits on the other. The variability of total deposits at a bank need not be equal to a weighted average of the variabilities of its demand accounts and time and savings accounts. Indeed, it is highly probable that it is decidedly less than such an average.

A simplified example will help to illustrate this point. Assume that at the start of a year the total deposits of a bank are divided equally between demand deposits and time deposits

<sup>1</sup>See George R. Morrison and Richard T. Selden, *Time Deposit Growth and the Employment of Bank Funds*, published by the Association of Reserve City Bankers (Chicago, 1965), chap. ii; C. Rangarajan, "Deposit Variability in Individual Banks," *The National Banking Review*, Vol. 4, No. 1 (September 1966), pp. 61-71; and Donald R. Fraser, "A Note on Deposit Instability," *Business Review* of the Federal Reserve Bank of Dallas (March 1967), pp. 3-7.

<sup>2</sup>*Ibid.*, Morrison and Selden.

and that no change occurs in this composition over the year; further assume that during this year the average weekly variation in total demand deposits is 4 per cent and for total time and savings deposits is 2 per cent. If variations in the level of each deposit category coincide in each week with regard to direction and timing, then the average weekly variation in total deposits for the year would be equal to a weighted average of the variation in each deposit category—i.e., 3 per cent. On the other hand, if the weekly variations in each deposit category coincide precisely with regard to timing but move in opposite directions, then the average weekly variation in total deposits would be only 2 per cent.

This example does no more than give an intuitive understanding of the point and is far from representative of actual conditions. The actual relationship between the direction and timing of changes in total demand deposits and the direction and timing of changes in total time and savings deposits is no doubt much more complex. That is, the flows into and out of each of the deposit categories may at times be reinforcing and at other times offsetting. What is important to recognize, however, is that the variability of total deposits is influenced not only by the composition of demand and time accounts and their relative variabilities, but also by the relationship between the timing and magnitude of the fluctuations in these subcategories. This point leads to the following important conclusion: Even if total time and savings deposits are subject to less fluctuation than total demand deposits, an increase in the proportion of these less variable deposits may not reduce the variability of total deposits, if coincidentally the fluctuations of each of these subcategories of deposits become less offsetting. Whether the synchronization between demand and time deposit flows did change over the period under consideration, and change in such a way that it tended to increase the variability of total deposits, is an

empirical question and must be answered by referring to the facts.

#### DATA AND TECHNIQUE

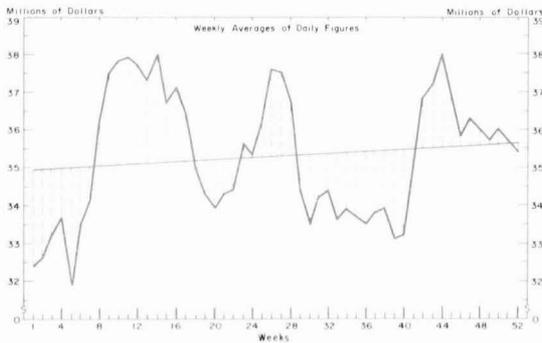
In order to provide part of the empirical information needed to resolve these issues, an examination was made of deposit fluctuations experienced by virtually all member banks in the Tenth Federal Reserve District over the six-year period, 1961-66.<sup>3</sup> The first step in this investigation entailed developing a procedure for obtaining a measure of the average yearly variation in total deposits, total demand deposits, and total time and savings deposits. The measure was designed to capture the influence of all factors causing deposits to vary over a year except deposit growth. This procedure was applied separately to the deposit data of each bank and an index of these measures was then constructed.

Since the procedure for measuring deposit variation at individual banks differs from procedures employed in other recent studies of this question, a more detailed discussion of its characteristics is in order. The fluctuating line on Chart 1 provides an example of the actual week-to-week variation in the level of a given deposit category over one year. Part of the total variation occurring over this year was quite clearly due to growth. By fitting a trend (or growth) line to this data, a more precise reflection of the effects of this factor on the level of deposits in any given week can be gained. The differences between the values on this growth line and the actual deposit levels in each week can be assumed to reflect that portion of the total variation over the year caused by all factors except growth. In order to obtain a measure indicating the average weekly fluctuation in deposits attributable to these factors, the per cent difference between the actual deposit value and

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<sup>3</sup>Only those banks organized during this period and a few other banks subject to unusual circumstances were excluded.

**Chart 1**  
**EXAMPLE OF WEEKLY DEPOSIT**  
**FLUCTUATIONS AT AN INDIVIDUAL BANK**



the trend value in each week of the year was calculated. These per cent differences were then summed without regard to sign and averaged.

Since the differences between actual deposit values and the values on the growth (trend) line were computed in percentage terms rather than absolute terms, this measure of variability is comparable among banks whose average deposits over a year were decidedly different in size. In addition, elimination of the effects of growth makes the measure more comparable among different deposit categories subject to different growth rates. The failure to eliminate the effects of growth on deposit variability would mean, for example, that the measured variability of total time and savings deposits would be substantially inflated relative to the variability of demand deposits, because of the much greater rate of growth in time and savings deposits over this period.

**CHANGES IN DEPOSIT VARIABILITY,  
 1961-66**

Table 1 presents the index of measured variability of total deposits at District member banks for each year from 1961 through 1966. This data suggests that some reduction in the variability of total deposits did occur over this period—the index for 1966 was roughly 12

per cent below that for 1961. Moreover, it appears that the change in deposit composition which took place over this period was in part responsible for this decline. The index of demand deposit variability exceeded that for time and savings deposits in each year of this period, while the ratio of demand deposits to total deposits declined steadily. However, the relationship between year-to-year changes in the composition of total deposits and the variability of these deposits is not particularly close. More specifically, the index of total deposit variability remained unchanged in the four middle years of the period even though the ratio of demand deposits to total deposits declined in each of these years.

The failure of the variability of total deposits to vary systematically with changes in the composition of these deposits appears to be attributable partly to the behavior of demand and time and savings deposit variability during these years. Year-to-year changes in the variability of each of these deposit categories tended to reinforce the effects of the deposit composition shift in some years of this period and to offset the effects of the shift in deposit composition in others. For example, the drop in demand deposit variability in 1962 tended to complement the effect of the change in total deposit composition in this year. In contrast, increases in the variability of demand deposits in 1963 and 1965 acted to offset the effects of the decline in the proportion of these ac-

**Table 1**  
**INDEX OF DEPOSIT VARIABILITY**  
**AND RATIO OF TOTAL DEMAND DEPOSITS**  
**TO TOTAL DEPOSITS\***  
**TENTH DISTRICT MEMBER BANKS, 1961-66**

	1961	1962	1963	1964	1965	1966
Variability:						
Total Deposits	3.3	3.0	3.0	3.0	3.0	2.9
Variability:						
Total Demand Deposits	4.3	4.2	4.3	4.3	4.5	4.4
Variability:						
Total Time Deposits	2.5	2.5	2.1	1.9	2.0	2.2
Demand/Total Deposits	74.0	70.0	68.0	66.0	64.0	60.0

\*Indexes are averages of individual bank measures.

counts in total deposits. Viewing the period as a whole, it can be seen that the variabilities of total demand deposits in 1965 and 1966 were above those in earlier years, so that on net balance developments in the variability of demand deposits tended to moderate the decline in total deposit variability for the entire period.

Changes in the variability of total time and savings deposits also appear to have had mixed effects on the variability of total deposits over the period. It will be noted that a comparatively sharp decline occurred in the index of variability of these accounts in 1963 and this was followed by a further moderate decline in 1964. However, these two years of decline were followed by two years of moderate advance, so that the effects of the initial decline in the variability of total time and savings deposits on total deposits were offset in part by the increases in the variability of total time and savings deposits in the latter years of the period. For the entire period, the variability of total time and savings deposits was down about 12 per cent. Thus the decline in total deposit variability for the period as a whole appears to have been caused not only by the increase in the proportion of total time and savings deposits in total deposits but also by a decline in the variability of these accounts.

In addition to these two factors, the evidence also suggests that the synchronization of flows into and out of demand and time and savings deposits did not remain unchanged over this period. Perhaps the clearest indication of this is that the variability of total deposits did not change between 1963 and 1964 even though the ratio of demand to total deposits dropped from 68 per cent to 66 per cent, the variability of total time deposits fell from 2.1 per cent to 1.9 per cent, while the variability of total demand deposits remained unchanged. Taken together, these developments would tend to reduce the variability of total deposits. The fact that the variability of total deposits re-

mained unchanged, therefore, indicates that flows in and out of total time and savings deposits had less of a tendency to offset fluctuations in demand deposits. Or, to view the same point for the period as a whole, it will be observed that between 1961 and 1966 (a) the ratio of demand to total deposits declined 19 per cent, (b) the variability of total time and savings deposits dropped 12 per cent, and (c) the variability of total demand deposits increased by just over 2 per cent. Had the tendency of time and savings deposit flows to offset demand deposit flows remained unchanged over this period, it appears that the net effect of these three developments would have brought about a greater reduction in total deposit variability than the 12 per cent decline which actually occurred.

Perhaps the most surprising aspect of the findings discussed above is the year-to-year behavior of the variabilities of demand deposits and time and savings deposits. The changes in the variability of each of these deposit categories did not conform very closely to what one would expect on the basis of discussion in an earlier section of this article. First, although the variability of demand deposits was higher in both 1965 and 1966 than in earlier years of the period, the difference was quite moderate. Moreover, the variability of these deposits was less in 1966 than in 1965. Evidently any shift of idle demand balances into time and savings deposits which may have taken place was either quite moderate or the influence of this development on the variability of total demand balances must have been offset by other conditions tending to reduce the variability of these accounts.

Even more surprising were the developments in the variability of total time and savings deposits. The variability of these deposits was less in 1966 than in either 1961 or 1962. This drop occurred even though the proportion of savings deposits in total time and savings deposits declined from 77 per cent in 1961 to

**Table 2**  
**VARIABILITY OF DEPOSITS AT 40 WEEKLY**  
**REPORTING BANKS**

	Index of Variability (Per Cent)	
	1965	1966
Total Deposits	2.8	3.0
Total Demand Deposits	4.1	4.3
Total Time and Savings Deposits	2.0	2.5
Savings	1.1	1.7
Time (excluding CD's)	6.2	9.7
Negotiable CD's (\$100,000 and over)	12.2	11.7

50 per cent in 1966. In fact, during the four-year period ending in 1964, the ratio of savings deposits to total time and savings deposits declined from 77 per cent to 60 per cent and, at the same time, the variability of total time and savings deposits fell from 2.5 per cent to 1.9 per cent. Only in the final two-year period did the change in deposit composition have the effects that one would expect based upon the assumption that savings deposits are subject to less variation than time deposits.

The failure of the variability of total time and savings deposits to vary systematically with the shift in their composition does not appear to be due to a fallacy in assumptions about the relative variability of these accounts, however. As mentioned earlier, the findings of a previous investigation rather clearly indicated that time deposits, and CD's in particular, were decidedly more variable than savings deposits. Deposit data provided by all member banks in the District did not break out the various subcategories of total time and savings deposits until mid-1966, and, therefore, the relative variabilities of these different deposit categories could not be estimated with this data. Some attempt was made, however, to check the previous findings by examining the relative variabilities of these different deposit categories at 40 weekly reporting banks in the District, since the data supplied by these banks is in a form which permits these estimations. The results of this examination, presented in Table 2, suggest quite clearly that the vari-

ability of passbook savings accounts was substantially below the variability of time deposits (excluding large certificates of deposit) in both 1965 and 1966, and that the variability of CD's exceeded that of other time deposits in each of these years.

Since this evidence reflects the experience of only a very small sample of banks over but a two-year period, it must be accepted with caution. Particularly so, since the measured variability of both CD's and other time deposits appears to be exceptionally high. Both were substantially above the variability of total demand deposits at this group of banks in these two years. However, since the order of variability among the three components of total time and savings deposits not only conforms with previous findings but is also consistent with generally held opinion, it appears safe to accept this evidence as indicating the order, if not the relative magnitude, of differences in variability among these deposit categories.

Since the behavior of the variability of total time and savings deposits did not conform to what would be expected on the basis of this evidence, some consideration of the reason for this seems to be in order. Although the evidence available is in no way sufficient to permit an entirely convincing explanation, the following one does seem reasonable. The drop in time and savings deposit variability over the early years of the period may have been caused by the relaxation of the maximum allowable rates payable on time and savings deposits permitted under Regulation Q and the subsequent advances in the rates by banks. This improved competitive position of banks may not only have brought about a substantial growth in time and savings deposits but also may have reduced the degree of fluctuation around this growth trend. Thus the down-trend in variability between 1961 and 1964 presumably is explainable in part by the advance in rates paid by banks on their time and savings accounts vis-a-vis the rates being

offered on competing forms of financial assets. Evidently this condition was sufficiently predominant to more than offset the influence of the shift in the composition of total time and savings deposits.

If this explanation is close to the mark, then it also may help to explain why the variability in these deposits began to increase in 1965 and 1966. In these two years, particularly 1966, competition for the savings of businesses and consumers increased sharply, as interest rates on other forms of financial assets—especially those sold in the open market—increased markedly. This increased competition may have affected the stability of existing deposit balances at commercial banks, inducing many depositors to shift in and out of these accounts as the comparative advantages of time and savings deposits vis-a-vis other forms of financial assets changed over the period. In short, the effects of this development reinforced the shift in composition of deposits from savings to time accounts in the latter years of the period.

#### SUMMARY AND CONCLUSION

The evidence presented in this paper suggests that the variability of total deposits declined at most banks in the Tenth Federal Reserve District over the six-year period 1961-66. Whether this reflects the experience of most banks in the country is not entirely clear, however. In judging how representative these findings are one should consider that the great majority of the banks included in this study are small, nonmoney market banks. More specifically, only 20 of the banks have deposit holdings exceeding \$100 million, and in all probability only these banks are subject to the competitive conditions experienced by large

banks throughout the country. Moreover, only this small number of banks issue large CD's. However, since conditions affecting the variability of total deposits at most banks in the country were at least roughly similar to those affecting the variability of total deposits at Tenth District banks, this evidence does provide some support for the assertion that the variability of total deposits did decline generally at most banks over the period.

The evidence obtained in this study also supports the assertion that the recent increase in the ratio of total time and savings deposits to total deposits was at least partly responsible for the decline in total deposit variability. This support is derived not only from the finding that the variability of total deposits did decline over this period but also from the evidence indicating that demand deposits were subject to substantially more variation than total time and savings deposits in each year of the period. Or to put this differently, the evidence suggests that if all other conditions are held constant, an increase in the proportion of total time and savings deposits will reduce the variability of total deposits.

A further indication of the evidence, however, is that all other conditions did not remain constant over this period. Changes in these other conditions affected the variabilities of both total demand deposits and total time and savings deposits as well as the synchronization of flows between them. In some cases this tended to reduce the variability of total deposits and in others to increase it. This observation has important implications for future consideration of deposit variability issues, for it indicates that judgments about changes in the variability of total deposits based on information about deposit composition alone can easily be quite misleading.

