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supplier of funds for both conventional and federally underwritten multifamily residential mortgages, accounting for about two-fifths of the net flow of funds into both types of mortgages in the postwar decade. This is explained partly by the concentration of savings banks in eastern cities where most multifamily construction has occurred, and partly by the fact that savings and loan associations, the largest conventional mortgage lenders, participate only in a small way, by tradition and by law, in multifamily mortgage markets.

A foundation for these market observations, and for others generally assumed but not verified, is provided by the new data on type of mortgage within property classifications by type of lender. The way is cleared, also, for new analyses of and insights into market behavior not previously possible. The usefulness of the data generally is enhanced by their availability on a quarterly basis, which in the course of time should permit the separation of seasonal fluctuations, and hence the detection of significant short-term movements. Vistas are opened to future study in the relationship of net mortgage flows to short-term changes in institutional and capital market developments, and in federal mortgage, fiscal, and monetary programs and policies. These judgments seem valid notwithstanding important shortcomings in the estimates and in basic parts of the entire framework of data on outstanding mortgage debt which are considered in the following section.

3. Description and Appraisal of Data on Outstanding Mortgage Debt

Including the new estimates, more detailed and comprehensive statistics are available on mortgage debt outstanding than on other areas of mortgage finance. Even so, many serious gaps and shortcomings in the data, chiefly concerning mortgage portfolios of holders other than the four main types of financial institutions and of Federal agencies, remain and are pointed out in this section.

The several series which make up the body of mortgage debt statistics are based on a wide variety or sources and are of varying degrees of quality. Most of the basic data originate in financial reports of mortgage lenders to supervisory authorities or trade associations, or in other reports to federal agencies. Until early 1953, the several types of widely scattered data on mortgage debt were brought together into comprehensive annual time series in only one regularly published secondary source, the *Survey of Current Business* of the Department of Commerce. Since then, annual data, in limited classifications, have been published by this agency each year in an article on the nation's private and public debt. In March 1953, the Board of Governors of the Federal Reserve System began publication, in the *Federal Reserve Bulletin*, of current statistics on mortgage debt, more comprehensive than previously assembled in one place and including new quarterly estimates, beginning with 1951. The *Bulletin* remains the main source of regularly published data on mortgage debt and the only source of current quarterly estimates. Unpublished estimates developed originally at the Federal Reserve have been freely used in the development of data for this paper.[19]

Most of the regularly available data on outstanding mortgage debt are summarized and reported or estimated by the following federal agencies and trade associations: Federal Home Loan Bank Board, Federal Deposit Insurance Corporation, Comptroller of the Currency, Board of Governors of the Federal Reserve System, Department of Commerce, Department of Agriculture, Federal Housing Administration, Veterans Administration, Federal National Mortgage Association; Institute of Life Insurance, and National Association of Mutual Savings Banks. Series emanating from these sources are not uniform either with respect to quality, classification, or frequency of availability.

Generally speaking, the several series on mortgage debt held by the main types of financial institutions, summarized from direct reports of financial statements, are of a high statistical quality. Estimates for non-reported classifications and time periods are subject to greater statistical error, but are firmly based on closely related reported data. Data on the relatively small amount of mortgages held by federal agencies are also, with minor exceptions, derived from direct reports of the several agencies. The small share of estimate included in this series represents the reconstruction of data for federal agencies no longer in existence or for those not regularly reporting mortgage holdings.

The major weakness in the present framework of mortgage debt statistics occurs in the several series on holdings of the catchall group, "individuals and others," defined in section 1. This weakness stems from the lack of a benchmark figure or current reporting of any kind on the total volume of mortgage debt outstanding, and from insufficient benchmarks on major categories of mortgage debt outstanding. It follows that there is little firm ground upon which to base estimates of mortgage debt for holders other than the four main types of financial institutions, federal agencies, and some miscellaneous institutions. The bulk of the mortgage

[19]The *Bulletin* presentation and new estimates, as well as unpublished estimates, were developed in the Board's Real Estate Credit Unit by the author under the general direction of Mr. Ramsay Wood. Since early 1956, current estimates have been prepared by Mr. Theodore Flechsig.

holdings attributed to this overall residual group, individuals and others, is owned by individuals and miscellaneous organizations not subject to supervision by federal or state authorities or affiliated by common economic interests with trade associations. Direct information on their mortgage activities is thus at a minimum. Individuals and others, including miscellaneous financial institutions, are presumed to have held a large but declining amount of the total mortgage debt outstanding during the postwar decade, varying from one-third at the end of 1945 to one-sixth at the end of 1955.

A more detailed description and appraisal of mortgage debt statistics is given below, organized by major type of holder. Within this classification, data by type of mortgage and property are discussed. Reference to Table A, which summarizes the status of available data, will be helpful in following the discussion. The distinction in this table, and in the following discussion, between reported and estimated data is made in part to suggest differences in quality – although reported figures per se are not necessarily of higher quality than estimated data – and in part simply to indicate the nature of the data.

Main Types of Financial Institutions

For the four main types of financial institutions (savings and loan associations, life insurance companies, commercial banks, mutual savings banks), which at the end of 1956 held well over three-fourths of the total mortgage debt outstanding, annual or shorter-term data for a large part of the mortgage debt classifications are based directly on reported financial statements. Important differences exist among these institutions in the type and time intervals of data reported, with a consequent variation in the nature and difficulty of estimates required. Annual data in all classifications, based on direct reports, are available only for life insurance companies. Quarterly reported data are available in some classifications for some types of institutions, but most quarterly data are based on indirect estimates developed in this study or from other sources, chiefly the Federal Reserve.

Total mortgage debt

These data are based directly on reports from each of the four main types of financial institutions, with quarterly data, except for commercial banks, available during all but the earliest years of the postwar decade. While reported figures are available only semiannually for all commercial banks, more frequent data are reported for a large segment of the commercial banking system in Federal Reserve Member Bank Call Reports, which fall close to regular calendar quarters, and in financial statements from weekly reporting member banks. These sources provide a firm basis for quarterly estimates of total mortgage holdings of commercial banks.

Nonfarm mortgage debt

Small differences in the quality and availability of data for financial institutions exist between total and nonfarm mortgage debt. The only difference in availability of reported data pertains to mutual savings banks for which nonfarm mortgage debt is reported semiannually by the Federal Deposit Insurance Corporation and total mortgage debt is reported monthly by the National Association of Mutual Savings Banks. Quarterly estimates for both commercial and mutual savings banks, published in the *Federal Reserve Bulletin,* may be considered highly reliable, requiring only a small degree of interpolation between semi-annual reports with the aid of more frequently reported related data.

For life insurance companies, the quality and availability of data on total and nonfarm mortgage debt are the same, reported by the same companies to the Institute of Life Insurance. For savings and loan associations, all mortgage holdings are assumed to be on nonfarm properties, considering the nature of the institutions, and no distinction is made, therefore, between total and nonfarm mortgage debt. This assumption is not entirely correct, however. Data from registration statements under Regulation X indicated that, in late 1951, four-tenths of 1 per cent of mortgage loans held by savings and loan associations were on farm real estate (see notes to Table 16, col. 1).

Nonfarm residential mortgage debt

For commercial and mutual savings banks, regularly reported data are available in reports to supervisory authorities in the same frequency and quality as for total nonfarm mortgage debt. Quarterly estimates are also of the same high degree of reliability, based on similar techniques and aided by related data. The quality of estimate is, perhaps, slightly less for savings banks, because no quarterly call reports are available for guidance, as they are for commercial banks. The relationship between residential and total mortgage debt, however – for which monthly data are available – provides an excellent guide for quarterly estimates of residential mortgage loans held by mutual savings banks.

Life insurance companies do not report their residential mortgage holdings to supervisory authorities or to trade associations. For several years, in special voluntary annual reports to the Federal Home Loan Bank Board, however, companies accounting for the bulk of all life insurance assets have been reporting their residential as well as other mortgage debt holdings. Interpolated quarterly estimates are probably somewhat less reliable here than for commercial or mutual savings banks because of the lack of semiannual reports on residential mortgage holdings.[20]

As indicated in the discussion of estimates by type of property, section 2, no directly reported or estimated figures were available on residential mortgage holdings of savings and loan associations prior to estimates provided in this paper. The long-accepted assumption that all mortgage debt held by savings and loan associations is secured by one- to four-family homes was discarded in 1953 when the Federal Home Loan Bank Board released revised estimates of savings and loan mortgage portfolios distinguishing between holdings secured by one- to four-family and by "other properties." Since then, the Board has prepared unpublished quarterly estimates of such holdings, based on annual reports from member institutions holding in recent years over 90 per cent of the total held by all associations. In this paper the category "other properties" has been broken down into multifamily and nonresidential, and estimates are given for savings and loan mortgage holdings secured by each of these properties, as described in detailed notes to Table 16. The already available series on one- to four-family mortgage debt and the new estimates made here of multifamily mortgage debt permitted the derivation of a series on residential mortgage debt held by savings and loan associations.

One- to four-family mortgage debt

The development of mortgage debt statistics classified by one- to four-family properties, as we have seen in the discussion of estimates by type of holder, section 1, was a direct outgrowth of federal legislation and of the subsequent need adequately to administer federal mortgage programs. This classification is not necessarily one of statistical significance or convenience to most financial institutions. Few supervisory authorities require reporting under this classification. As a result, record keeping among lenders varies, some preferring to distinguish in their portfolios between mortgages secured by single-family and other properties, some between one- and two-family and other properties, some between homes, apartments, and commercial properties, and so forth.

It may thus come as a surprise to many that the one- to four-family mortgage debt series, perhaps the most widely known and used of the non-farm mortgage debt series, is based largely on estimated figures rather than on figures directly reported by financial institutions. None of the main financial institutions report such figures quarterly. Savings and loan associations and life insurance companies are the only institutions that provide annual reports on one- to four-family mortgage holdings. Annual

[20]The reader is once again reminded to refer to the notes to appropriate tables for detailed descriptions of estimating techniques.

data for commercial banks and mutual savings banks consist of estimates prepared by the Federal Reserve and Federal Home Loan Bank Board, respectively, from closely related data, as described in the latter's *Savings and Home Financing Source Book, 1955* (p. 37) and in notes to Tables 18 and 19.

The reliability of the series on one- to four-family mortgage debt held by financial institutions, including the new quarterly estimates given here, must, therefore, be considered of a lower order than those on total, nonfarm, and residential mortgage debt. The most recent benchmark for this series was provided seven years ago by the 1950 census survey of residential financing.[21]

Multifamily mortgage debt

The availability and quality of data on multifamily property mortgages held by the four main types of financial institutions has been discussed indirectly in connection with the appraisal of data on holdings of residential and one- to four-family mortgage debt. It should be emphasized that, for most types of financial institutions, the figures on mortgage debt secured by multifamily properties were derived as residuals. Only life insurance companies report directly their holdings of multifamily mortgage debt, and then only on an annual basis. For commercial and mutual savings banks, the figures were derived as residuals from reports of residential and from estimates of one- to four-family mortgage debt. The estimate of multifamily mortgage debt held by savings and loan associations was also derived as a residual by subtracting my estimated figures on mortgage debt secured by nonresidential properties from total debt on properties other than one- to four-family homes, as estimated by the Federal Home Loan Bank Board.

Nonresidential nonfarm mortgage debt

Data on holdings of nonfarm nonresidential mortgage debt by financial institutions, like those on residential mortgage holdings, consist of reported figures on a semiannual or annual basis, except for savings and loan associations. For these institutions, as noted previously, direct estimates of nonresidential mortgage debt are provided here on the basis of information available from registrants under Regulation X. Quarterly estimates for all major types of financial institutions are based on the same techniques of interpolation as noted for the totals of nonfarm and residential mortgage debt.

An explanation of the terminology and classification used here is in

[21] *1950 Census of Housing*, Bureau of the Census. Vol. IV, *Residential Financing*, Part 1, *United States*, 1952. See especially Table N, p. xxx.

order for, in the presentation and discussion of mortgage debt statistics, the terms commercial properties and nonresidential nonfarm properties have been used interchangeably. The origin of the commercial properties classification is not altogether clear; it may have been derived from the Department of Commerce's publication of estimates for mortgage holdings of individuals and others on properties other than one- to four-family dwellings, classified as "multifamily and commercial properties." Commercial, a narrower term than nonresidential, was widely adopted and continues in use probably because the bulk of nonresidential mortgage debt is secured by commercial type properties, such as retail stores, office buildings, garages, warehouses, lofts. The construction and purchase of manufacturing and public utility facilities are usually financed in the corporate securities market or from internal company funds. The broader designation, nonresidential, nonfarm, is, however, somewhat more accurate than commercial because reports by financial institutions undoubtedly include some mortgage financing of industrial properties, however small. The nonresidential classification has been adopted, therefore, in the presentation of statistics in this paper, although the term commercial is sometimes substituted for it in the discussion. No comprehensive breakdown of specific types of property included in the nonresidential classification exists for any of the major types of financial institutions.

Farm mortgage debt

The data on farm mortgage holdings used in this study are reported directly to supervisory authorities and trade associations by the main types of financial institutions. The data on farm mortgage holdings, summarized in a regular series published by the Department of Agriculture, differ slightly from those used here; the differences are noted briefly below.

No farm mortgage debt is reported by the Agriculture Department or in this study to be held by savings and loan associations.

For banks, the slight differences in figures in most postwar years is due to the difference in geographic coverage – U. S. and possessions in this paper, and continental U. S. in the Agriculture Department figures. In earlier postwar years, moreover, the Agriculture Department series are limited to insured banks only, while the series here consistently include all operating banks.

For life insurance companies, data in this paper are based directly on figures reported by the Institute of Life Insurance. The Department of Agriculture series includes the following small adjustments to this basic series: the conversion of book value to unpaid principal owed as indicated in annual reports of a sample of life insurance companies; and the addition of an estimated amount of unpaid principal of sales contracts held by companies. In recent years changes resulting from these adjustments have been small.

FHA-insured, VA-guaranteed and conventional mortgage debt

Data available by type of mortgage for financial institutions and new estimates provided in this paper have already been rather fully discussed under classification of data, section 1. It was noted that data on outstanding debt by type of mortgage were available for the entire postwar period only for life insurance companies. For commercial and mutual savings banks, such data have been reported only since 1951, and for savings and loan associations since 1948. It bears repeating that the data on conventional loans are not entirely consistent; for commercial and mutual savings banks, they relate to residential mortgage debt; and for life insurance companies (except annual data) and savings and loan associations, to total nonfarm mortgage debt.

The provision of more detailed estimates by type of mortgage and for years in which data were previously lacking, as described earlier in this study and in notes to the tables, has made possible a more direct and consistent comparison of financial institution activity in federally underwritten and conventional mortgage markets for the entire postwar period. The estimated figures, while certainly not precise, may be considered accurate enough for study of postwar trends and shorter time movements.

Federal Agencies

Mortgage holdings of the several federal agencies, institutions, and corporations, enumerated under classification by type of holder, section 1, are of minor significance in the postwar mortgage debt structure, amounting to between 4 and 7 per cent of total outstandings during the decade. Both annual and quarterly data, summarized in Tables 20 and 21, are generally of high quality, based for the most part on direct accounting reports of each holder. The large number of estimated figures, suggested by Table A, reflects chiefly estimates for two agencies. the now extinct RFC Mortgage Company, and the Federal Housing Administration. Holdings of these agencies, however, have been a minor portion of total federal agency holdings in the postwar decade, never exceeding 8 per cent.

For federal agencies holding most of the nonfarm and farm mortgage debt, neither historical nor current estimates are required. Through 1948, the Home Owners' Loan Corporation held most of the nonfarm mortgage debt outstanding at federal agencies. Since that year, the Federal National Mortgage Association has been the dominant holder. Good reported figures on mortgage holdings for each of these agencies are readily available; in addition, unpublished detailed data by type of property and mortgage were obtained directly from the FNMA for this study.

Among agricultural credit agencies and institutions, the Federal Land Banks have been the principal holder throughout the postwar decade. The Federal Farm Mortgage Corporation, no longer in operation, and the Farmers Home Administration have been the only other important federal holders of farm mortgage debt. For each of these agencies, annual data are published regularly by the Farm Credit Administration, and unpublished quarterly figures were made available by that agency. Both annual and quarterly figures given here are based on direct agency accounting reports.

Miscellaneous Financial Institutions

In the current organization of mortgage debt statistics, miscellaneous financial institutions are included generally in the classification of "individuals and others." Estimates of total mortgage holdings for several types of institutions in this group, however, may be derived separately, as indicated in section 1. These estimates are based chiefly on balance sheet statements, just as those for the four main types of financial institutions are. Good data for miscellaneous institutions are available only annually, however, and then only for total and not for a breakdown of mortgage holdings. At the end of 1955, total mortgage debt owned by identified miscellaneous financial institutions amounted to only 3.5 per cent of the total outstanding.

Individuals and Others

The inadequacy of mortgage debt figures for this large group of residual holders has been referred to under estimates by type of holder, section 2. Estimates of their holdings by type of property and mortgage are necessarily based on crude and meager information. The character and quality of estimates, however, are higher when benchmark data are at hand. In addition, current information on new lending activities is available as an aid for estimates of some, but not all, series of mortgage holdings of individuals and others.

Primary responsibility for the estimates of mortgage debt held by individuals and others is shared by three federal agencies which independently prepare and publish separate series. The Federal Home Loan Bank Board is responsible for estimates of debt secured by one- to four-family homes, the Department of Commerce for debt secured by multifamily and commercial (nonresidential) properties, and the Department of Agriculture for debt secured by farms. A breakdown of debt secured by multifamily and commercial properties has been made possible by estimates of multifamily mortgage debt provided by this study (see section 2, estimates by type of property, and Tables 6 and 7). Estimates of FHA, VA, and conventional mortgage debt held by "individuals and others" have also been derived here as residuals (Tables 9-15).

Of the three primary series, the most important by far in terms of outstanding amounts is that for one- to four-family mortgage debt.[22] This series, according to the Federal Home Loan Bank Board, is "based on the residential financing survey of the Bureau of the Census, trends in nonfarm mortgage recordings volume, FHA and VA records, and supplementary information."[23] A more detailed explanation of the basis for this series is given, as a part of a general discussion of the comparability of mortgage statistics, in the residential financing volume of the *1950 Census of Housing*, as follows: "Prior to the 1950 Census, there was only meager information obtainable on the level of home mortgage debt held by the 'individuals and others' group. However, the data could be roughly approximated, principally by reference to the current volume of mortgages being recorded by these lenders, to estimated sales of mortgages and to imputed rates of repayment which were assumed to be similar to those of savings and loan associations, for which reliable information is available. . . . The Census data have been used by the Home Loan Bank Board as a basis for revising its estimates of home loans held by individuals and others. . . . The annual estimates of debt held by individuals and others, which will be published in the future by the Home Loan Bank Board will use [the Census estimate adjusted for differences in coverage and definition] as a benchmark, as of August 1, 1950."[24]

Undoubtedly, census benchmark figures afford a good basis for improving the series on one- to four-family mortgage debt held by individuals and others. There have been no comparable check points since 1950, however, and none existed before. The likelihood is strong, therefore, that the further removed in time a series is from the 1950 census, the less reliable it is. An interim national housing inventory taken as of the end of 1956 may yield another benchmark figure for this series.

In the meantime, for the current estimation of this series, data on nonfarm mortgage recordings of $20,000 or less, on FHA and VA lending activity and on repayment rates at savings and loan associations, serve as guides, but with notable shortcomings. The mortgage recordings series is itself estimated from reports of cooperating institutions in some 450

[22]The series on one- to four-family mortgage debt held by individuals and others, shown in this paper, differs slightly from that published by the Federal Home Loan Bank Board because the latter includes holdings of the Veterans Administration, Federal Housing Administration and RFC Mortgage Company, shown separately here under federal agency holdings.

[23]*Savings and Home Financing Source Book, 1955*. Federal Home Loan Bank Board, p. 37.

[24]*1950 Census of Housing, op. cit.*, pp. xxxii-xxxiii.

areas accounting for about one-half of the one- to four-family housing inventory.[25] The series also includes recordings of mortgages on small nonfarm properties other than homes and of junior mortgages, both with repayment rates different from those on first mortgages secured by one- to four-family dwellings. Excluded from the series, on the other hand, are home mortgages recordings of over $20,000, their number mounting in recent years. Finally, the assumption of a repayment rate on mortgage holdings of individuals and others similar to that on holdings of savings and loan associations is likely to lead to some error because repayment rates, reflecting different types of mortgages, vary among different types of holders. On the basis of data on gross mortgage flows, for example, it is known that the rate of repayment on mortgages held by savings and loan associations is faster than on mortgages held by life insurance companies or mutual savings banks.

While there is no way to measure the margin of error in the series on one- to four-family mortgage debt held by individuals and others, the basic data used suggest that the estimated series represents at least reasonable approximations of level and change. Benchmark figures from census or other sources should help keep the series in line over the years.

Less can be said for the series on holdings by individuals and others of debt secured by multifamily and commercial properties. This series was prepared originally at the Department of Commerce in the late 1930's by staff long since departed. Because no records or worksheets of any kind bearing on the original estimates are obtainable, little is known about the original construction of the series, its foundation, or method of movement. In the postwar period, the series has been moved in rough relationship to holdings of such debt by financial institutions, on the assumption that the proportion held by individuals and others has been declining slowly.

The uncertain reliability of the Commerce Department's series is slightly reduced by the availability of a census benchmark figure on multifamily property mortgage debt held by individuals and others. Thus, the residual estimate of nonresidential mortgage holdings of individuals and others remains the chief segment in the structure of mortgage debt statistics with no known foundation. Because there are no better alternatives, the series on multifamily mortgage holdings of individuals and others is moved by its 1950 relationship to multifamily and nonresidential mortgages held by this group. (See notes to Table 6, column 9, for details of estimating technique.) Changes in the multifamily series, thus, have a basis no more reliable than that for changes in the combined series, but levels may be accepted with far more confidence.

The third of the basic series on mortgages owned by individuals and

[25] *Savings and Home Financing Source Book, 1955, op. cit.*, p. 38.

others, that on farm mortgage debt, is the least important in terms of dollar amount but the most reliable statistically. It is derived as a residual from other firm series – total farm mortgage debt outstanding, and farm mortgage debt held by financial institutions and federal agencies. Total farm mortgage debt is based on several benchmark figures from the Census of Agriculture, taken at about five year intervals since 1940. The several series on farm mortgage holdings of major financial institutions and of federal agricultural credit agencies are based on data regularly reported by these holders. In addition, information on farm mortgage recordings is used as a guide in estimating total farm mortgage debt in intercensal years.

The series on farm mortgage debt held by individuals and others presented in this paper differs slightly from that published by the Department of Agriculture, because of minor differences in holdings shown for the main types of financial institutions, explained under farm mortgage debt, above. For total farm mortgage debt and for farm mortgage holdings of the several agricultural credit agencies, the series published by the Department of Agriculture are used here. The difference in figures for the residual individuals and other holders category is, therefore, the exact difference between the two series on farm mortgage holdings of the main financial institutions.

In addition to the basic series from other sources on mortgage holdings of individuals and others, estimates of their holdings by type of mortgage – FHA, VA, and conventional – are presented in this paper. These estimates have been derived as residuals from other estimated series based on varying sources, and are subject to errors inherent in this technique. Estimating errors which arise in the primary series may be offsetting, or they may be compounded into greater errors lodged in the residual series. The problems and details associated with this technique are described in notes to Tables 9 and 12. Quite clearly, the series on types of mortgage loans held by individuals and others is far less accurate than comparable data on holdings of financial institutions.

4. Recommendations for Improvement of Mortgage Debt Statistics

Even a cursory reading of the preceding sections should make it abundantly clear that neither the quality, quantity, or frequency of data on mortgage debt outstanding and net mortgage flows is wholly satisfactory for thorough analysis of real estate and mortgage markets. Data on mortgage holdings of "individuals and others" are woefully inadequate. Information on type of mortgage borrower, including the distinction