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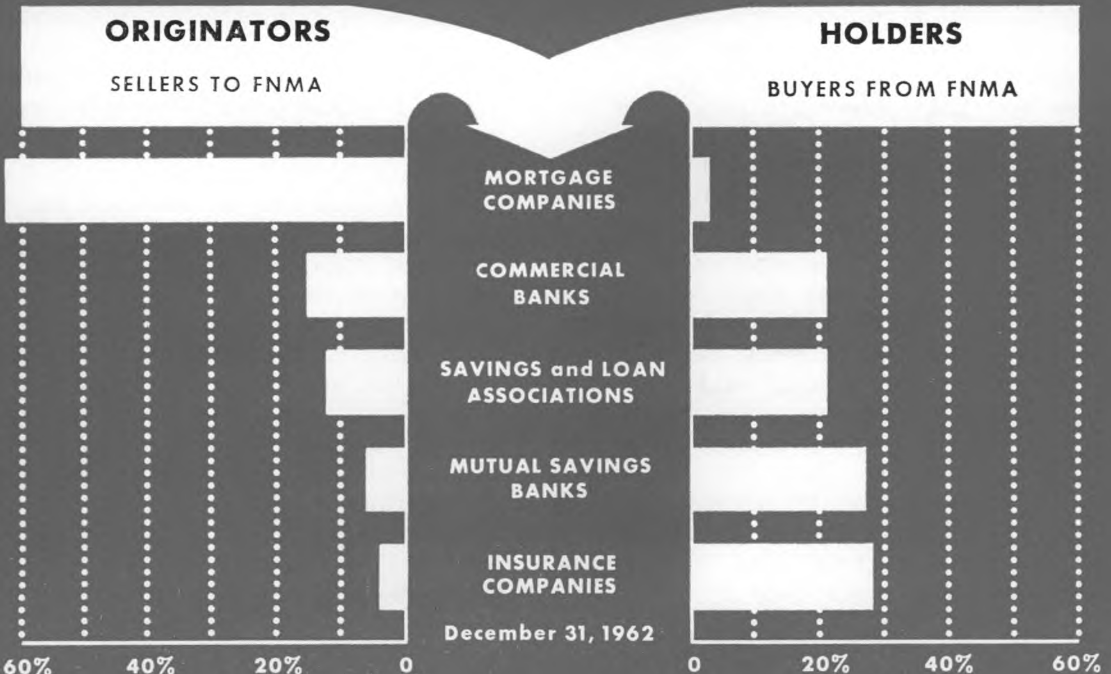
IN THIS ISSUE

"Fannie Mae" In The Secondary Mortgage Market 2
Notes on Federal Reserve Publications 9
Dairy Farmer Indebtedness 10



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"Fannie Mae" In The Secondary Mortgage Market

SECONDARY markets involve the resale of financial instruments after their original issue. The markets vary in size, type of instrument traded, and nature of the buyers and sellers. Financial lending institutions have been active in certain markets for a number of reasons. For example, by means of a secondary market, lending institutions can increase their liquidity, i.e., their ability to convert different kinds of assets into cash quickly and without large capital losses.

A secondary market for particular investments enhances their marketability in that the securities can compete more equitably for available funds with other types of investments which also have existing secondary markets. U. S. Government securities and corporate bonds, for example, have well-established secondary markets. These securities are traded through a nation-wide network of brokers and dealers who make markets by quoting a bid price at which securities will be purchased and an offering price at which they will be sold.

The residential mortgage market, which constitutes the largest single demand for funds in the capital market, has no similarly-organized secondary market. Basically, this is because lending to home builders and buyers is inherently a highly individualized process, unlike lending to the U.S. Government and to corporations. Home construction and purchase are financed by conventional credit and by mortgages insured by the Federal Housing Administration and the Veterans' Administration. Since there are wide variations in both the credit-worthiness of mortgage borrowers and their loan collateral, conventional mortgages (which comprise the bulk of home mortgage credit) are financed primarily by lending institutions in local areas. An organized secondary market for these mortgages has not developed largely because of the individualized nature of the loan agreements.

On the other hand, the financing of government-insured mortgages (which comprise two-fifths of total residential credit outstanding) contrasts markedly with the financing of conventional mortgages. FHA-insured and VA-guaranteed mortgages must meet certain standards defined by law, thereby imparting a measure of uniformity or homogeneity to the securities. This uniformity enhances the trading of government-insured mortgages among investors beyond the local area in which the loans originate.

Although there is no network of dealers making a market for FHA-insured and VA-guaranteed mortgages, the Federal National Mortgage Association (FNMA), a constituent agency of the Housing and Home Finance Agency, provides a secondary market facility for trading government-insured mortgages. The FNMA, or "Fannie Mae" as the agency is facetiously called, was initially chartered in 1938 to support the FHA program which was started four years earlier. Subsequent recharterings in 1948 and in 1954 attempted to define the function of the FNMA more adequately in terms of the needs of governmental housing programs. Thus, support of

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the VA mortgage program was added to its functions in 1948. From 1948 to 1954 Fannie Mae purchased government-insured mortgages primarily in order to support special housing programs of the FHA and VA.

The most recent reorganization of Fannie Mae stemmed from the Housing Act of 1954. The principal objective as it now exists is to provide a secondary market facility for making government-insured mortgages more liquid. This purpose is to be accomplished by buying government-insured mortgages when mortgage funds in general are scarce and, alternatively, selling from the FNMA portfolio when there is a demand for mortgage investments. In addition, through "buy and sell" activity, Fannie Mae attempts to effect transfers of mortgage funds from areas where capital is plentiful, e.g., the Northeastern section of the country, to capital-short areas, e.g., the Western section of the United States.

In the initial years following the most recent reorganization, a number of comments and criticisms arose concerning the ability of Fannie Mae to implement its principal objective of a secondary mortgage market. In view of the fact that in those years Fannie Mae seldom sold mortgages, many observers maintained that the Association was actually a primary or long-term lender rather than the force behind an effective secondary market for trading mortgages among institutions. Secondly, critics held that, given the framework within which the FNMA operated, its activity was inherently conflicting with general credit policy and thus with overall stability in the economy. Finally, doubts were expressed as to whether Fannie Mae would become entirely privately-owned and financed according to the means established in the charter.

An understanding of these issues in light of the recent operations of Fannie Mae and the factors which influence these operations may provide perspective for an appraisal of current trends. Recent activity of the FNMA has shown a pattern which is in marked contrast to the period immediately following the reorganization of 1954. This activity, moreover, suggests that Fannie Mae has become a stronger force in the home mortgage market than was originally anticipated.

A Secondary Market Facility

As shown in the chart on the cover, the FNMA acts as a middleman in bringing together buyers and sellers of existing mortgages. The principal types of lending institutions which sell mortgages to Fannie Mae are basically different from the principal buyers of mortgages. Mortgage companies which originate over three-fifths of government-insured home loans are the most important sellers of mortgages to Fannie Mae. The relative role of mortgage companies has doubled since 1956; prior to this time commercial banks were more important originators of government-insured mortgages.[1]

By making regular surveys of market transactions, FNMA attempts to establish its purchase prices on mortgages within the range of market prices. The announced schedules of prices vary according to the state in which the property is located, the contract rate on the mortgage, and the amount of borrower equity. Until late in 1962 Fannie Mae purchased only newly-originated mortgages which were insured by the FHA or guaranteed by the VA less than four months earlier. In order to increase the volume of mortgage purchases, however, Fannie Mae currently purchases government-insured mortgages that have been originated any time after August, 1954.

When Fannie Mae purchases a mortgage, it requires the seller to pay a marketing fee equal to 0.5 percent of the unpaid principal amount of the mortgage. In addition, the

(1) The role played by mortgage companies illustrates the specialization that has occurred in real estate financing since the establishment of the secondary market operations of the FNMA. The practice of "warehousing" mortgages has developed, whereby commercial banks make short-term loans to mortgage companies on the security of government-insured mortgages. Individual mortgage companies then accumulate mortgages until the combined volume is large enough to be sold as a unit to large investors such as life insurance companies or mutual savings banks. In this way, mortgage companies act as correspondents in originating and servicing mortgages for subsequent resale to other large investors. The intermediate financing is provided by the commercial banks.

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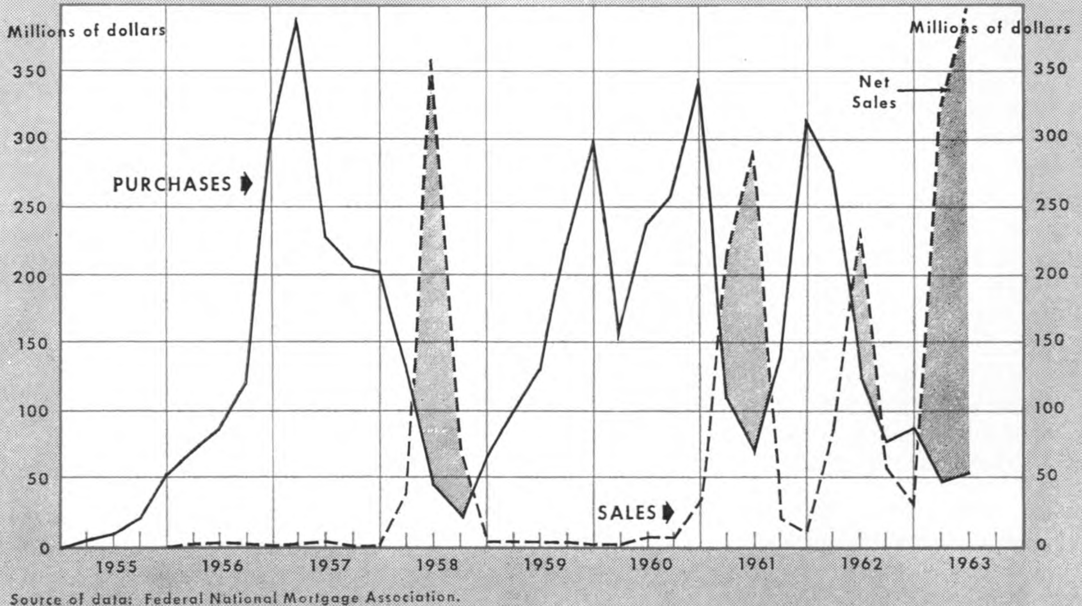
Chart 1.

Prior to 1961 activity of the FNMA took the form primarily of mortgage purchases. Since the beginning of 1961, however, the volume of mortgage sales has increased and the FNMA has been a net seller of mortgages during three different periods.



seller is required to purchase common stock in Fannie Mae equal to 1 or 2 percent of the amount of mortgage, depending on the current FNMA decision. These fees and stock purchase requirements make the amount received in selling mortgages to FNMA slightly less than sellers obtain by dealing directly with secondary holders of government-insured mortgages. Thus, the Association is not in direct competition with other mortgage lending institutions, but stands ready to buy when needed.

Fannie Mae does not sell *directly* to potential buyers of mortgages. Sales are effected through numerous distributors located throughout the country. The distributors or mortgage dealers order large units of mortgages from FNMA and in turn resell the mortgages to their customers. Therefore, Fannie Mae does not know the identity of the specific purchasers.[2] Life insurance companies, mutual savings banks, savings and loan associations, and commercial banks are all important secondary holders of government-insured mortgages.

When Fannie Mae acts as a middleman in the exchange of government-insured mortgages between originators and buyers, its purchases and sales tend to cancel over several years time. As shown in Chart 1, nearly all activity of Fannie Mae during 1955-57 took the form of mortgage purchases. Moreover, mortgage sales were relatively unimportant before 1961, with the exception of mid-1958. Consequently, the mortgage portfolios resulting from secondary market operations expanded to a high of nearly $2.8

(2) On the cover chart the percentage distribution of originators of government-insured mortgages is the same as the percentage distribution of sellers of mortgages to the FNMA. Although there is no distribution available of mortgage buyers from the agents of FNMA, it is assumed that this distribution is the same as the percentage distribution of holders of government-insured mortgages, as reported by FHA and VA.

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billion at the end of 1960. Since the beginning of 1961, Fannie Mae has alternately been a net buyer and a net seller of mortgages. As a result, the mortgage portfolio at mid-1963 was near the level of mid-1959.

The unusually large volume of mortgage sales by Fannie Mae during the *first half of 1963* was due in part to the demands from commercial banks, savings and loan associations, and mutual savings banks. These institutions have sought higher-yielding investments, particularly in view of the relatively high interest rates being paid to savers for the use of their funds.

The Volume of Purchase and Sale Activity

Since 1961 the volume of purchases and sales of mortgages by Fannie Mae has increased. The major reason for the larger volume has been a closer correspondence in the timing of fluctuations in the housing industry with general credit conditions. During this period the housing industry has clearly been a procyclical influence in general business activity; that is, the expansion in residential construction and its financing have paralleled the expansion in general business conditions. In marked contrast, in the *immediate* postwar period, residential construction and its financing had been countercyclical; that is, surges in building usually began during periods of economic recession and then moved sideways or declined as the rest of the economy reached levels of high prosperity.

Government-insured mortgages contributed importantly to the earlier countercyclical behavior of mortgages largely because the interest rate ceiling on FHA-insured and VA-guaranteed credit (coupled with the inflexibility of the discount and premium system) made such credit attractive during recessions but comparatively less attractive during business expansion when other interest rates were rising faster. Thus, it can be seen that the need for a secondary market for government-insured mortgages was not imperative during periods when the housing industry was countercyclical due to the fact that the supply of mortgages was increased at a time when idle funds were seeking attractive investment outlets. As the countercyclical stimulus of the housing industry has declined, the need for Fannie Mae's services to insulate the volume of government-insured mortgages from general credit conditions has increased.

The seesaw pattern of activity in purchases and sales since the beginning of 1961 is unusual when compared with earlier periods of FNMA activity. Nevertheless, the recent activity is not uncommon to the functions of a secondary market facility. It seems clear that since 1961 the FNMA has no longer been a primary investor in government-insured mortgages, but rather the pivot in an active secondary market. In fact, during recent years Fannie Mae has effected substantial shifts among lending institutions in holdings of government-insured mortgages.

The Timing of Purchase and Sale Activity

General credit conditions have influenced the *timing* of Fannie Mae activity as a net buyer or net seller of mortgages, in addition to the volume of the agency's activities. Chart 2 shows the effects of the general availability of credit on FNMA activity. Increases in the mortgage portfolios of FNMA indicate periods when Fannie Mae was a net purchaser of mortgages, while decreases indicate periods as a net seller. The volume of free, or net borrowed, reserves of the member banks of the Federal Reserve System reflects changes in the rate of growth of total credit.

The chart shows that periods of increasing mortgage portfolio (or net buyer position) have corresponded closely to periods of net borrowed reserves in the commercial banking system. Furthermore, periods of a declining inventory (or net seller position) have corresponded, although not to the same degree, to periods of free reserves. Thus, during periods of monetary restraint when funds are relatively scarce, Fannie Mae has been a net buyer of mortgages and, alternatively, when funds are relatively ample, the FNMA has been a net seller of mortgages. This has tend-

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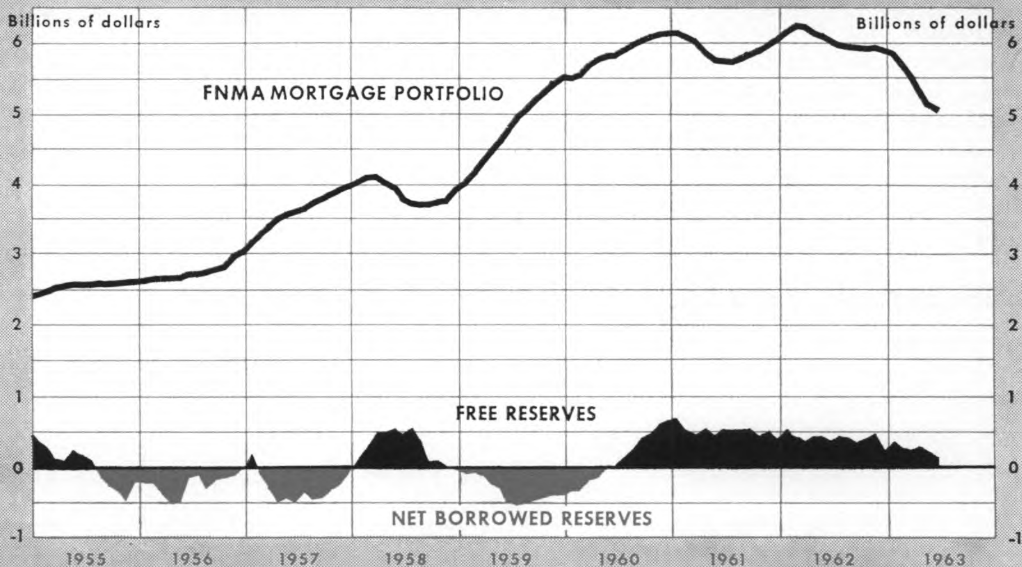
Chart 2.

Periods of an increasing FNMA mortgage portfolio (or a net buyer position) have corresponded closely to periods of monetary restraint, as reflected in the volume of net borrowed reserves of the commercial banking system; furthermore, periods of a declining mortgage inventory (or a net seller position) have corresponded to periods of credit ease as reflected in the volume of free reserves.



Source of data: FNMA and Board of Governors of the Federal Reserve System.

ed to insulate the mortgage market from sharp changes in the total supply of credit.

There is strong evidence, moreover, that general credit conditions are more important determinants of the timing in activity of Fannie Mae than are any adjustments made by Fannie Mae in prices, fees, and stock purchase requirements. The FNMA, for example, can make changes in the schedules of prices it will pay sellers of mortgages and of prices which the Association will charge mortgage buyers. To sellers of mortgages, the FNMA can also adjust the various marketing fees and the percentage amount of common stock which the Association requires the sellers to purchase. Use of these marketing adjustments, however, must be made within the legally-prescribed restriction that the operations of the FNMA be self-supporting.

Since yields on mortgages tend to rise with other interest rates during periods of monetary restraint, the prices charged buyers of mortgages from the FNMA portfolios cannot be decreased in order to increase mortgage sales, unless losses are incurred. On the other hand, during periods of ample funds, the prices that the FNMA pays sellers of mortgages cannot be lowered in order to decrease purchases because the relatively high yield to the FNMA would make it more difficult to resell at a later time without incurring a loss.

Despite the fact that the timing of Fannie Mae activity is influenced more by general credit policy than by adjustments in prices, fees, and stock purchase requirements, the FNMA has not provided funds at rates below those available in other money and capital markets. General credit policy is concerned with the total supply of credit. The allocation of this supply among competing uses is de-

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termined largely by the market on the basis of relative prices or yields. The operations of the FNMA have been conducted within this framework.

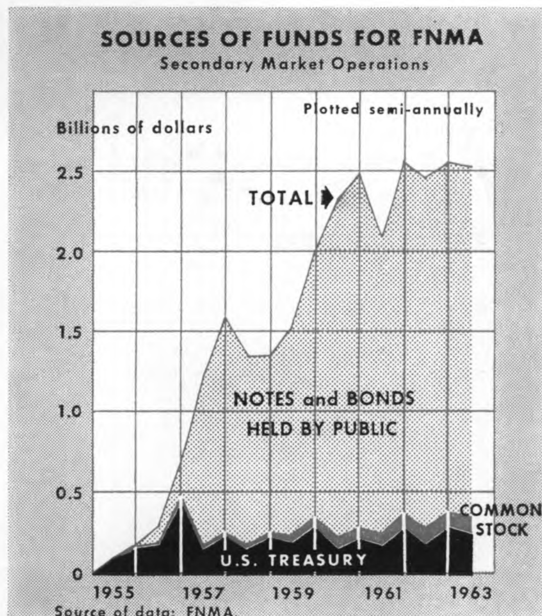
Sources of Funds and Their Cost

The reorganization of FNMA in 1954 established the secondary market facility as a mixed-ownership corporation which would eventually become owned by and financed entirely from private sources of funds. Fannie Mae is unique in that the Association is the only governmental agency which issues common stock. Common stock is issued to sellers of mortgages to the FNMA through the requirement that the sellers in turn subscribe to common stock in an amount equal to 1 or 2 percent of the amount of mortgages sold. The amount of common stock issued through such stock purchase requirements has grown to over $100 million in mid-1963, or about one-third of the total equity of Fannie Mae. The U. S. Treasury holds the remaining equity, or about $200 million in preferred stock.

Although the equity of Fannie Mae is relatively small in relation to its total funds, as shown in Chart 3, this amount of capital provides the leverage for the sale of debentures and notes in the private capital market. Private borrowings, the largest source of funds to the FNMA, have grown rapidly and have comprised more than four-fifths of total funds of the FNMA since 1956. Under its charter, Fannie Mae is permitted to borrow up to ten times the amount of its capital and surplus. Since the FNMA potential borrowing authority is over $3 billion and the amount of debentures and notes outstanding was less than $2 billion in June 1963, there is currently a considerable margin between the borrowing authority and the amount of outstanding indebtedness. During periods of a continuously large volume of mortgage purchases, however, Fannie Mae has had to issue preferred stock to the Treasury in order to increase its borrowing authority.

Most of the early issues of borrowings were in the intermediate- and long-term maturity

Chart 3.



Since 1956 notes and debentures issued to the public have been the major source of funds for the secondary market operations of the FNMA.

range. Since the beginning of 1960, however, Fannie Mae has also issued short-term notes of one to nine months maturity. These short-term notes have at times comprised as much as 15 percent of total borrowings from the public. The use of short-term credit has the advantage of permitting a more flexible amount of borrowing, in that the notes enable a closer timing of borrowing maturities with the use of funds to purchase mortgages. Then, when the mortgages have been sold and the funds are no longer needed, the notes will be retired. The retirement of short- and intermediate-term notes was particularly important during the first half of 1963 when there was a relatively large volume of mortgage sales. Fannie Mae has not borrowed in the short-term market since the end of 1962. Furthermore, intermediate issues have not been refunded during this period.

Interest rates affect virtually every aspect of Fannie Mae's operation, and interest

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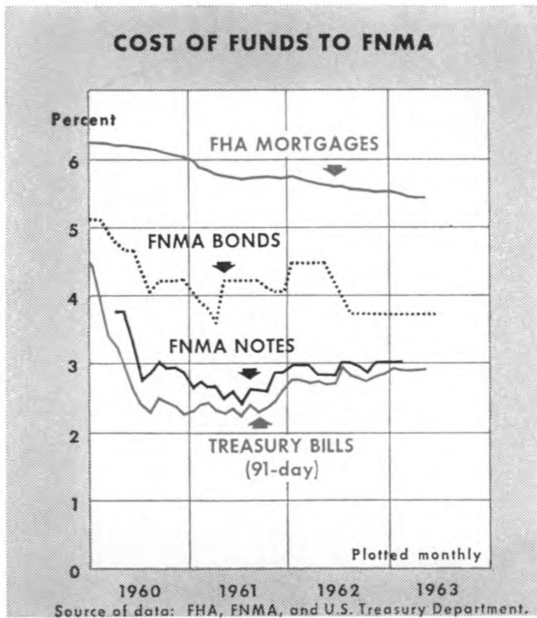
Chart 4.



The interest rates on FNMA notes and debentures indicate the relative costs of these funds as compared with the rate on FHA mortgages, i.e., the major source of income to FNMA.

charges constitute both the major source of income and the largest expense. Chart 4 shows the relative prices and costs of the agency's important sources of income and expense. The major source of income is the return on FHA mortgages. The rate on such mortgages is the price Fannie Mae pays to the sellers of mortgages.[3] Since the FHA rate is also the rate charged against buyers of mortgages from the FNMA portfolio, the profit or loss on operations is obtained in part through differentials in the FHA rate from the time of purchase to the time of sale of mortgages.

In addition, the relative profitability of FNMA's operations depends on the differential between the income received and the costs of borrowing. The two interest rates of the FNMA on the chart indicate the costs of borrowing short- and intermediate-term funds. The small differential between 90-day issues of FNMA notes and similar issues of the U. S. Treasury indicate the comparatively favorable credit standing of FNMA among money market instruments. The short-term rate of the FNMA, for example, is approximately the same as the rate charged for bankers' acceptance borrowers.

Another source of income to FNMA is the various marketing fees charged against sellers of mortgages. Marketing fees have so far been of relatively minor importance to total income and, therefore, to profits. The periods of largest profits of the FNMA have occurred during periods of general recession in business activity when there has been a relatively large volume of mortgage sales. This is probably due to the fact that while interest rates in general are relatively low during recessionary periods, mortgage rates do not fluctuate as much as other interest rates. Therefore, the differential between interest received as income and interest paid as a cost of borrowing widens during periods of general recession in business activity. In recent years FNMA earnings (after provision for income taxes) have ranged between 7 and 13 percent of total income.

Although the FNMA has succeeded in becoming almost entirely privately-financed in terms of obtaining nearly all its funds from private sources, the Association is a long way from becoming entirely privately-owned. The Treasury still retains the major part of FNMA equity. This is somewhat surprising in view of the comparatively favorable acceptance of the common stock by the investing public. Since the common stock is issued through stock purchase requirements, it is not sold initially on an auction basis. Fannie Mae, however, places no restriction on secondary transfers of its common stock, therefore sellers of mortgages to the FNMA can proceed to dispose of the stock through the over-the-counter market.

Dividends on the common stock have advanced continuously from a monthly rate of $.18 a share in 1956 to $.30 a share in the first

(3) The FHA mortgage rate is based on average bid prices for 25-year mortgages at the prevailing contractual interest rate.

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half of 1963. The increases in dividends coupled with the growing interest in the stock have steadily improved its resale value. Thus, the bid price on the over-the-counter market has increased from about $50 a share in the beginning of 1956 to about $90 a share in June 1963. The average annual yield of the common stock, however, has decreased from 4.3 percent in 1956 to 4.0 percent during the first half of 1963.

Despite the comparatively favorable market performance of the common stock, Fannie Mae has had to add Treasury capital from time to time in order to be able to increase mortgage purchases. The need to add Treasury capital, particularly during periods of a heavy volume of mortgage purchases, suggests that a higher rate of stock subscription may be necessary if the Association eventually is to become privately-owned.

Notes on Federal Reserve Publications

Among the articles recently published in the monthly publications of other Federal Reserve Banks are:

"Gold, the Balance of Payments, and Monetary Policy," Federal Reserve Bank of Atlanta, June, 1963.

"The Current Dialogue on Financial Developments," Federal Reserve Bank of Kansas City, May-June, 1963.

"Conversations on International Finance," Federal Reserve Bank of New York, August, 1963.

"Certificates of Deposit," Federal Reserve Bank of New York, June, 1963.

"Today's Mild-Mannered Inventories," Federal Reserve Bank of Philadelphia, July, 1963.

"U. S. Balance-of-Payments Deficits in Perspective," Federal Reserve Bank of St. Louis, July, 1963.

Recently published by the Board of Governors of the Federal Reserve System:

"Monetary Developments, First Half '63" and "Measures of Member Bank Reserves," *Federal Reserve Bulletin,* July, 1963.

"Recent Changes in Liquidity," *Federal Reserve Bulletin,* June, 1963.

"Farm Debt As Related to Value of Sales," *Federal Reserve Bulletin,* February, 1963.

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Dairy Farmer Indebtedness

DATA ON FARM DEBT collected in the Sample Survey of Agriculture by the Bureau of the Census in Autumn of 1960 showed that nearly three-fourths of the dairy farmers in the nation reported having some debt.[1] Recent analysis of the data collected indicates that debt on dairy farms totaled nearly $3.1 billion, as shown in Table I. Operators with debt accounted for 87 percent of the total; the remainder of the debt represented credit outstanding to landlords of dairy farms. The average debt per farm was $10,559.

Dairy Farms Lead in Proportion With Debt

As shown in Table II, among those farms reporting debt, the amount per farm was somewhat smaller for dairy farms than for several of the other types of farms. In contrast, the percentage of dairy farms reporting debt was higher than for most other types of farms.

In examining only dairy farm operators the same pattern emerges, operators with debt constituted nearly three-quarters of all dairy farmers in contrast to about 60 percent of the operators of cotton and tobacco farms, as shown in Chart 1.

The ratio of debt to total net cash income and the ratio of debt to value of land and buildings owned by dairy farmers were also higher than those for most other types of farm operators (see Chart 2).[2] Thus, it appears that the use of borrowed funds was not only more widespread among dairy farmers at the time of this survey, but they were using somewhat more credit in relation to total net cash income and value of land and buildings owned, as compared with most other types of farm operations.

One of the reasons why dairy farmers were somewhat more heavily indebted may be the rather general conversion from can to bulk handling of milk, a development that began in the early 1950's. The number of farms reporting bulk tank installations increased tenfold from 1954 to 1960.[3] In addition, the installation of bulk milk handling equipment has often served as the initial step in a series of developments leading to an enlargement of the dairy enterprise.

Source of Real Estate Credit

Individuals were the most important source of major real estate credit for dairy farmers. Individuals who extended credit secured by farm mortgages and land purchase contracts, accounted for about 35 percent of the total major real estate credit outstanding to operators of dairy farms.

The survey results revealed that commercial and savings banks were the most important institutional source of major real estate credit (see Chart 3). Bank holdings of dairy farm major real estate debt accounted for 21 percent of the total. The second ranking institutional source of major real estate credit were the Federal Land Banks. They provided about one-fifth of the major real estate credit outstanding in 1960. Other prominent institutional lenders included the Farmers' Home Administration and life insurance companies.

(1) See the Appendix for a further explanation of the survey and Tables I through V.

(2) Total net cash income represents farm cash receipts plus off-farm income minus cash expenses. Data did not permit allowance for non-money income furnished by farms, net change in inventories, or for depreciation of buildings and equipment.

(3) From data assembled by the Dairy Industry Supply Association.

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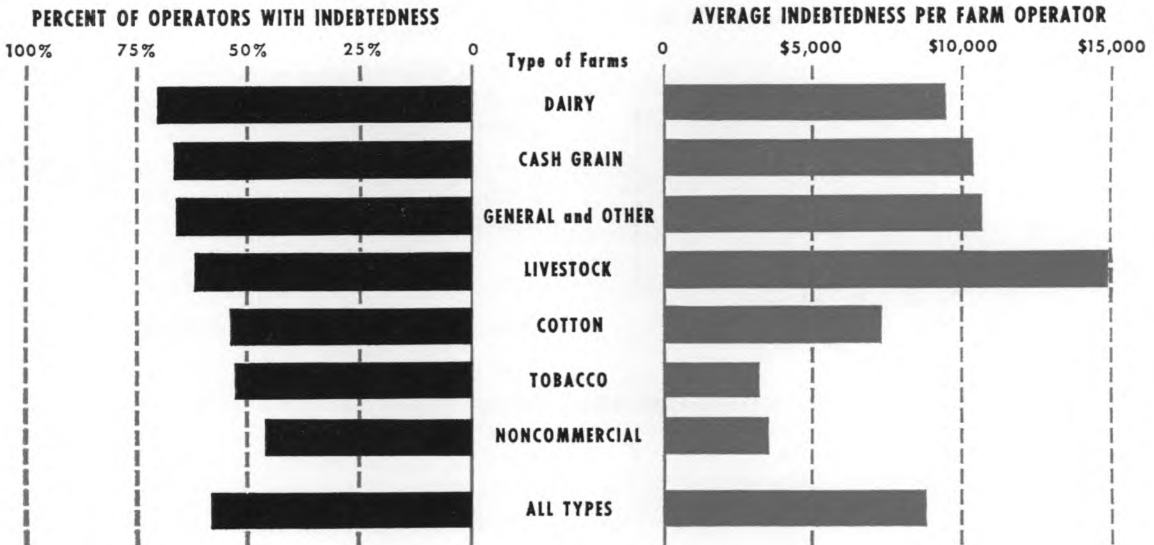
Chart 1.

FARM OPERATOR DEBT
by Major Type of Farm
1960



Source of data: U.S. Department of Commerce, Bureau of the Census.

Sources of Non-Real-Estate Credit

Commercial and savings banks also accounted for 31 percent of total non-real-estate and related credit outstanding to dairy farm operators at the time of the survey. The other principal non-real-estate lending group was the Production Credit Associations. These institutions accounted for over one-fifth of the total.

Merchants and dealers supplied approximately one-fifth of the non-real-estate and related credit outstanding. The amount extended by individuals other than merchants and dealers was equal to about 13 percent of the total. Information as to purposes for which individuals may extend such credit is limited but it may be presumed to include credit granted by some sellers of dairy stock, and intra-family lending. Some non-real-estate credit was also provided by insurance companies and the Farmers' Home Administration.

Types of Credit

Considering the type of indebtedness reported, operators of dairy farms held more major real estate than non-real-estate and related debt. Of the total amount of debt outstanding, about 57 percent was in the major real estate category and the remainder, or 43 percent, was classified as non-real-estate and related credit. The proportion of major real estate credit used by dairy farmers, however, did not appear to be quite as high as that reported for most of the other types of commercial farms.

Operators With and Without Debt

As would be expected, the survey shows that operators with debt operated somewhat

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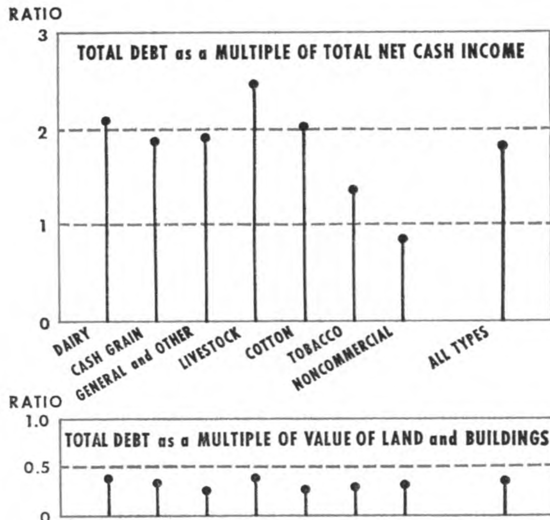
Chart 2.

FARM DEBT RATIOS
by Major Type of Farm
1960



NOTE: Total debt has been expressed as a multiple of total net cash income of the operator and his family, and as a multiple of the value of land and buildings owned by the farm operator.

Source of data: U.S. Department of Commerce, Bureau of the Census.

larger farms than those without debt (see Table III). The operators with debt both owned and rented more land. As a consequence, the value of land and buildings per farm was also higher for the operators with debt.

Debt, as a multiple of total net cash income, was somewhat above the average indicated for indebted operators of all farms (see Chart 2). Only livestock farms had a higher ratio of debt to total net cash income. Moreover, the debt in relation to the value of land and buildings owned, at 39 percent of the value, was also higher than for other types of farms.

In keeping with the larger average size of the farms of operators with debt was the larger size of the dairy herd. The number of cattle and calves on these farms averaged 52 head in contrast with 41 head on the farms of operators without debt.

Operators With Major Real Estate Debt

Nearly two-fifths of dairy farm operators reported major real estate debt in the fall of 1960.[4] Operators of these farms (as shown in Table IV) had an *average total debt* of $13,803, as compared with an *average total debt* of $1,998 for dairy farm operators without major real estate debt.

As logic would dictate, the average size of farm, the dollar value of land and buildings, and the net cash income per farm for the operators with major real estate debt was larger than for those operators without such debt.

Operators With Non-Real-Estate Debt

More than three-fifths of dairy farmers reported non-real-estate and related debt at the time of the survey (see Table IV). These farmers had an average total debt per farm of $9,612. In this instance, the total debt was about equally divided between major real estate and non-real-estate and related debt.

Debt in Relation to Age of Operator

A fairly consistent pattern emerges when debt is related to the age of the operator. Well over 80 percent of the operators under 35 years of age had debt as against only 50 percent for those 55 years and over, as shown in Table V. The proportion of the operators 35 to 54 years of age who had debt was somewhat lower than for those under 35 years, but well above those of 55 years and over.

The picture is relatively similar when the average debt per farm is considered. The operators in the younger age group had the highest average debt per farm. In fact, their

(4) Major real estate debt is defined so as to exclude real estate-secured debt owed to production credit associations and to merchants and dealers. It includes all real estate-secured debt to Federal Land Banks, life insurance companies, and individuals from whom the farm was purchased. Debt owed to the Farmers' Home Administration, banks, other institutions, or individuals other than those from whom part or all of the farm was purchased was included only if it was the largest, or the only, real estate debt owed by the borrowers.

Non-real-estate and related debt consisted of all debt other than major real estate. This classification was designed to avoid including as major real estate debt loans primarily secured by non-real-estate assets but which also had real estate as supplementary security.

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Chart 3.

SOURCES OF CREDIT FOR DAIRY FARM OPERATORS 1960

SOURCE	% TOTAL DEBT	% MAJOR REAL ESTATE DEBT	% NON-REAL-ESTATE DEBT*
Commercial and Savings Banks	25.1%	20.8%	30.9%
Federal Land Banks	11.0	19.4	—
Farmers Home Administration	8.8	12.9	3.4
Insurance Companies	5.8	9.3	1.2
Other Institutions	4.1	2.4	6.3
Production Credit Associations	9.7	—	22.5
Miscellaneous	0.7	—	1.7
Individuals — farm was purchased:			
Under mortgage	8.4	14.8	—
Under land purchase contract	8.3	14.6	—
Other Individuals	9.0	5.8	13.2
Merchant and Dealer	9.0	—	20.9

Source of data: U.S. Department of Commerce, Bureau of the Census.

* Includes related debt.

Note: May not be additive due to rounding.

average debt of $12,579 was more than twice the average debt per farm for those in the 55 years and over category. The operators in the 35 to 54 year age group had somewhat smaller average debt than the group under 35 years, but substantially more than those 55 years and over.

The relatively heavy indebtedness of the younger operators of dairy farms reflects the comparatively low equity that many operators have in their farm business during the initial stages of its development. It may also reflect the increased willingness of some lenders to extend credit to operators who presum-

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ably have a greater number of years of productive life in which to repay borrowed funds.

Debt in Relation to Size of Farm

Just as larger manufacturing firms usually require larger amounts of borrowed capital than smaller manufacturing firms, it seems that a close correlation also exists between the size of farm and the average indebtedness of dairy farm operators. The operators of farms of 99 acres and under had an average debt of about $5,000. The amount of debt per farm was nearly twice as large for the operators whose farms ranged from 100 acres to 499 acres. For operators of farms consisting of 500 acres and over, the average debt was $23,000. However, it would appear that the debt per acre tends to decline as the size of the farm increases. A similar relationship between indebtedness and value of land and buildings was revealed by survey results.

APPENDIX

The estimates presented here are based on unpublished data collected from a sample of farms in the United States (exclusive of Alaska and Hawaii) in Autumn, 1960. A stratified random sampling procedure was used which allowed heavier sampling rates for farms with higher values of farm products sold. A more detailed description of the sample appears in Part 5, Volume V, "1960 Sample Survey of Agriculture," of the reports of the 1959 Census of Agriculture, published by the Bureau of the Census.

For comprehensive definitions of such terms as farm, farm operator, economic class, off-farm income, type of farm, and value of products sold, see *U. S. Census of Agriculture,* 1959, Volume II, General Report, Statistics by Subjects—Introduction and Chapter II.

A listing of the items reported as debt as well as a more detailed technical explanation appears as part of "A New Look at the Farm Debt Picture," *Federal Reserve Bulletin,* December 1962. Included in this explanation are the reasons for differences between the estimates of debt of farm operators and farm landlords in the 1960 Survey and those made by other agencies on the basis of other surveys. It also includes a discussion of the statistical reliability of estimates obtained in the 1960 Survey and measures of sampling errors.

Table I

TOTAL DEBT OF DAIRY FARMS

	Number Reporting	Percent of Total	Amount of Debt	
			Total	Per Reporting Unit
	(000)		(000,000)	
All dairy farms	398	100	$3,075	$ 7,705
Farms with debt	291	73	3,075	10,559
Farms without debt	107	27	——	——
Operators with debt	282	70.8	2,663	9,456
Operators without debt	116	29.2	——	——
Landlords with debt	66	n.a.	412	6,246

n.a. — Not Available.

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Table II

DEBT OF DAIRY FARMS AND OTHER COMMERCIAL FARMS

Type of Farm	Farms With Debt		Amount of Debt	
	Number Reporting (000)	Percent of All Farms of Specified Type	Total (000,000)	Average per Farm Reporting Debt
Dairy	291	73.0	$ 3,075	$10,559
General and other	310	72.5	3,519	11,371
Cash grain	293	71.0	3,683	12,551
Livestock	365	65.4	5,910	16,193
Cotton	137	62.5	1,125	8,204
Tobacco	133	61.1	524	3,940
Miscellaneous	n.a.	n.a.	224	n.a.
All commercial [a]	1,529	67.5	18,061	11,810

n.a. — Not Available.

(a) The number and proportion of commercial farms using credit sometime during the year was probably higher than the survey indicated since the questionnaires were completed near the end of the year when many farmers may have repaid credit used in producing some crops and certain classes of livestock.

Table III

CHARACTERISTICS OF DAIRY FARM OPERATORS WITH DEBT AND WITHOUT DEBT—1960

	All Operators	Operators With Debt	Operators Without Debt
Number of Operators (000)	398	282	116
Average number of acres			
Operated	212	225	182
Owned	154	161	138
Rented	58	65	44
Average value of land and buildings (dollars)			
Operated	$33,770	$35,467	$29,662
Owned	23,199	24,511	20,021
Rented	10,572	10,956	9,642
Average net cash income (dollars)			
Total [a]	$ 4,441	$ 4,520	$ 4,248
Farm	3,034	3,146	2,762
Off-farm	1,407	1,375	1,486
Average total debt (dollars)	$ 6,692	$ 9,456	—
Major real estate	3,806	5,378	—
Non-real estate and related debt	2,886	4,078	—
Debt as a multiple of:			
Total net cash income	1.50	2.10	—
Value of land and buildings owned	.29	.39	—
Number of cattle and calves per farm	49	52	41
Average age of operator	48	46	54

(a) Net cash income from sale of farm products plus net cash income from off-farm sources.

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Table IV

CHARACTERISTICS OF DAIRY FARM OPERATORS WITH AND WITHOUT MAJOR REAL ESTATE AND NON-REAL ESTATE AND RELATED DEBT

	Dairy Farm Operators			
	With Major Real Estate Debt	Without Major Real Estate Debt	With Non-Real-Estate and Related Debt	Without Non-Real-Estate and Related Debt
Number Dairy Farms (000)	158	240	247	151
Average number of acres				
Operated	239	195	231	182
Owned	196	125	158	146
Rented	43	70	73	36
Average value of land and buildings (dollars)				
Operated	$37,902	$31,042	$35,856	$30,367
Owned	31,538	17,696	23,729	22,318
Rented	6,364	13,346	12,127	8,049
Average total net cash income (dollars)				
Total [a]	$ 4,911	$ 4,131	$ 4,562	$ 4,243
Farm	3,347	2,827	3,118	2,896
Off-farm	1,564	1,304	1,444	1,347
Average total debt (dollars)	$13,803	$ 1,998	$ 9,612	$ 1,928
Major real estate	9,571	—	4,957	1,928
Non-real-estate and related debt	4,231	1,998	4,655	—
Debt as multiple of:				
Total net cash income	2.80	.48	2.10	.45
Value of land and buildings owned	.44	.11	.40	.09
Average age of operator	45	50	45	53

(a) Net cash income from sale of farm products plus net cash income from off-farm sources.

Table V

DAIRY FARM DEBT BY AGE OF OPERATOR—1960

	All Ages	Under 35 Years	Age 35 to 54 Years	55 Years and Over	Age Not Reported
Number of operators (000)	398	51	206	115	26
Number of operators with debt (000)	282	44	158	60	20
Percent of operators with debt	70.9%	86.3%	76.7%	52.2%	76.9%
Average total debt (dollars)	$9,456	$12,579	$9,828	$5,504	$11,446
Major real estate	5,378	7,338	5,421	3,218	7,183
Non-real-estate and related debt	4,078	5,241	4,406	2,286	4,263
Debt as a multiple of:					
Total net cash income	2.10	3.20	2.00	1.30	2.50
Value of land and buildings owned	.39	.72	.40	.18	.52

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