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Volume Author/Editor: Leo Grebler, David M. Blank, and Louis Winnick

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Chapter Author: Leo Grebler, David M. Blank, Louis Winnick

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APPENDIX M

ESTIMATES OF THE FLOW OF EQUITY AND MORTGAGE FUNDS INTO NEW RESIDENTIAL CONSTRUCTION

TABLE M-1 shows in detail the derivation of estimates of the flow of equity and mortgage funds into new residential construction. The basic procedure was as follows:

I. Amount of expenditures for new private housekeeping residential construction (from Table B-3).

II. Add estimated expenditures for land used for I, on the basis of assumed ratios of expenditures for land to total expenditures for land and construction (column 2 of Table M-1) and derived ratios of expenditures for land to expenditures for construction (column 3). The dollar amounts of expenditures for land are shown in column 4.

III. Total expenditures for construction and land, or the sum of I and II, shown in column 5.

IV. Deduct from total expenditures for land and construction:

   A. Those expenditures paid for entirely in cash so that no mortgage financing is involved, such as the purchase of a new house for all cash or the construction of an apartment house exclusively with equity funds (ratios in column 6, amounts in column 7).

   B. Those expenditures financed by sales contracts that represent debt obligations but no mortgage financing (columns 8 and 9).

V. The amount of III minus the amount of IV yields the expenditures in which mortgage financing is involved (column 10). Assumed average ratios of loan to expenditure (column 11) yield the amounts of mortgage loans made on new construction and land therefor (column 12).

VI. Total expenditures for construction and land minus the amount of mortgage loans and land contracts made on new construction and land yields the estimated equity funds (column 13). A more accurate label for these amounts is "Equity funds and miscellaneous borrowings," for it is not unusual in the acquisition of new as well as existing construction to provide *pro forma* equity funds by resort to personal loans not secured by mortgages.

A general qualification of these estimates refers to the point in time at which the flow of mortgage and equity funds into new construction

TABLE M-1

Derivation of Estimates of the Flow of Mortgage Loans and Equity Funds into Residential Construction and into Land Used for Residential Construction

(*dollars in millions*)

	Exp. for New Pvt. Resid. Constr. (1)	*Ratio of Exp. for Land to Total Exp.* (2)	*Ratio of Exp. for Land to Col. 1* (3)	*Est. Exp. for Land* (4)	*Col. 1 plus Col. 4* (5)	*% of Col. 5 All Cash* (6)	*Amt. All Cash* (7)
1911	$ 1,000	25%	33.3%	$ 333	$ 1,333	30%	$ 400
1912	1,113	25	33.3	371	1,484	30	445
1913	1,108	25	33.3	369	1,477	30	443
1914	1,081	25	33.3	360	1.441	30	432
1915	1,192	25	33.3	397	1.589	30	477
1916	1,255	22	28.2	354	1,609	28	451
1917	769	22	28.2	217	986	28	276
1918	391	22	28.2	110	501	28	140
1919	1,258	22	28.2	355	1,613	25	403
1920	1,072	22	28.2	302	1,374	25	344
1921	1,795	22	28.2	506	2,301	25	575
1922	2,955	22	28.2	833	3,788	25	947
1923	3,960	20	25.0	990	4.950	20	990
1924	4,575	20	25.0	1,144	5,719	20	1,144
1925	4,910	20	25.0	1,228	6,138	15	921
1926	4,920	20	25.0	1,230	6,150	16	984
1927	4,540	20	25.0	1,135	5,675	15	851
1928	4,195	20	25.0	1,049	5,244	15	787
1929	3,040	18	22.0	669	3,709	15	556
1930	1,570	15	17.6	276	1,846	16	295
1931	1,320	12	13.6	180	1,500	18	270
1932	485	10	11.1	54	539	18	97
1933	290	10	11.1	32	322	18	58
1934	380	10	11.1	42	422	18	76
1935	710	12	13.6	97	807	15	121
1936	1,210	15	17.6	213	1,423	15	213
1937	1,475	15	17.6	260	1,735	15	260
1938	1,620	15	17.6	285	1,905	15	286
1939	2,270	15	17.6	400	2,670	15	401
1940	2,560	12	13.6	348	2,908	12	349
1941	3,040	12	13.6	413	3,453	10	345
1942	1,440	12	13.6	196	1,636	10	164
1943	710	12	13.6	97	807	5	40
1944	570	12	13.6	78	648	3	19
1945	720	12	13.6	98	818	5	41
1946	3,300	12	13.6	449	3,749	12	450
1947	5,450	12	13.6	741	6,191	12	743
1948	7,500	12	13.6	1,020	8,520	12	1,022
1949	7,257	12	13.6	987	8,244	12	989
1950	11,525	12	13.6	1,567	13,092	12	1,571
1951	9,849	12	13.6	1,339	11,188	12	1,342
1952	9,870	12	13.6	1,342	11,212	12	1,345

(continued on next page)

TABLE M-1 (continued)
(*dollars in millions*)

	% of Col. 5 Financed by Sales Contracts (8)	Amt. Financed by Sales Contracts (9)	Total Exp. Involving Mortgage Financing (10)	Ratio of Mortgage Loans to Col. 10 (11)	Amt. of Mortgage Loans (12)	Amt. of Equity Funds (13)	Ratio of Col. 13 to Col. 5 (14)
1911	3%	$ 40	$ 893	65%	$ 580	$ 713	53%
1912	3	45	994	65	646	793	53
1913	3	44	990	65	644	789	53
1914	3	43	966	65	628	770	53
1915	3	48	1,064	65	692	849	53
1916	3	48	1,110	65	722	839	52
1917	3	30	680	65	442	514	52
1918	3	15	346	65	225	261	52
1919	4	65	1,145	70	802	746	46
1920	5	69	961	70	673	632	46
1921	5	115	1,611	72	1,160	1,026	45
1922	5	189	2,652	72	1,909	1,690	45
1923	5	248	3,712	75	2,784	1,918	39
1924	6	343	4,232	75	3,174	2,202	39
1925	6	368	4,849	75	3,637	2,133	35
1926	6	369	4,797	75	3,598	2,183	35
1927	5	284	4,540	78	3,541	1,850	33
1928	5	262	4,195	78	3,272	1,710	33
1929	4	148	3,005	75	2,254	1,307	35
1930	3	55	1,496	70	1,047	744	40
1931	2	30	1,200	70	840	630	42
1932	1	5	437	68	297	237	44
1933	0	0	264	65	172	150	47
1934	0	0	346	65	225	197	47
1935	0	0	686	68	466	341	42
1936	0	0	1,210	70	847	576	40
1937	1	17	1,458	70	1,021	697	40
1938	2	38	1,581	72	1,138	729	38
1939	2	53	2,216	72	1,596	1,021	38
1940	2	58	2,501	75	1,876	974	33
1941	2	69	3,039	75	2,279	1,105	32
1942	2	33	1,439	82	1,180	423	26
1943	2	16	751	88	661	130	16
1944	2	13	616	88	542	93	14
1945	2	16	761	85	647	155	19
1946	1	37	3,262	80	2,610	1,102	29
1947	1	62	5,386	80	4,309	1,820	29
1948	1	85	7,413	82	6,079	2,356	28
1949	1	82	7,173	85	6,097	2,065	25
1950	1	131	11,390	85	9,682	3,279	25
1951	1	112	9,734	80	7,787	3,289	29
1952	1	112	9,755	80	7,804	3,296	29

(notes to Table M-1 on pages 457-463)

and land is measured. Ideally, the point in time would be the acquisition of new residential real estate facilities upon completion, since this study is not concerned with the temporary financing of the construction process itself. The construction expenditure series, however, represents the value of work put in place rather than the value of completions. The estimating procedure for the flow of mortgage and equity funds assumes that there is a pro rata pattern of expenditures for construction and land and of the flow of mortgage and equity funds, which is not quite realistic. For example, if a construction project is started in the fall and completed the following spring, the actual pattern of expenditures may involve complete absorption of whatever equity funds may be involved in one year, and absorption of mortgage funds the next year.

The time problem is particularly acute in the case of land used for new residential construction. For example, the builder of a custom-built house or of an apartment house project erected in 1946 may have bought the land in 1944 or in 1940, whereas the estimating procedure would place the expenditure for the land in 1946. The problem is less serious in the construction by operative builders of single-family and similar houses for sale. In this case the flow of mortgage and equity funds is simultaneous upon completion and sale and covers both land and improvements; at this point the cash payment of the purchaser plus permanent mortgage(s) replaces cash, construction advances, and possibly materials suppliers' credits used by the builder. In any event, there is no basis on which adjustments to allow for differences in time pattern could be made, and the estimates are not fine enough to warrant such adjustments.

Another qualification refers to the various assumed ratios discussed in the footnotes to Table M-1. These ratios fully determine the resulting proportion of equity and debt financing, and the judgments of financing and other practices involved in the choice of the ratios determine the quality of the end-product. The estimated amounts of equity and mortgage funds are also subject to the margins of error in the basic statistics on residential construction expenditures.

Notes to Table M-1

Column	Source
1	Expenditures for housekeeping residential construction, exclusive of additions and alterations (Table B-3). Since the series includes operative builders' overhead and profit margins but excludes profits on land and "speculative profits of operative builders," final expenditures for construction and, therefore, the amounts of equity and mortgage funds spent to finance these expenditures are somewhat understated.
2	Conceptually, expenditures for land should be the cost of raw land plus site improvements (not included in private construction expenditures) to the first owner or purchaser of new residential structures. In the case of houses sold to owner occupants by operative builders, this cost includes operative builders' profits on the land. In this case the concept approximates the land valuation placed by the FHA on single-family houses. For custom-built houses and rental housing the ideal figure would be the actual cost of land and site improvements to the first owner, for which few empirical data exist. Other things equal, the ratio of land expenditures is assumed to be somewhat lower in the case of multi-family (rental) dwellings than in the case of single-family or two-family dwellings. But if multi-family dwellings are built in inlying urban areas, the ratio is assumed to be higher.

Apart from these considerations of type of dwelling, the ratio of land expenditures to construction expenditures is influenced by variations in the cost of land and of construction, particularly over long periods. It is reasonable to assume and has often been observed that the increased radius of commuting, made possible by automobile and bus transportation, has greatly expanded the supply of land available for residential construction and reduced the cost of land relative to the cost of construction, in spite of the fact that unit costs of site improvements have increased. Therefore, a higher ratio of land to construction costs is warranted for earlier periods.

The starting point for this ratio is the land valuation for new single-family homes financed with FHA-insured loans as a per cent of total FHA valuation. This percentage varied between 10 and 13 during the decade 1940-1949 for both Section 203 and Section 603 operations of the FHA (see *Annual Reports*). There is no reason to believe that this percentage varied substantially in non-FHA-financed single-family house construction. For multi-family construction, FHA *Annual Reports* indicate a ratio of between 11 and 12 per cent for Section 608 projects built in 1947 to 1949 (computed from the dollar amount of land value per dwelling unit and data on mortgage amount per unit and ratio of mortgage to replacement cost). However, these are valuation ratios and are probably higher than the ratio of actual expenditures for land to total cost. On the other hand, the ratio is higher in non-FHA rental projects in inlying areas. Consequently, a 12 per cent ratio has been assumed for 1940-1952 for all types of residential construction. For the period 1936-1939 the FHA ratio for single-family houses varied between 14 and 18 per cent; and 15 per cent was assumed for all residential activity.

Lower ratios—10 to 12 per cent—have been selected for 1931-1935 because much prepared land was left over from the building boom of the twenties and was acquired at low prices by builders in the early thirties. From 1916 to 1930 the selected ratios reflect the decline in land prices relative to construction costs discussed earlier. It is in this period that the impact of automobile and bus transportation on the opening up of land for residential construction was most pronounced. A compre-

(notes continued on next page)

Notes to Table M-1 (continued)

Column	Source
	hensive study covering sixty-four cities in all important size classes concluded that, in 1929, the cost of the lot averaged 18.1 per cent of the cost of the lot and house, for medium-cost houses (Robert Whitten and Thomas Adams, *Neighborhoods of Small Homes*, Harvard University Press, 1931, Table XIII). This ratio was used as a guide but was raised to 20 per cent for 1923-1928 and 22 per cent for 1916-1922. For the period before 1916 a 1907 bench-mark figure was used. For eight of the sixty-four cities mentioned earlier, it is possible to compare the 1929 data on the cost of prepared lots with 1907 data derived from a survey of local real estate boards. These, plus the construction expenditures per dwelling unit in the same eight cities obtained in the tabulation of historical WPA building permit records (Chapter III), yielded ratios of the cost of lots to the cost of lots and houses in 1907. The average ratio for the eight cities was 24.4 per cent. The derivations are more fully explained in Louis Winnick's "Wealth Estimate for Residential Real Estate" (unpublished doctoral dissertation, Columbia University, 1953). A ratio of 25 per cent was selected for 1911-1915.
6	There are several sources of data on the proportion of all cash (equity) purchases of houses for owner occupancy during recent periods. According to the Surveys of Consumer Finances, the following proportions of purchases of both new and existing houses for owner occupancy were financed without borrowed money: 1949, 18 per cent; 1948, 22 per cent; 1947, 16 per cent. The 1947 percentage is probably understated since no question was asked about nonmortgage borrowing in that year. Thus a ratio of 20 per cent for the postwar years would seem to be warranted, but this ratio applies to existing as well as new houses. Another sample survey for 1950 arrived at 15.6 per cent (George Katona, "Relevant Considerations in Recent Home Purchases," unpublished report to the Housing and Home Finance Agency, June 1951). Surveys by the Bureau of Labor Statistics in fifteen metropolitan areas showed a much lower percentage of all-cash purchases: 6.4 per cent of all new single-family houses completed and purchased during the second half of 1949 (Bureau of Labor Statistics, *Construction*, March 1951, Table 13, p. 15). This is probably an understatement if applied to the entire United States. The underlying data exclude owner-built houses, which are less frequently mortgaged than other new houses. Also, the proportion of nonmortgaged houses outside metropolitan areas is probably higher than that in these areas, no matter who builds the improvements. No information is available for structures other than single-family houses. For new multi-family buildings the tendency during the postwar years has been toward debt financing approaching the full amount of expenditures, particularly under FHA mortgage insurance programs. However, substantial projects have been built by insurance companies and other financial institutions on a full equity basis. In the light of these observations it seems reasonable to assume that 12 per cent of all expenditures from 1946 through 1952 were represented by all-cash transactions. For the war years from 1941 through 1945, this proportion was substantially lowered. For one thing, the proportion of all-cash transactions was unusually high during the late forties, because of the large volume of liquid assets held by consumers. Second, World War II regulations limiting the purchase of new homes to war workers and the sale price

(notes continued on next page)

Notes to Table M-1 (continued)

Column | Source

to $6,000 for single-family houses should have tended to reduce the proportion of such transactions.

The 1941 ratio of 10 per cent was stepped up to 12 per cent for 1940, 15 per cent for 1935-1939, and 18 per cent for 1931-1934. During the late thirties the proportion of contract-built single-family houses, which usually show a large ratio of all-cash financing, was high, and the proportion of multi-family construction, which usually shows a small ratio of all-cash financing, was low. During the early thirties these factors were even stronger and were supplemented by the difficulties of obtaining any mortgage financing.

For the period before 1934, guides were found in data in the *Financial Survey of Urban Housing*, Dept. of Commerce, 1937. Table 29 of the *Survey* presents detailed information on the proportion of owner-occupied single-family houses in twenty-two cities that were acquired debt-free, by year of acquisition from 1900 through 1933. The twenty-two cities are widely scattered geographically, with at least two cities represented in each of the nine geographical divisions of the census except the East South Central region, which is represented by only one city.

From the tables for each of the cities, the percentage of owner-occupied one-family dwellings in each city acquired without debt and a median percentage for the entire twenty-two-city sample were computed. The median percentage series is shown in Table M-2. The series applies to acquisitions of both new and old structures. The percentages relate to the relative number of properties acquired debt-free, rather than the relative value of such properties. The acquisitions include gifts and inheritances, as well as purchases.

The entire series in all probability has an upward bias. In the first place, it is likely that the proportion of home owners still holding property in 1934 who acquired their properties in previous years debt-free was higher than the true proportion of debt-free acquisitions in those years, because debt-free owners probably were in a better position to weather the depression of the early thirties as well as random financial difficulties before that time than owners with mortgage obligations. Second, the inclusion of nonmarket transfers (gifts and inheritances) may bias the series upward even more, since these are much more likely to be debt-free than market transfers.

The percentages from the *Financial Survey of Urban Housing* were modified to allow for this upward bias and also for multi-family construction, where the proportion of debt-free acquisition has always been much lower than in single-family house construction. The modified percentages are also shown in Table M-2.

8 A varying proportion of new construction, principally single-family homes, has been financed on sales contracts. Under this method of sale the builder receives no downpayment or a very small downpayment and retains title to the property until the purchaser has accumulated a sufficient downpayment through installment payments, at which point title is transferred and mortgage financing arranged. Under a variant of this procedure there is a first mortgage on the property and the amount of the sales contract is for the difference between it and the full purchase price. In practically all cases the builder sells the contract to finance companies, banks, or specialized mortgage and realty companies. Unlike mortgages, sales contracts are not recorded, and they do not enter into mortgage statistics. Conceptually, they must be taken into account.

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Notes to Table M-1 (continued)

Column	Source
	There are no data whatever available on the use of sales contracts in the acquisition of new construction, but contemporary discussions indicate that they were used extensively during the twenties. It appears also that they were used particularly in the late phases of the construction boom when builders began to experience difficulties in the sale of houses and tried to maintain operations by sale to purchasers with lower credit standing. (Sales contracts have also been used in the sale of existing construction and of subdivision lots, but these transactions are of no concern here.)
	Because of variations in state laws and local practices, sales contracts have been prevalent in the Middle West and West only, which reduces the amounts involved in any national estimates. This regional concentration implies also that sales contracts were less important in earlier decades when new residential construction in these areas was a small proportion of total construction in the United States.
	According to David L. Wickens' *Residential Real Estate* (National Bureau of Economic Research, 1941, Tables D-15 and D-16), sales contracts outstanding in 1934 in fifty-two cities represented 4.8 per cent of the amounts of mortgages and sales contracts combined in the case of owner-occupied dwellings and 1.3 per cent in the case of tenant-occupied dwellings. These data probably understate the use of sales contracts during the twenties since there were substantial defaults before 1934.
	Of about 140,000 sales of foreclosed properties by the Home Owners' Loan Corporation through June 30, 1941, 39.2 per cent were effected through "sales contracts or other instruments in lieu thereof," as distinct from sales "on security instruments" and cash sales (*Ninth Annual Report*, Federal Home Loan Bank Board, p. 154). This figure is high because the HOLC had to sell a large number of marginal properties to purchasers with limited means.
	In the absence of other information, it has been assumed that the proportion of sales contracts to total expenditures for land and construction was at a high of 6 per cent from 1924 to 1926, at the peak of the building boom for single-family houses, and that this percentage was gradually reduced both before and after this period. It has been further assumed that sales contracts practically disappeared in the early and middle thirties because of the inability of marginal purchasers to acquire new construction and the disappearance of finance companies, etc., which had previously bought such contracts. Also, the liberal financing terms under federal mortgage insurance programs probably reduced the use of sales contracts to insignificant proportions from the late thirties to the early fifties.
11	Here again, several sets of data are available for recent periods. In FHA-financed single-family house construction, the average mortgage loan varied between 80 and 90 per cent of the average FHA value during the forties, taking Section 203 and Section 603 operations together (FHA *Annual Reports*). A somewhat higher range of 85 to 95 per cent is indicated for veterans' home loans on new construction (VA statistical summaries). FHA and VA loans during the forties accounted for roughly one-half of single-family house construction.
	According to the census of 1950, the total mortgage indebtedness at the time of purchase was 84 per cent of the purchase price for new single-family houses acquired in 1949-1950; 79 per cent for houses acquired in 1946-1948; 83 per cent for property acquired in 1942-1945;

(notes continued on next page)

Notes to Table M-1 (continued)

Column Source

and 80 per cent for property acquired in 1941 or earlier. These are median percentages. *Census of Housing 1950*, Bureau of the Census, Vol. IV, *Residential Financing*, Part 1, p. 235.

A BLS survey of the financing of the purchases of new single-family dwellings during the second half of 1949 in fifteen metropolitan areas suggests a higher ratio of about 85 per cent, also based on the reported frequency distribution (*Construction*, Bureau of Labor Statistics, March 1951, Table 14, p. 16). This ratio is probably too high if applied to the United States as a whole. Financing in smaller communities is generally more conservative than in metropolitan areas and is held down by the greater frequency of contract- and owner-built construction.

Thus the assumption of an average loan value of 80 per cent appears warranted for new single-family houses and two- to four-family structures.

For multi-family construction the ratio of mortgage loan to acquisition cost is assumed to be higher than for single-family and similar houses. Multi-family construction is traditionally undertaken with low actual equity funds (as distinguished from equity book values, often created by appreciation of land values and other practices). Also, the bulk of multi-family residential construction after World War II was financed by FHA loans actually approximating the maximum legal ratio of 90 per cent (FHA *Annual Reports*).

According to the census source mentioned earlier, the total mortgage indebtedness at the time of purchase was 95 per cent for new rental properties acquired in 1949-1950; 91 per cent for properties acquired in 1946-1948; and 79 per cent for properties acquired in 1941 or earlier. Here again, these are median percentages. *Census of Housing 1950*, Vol. IV, *Residential Financing*, p. 623.

In the light of these considerations, column 11 shows a ratio of 85 per cent for 1950 and 1949. A lower ratio of 80 per cent is assumed for 1951 and 1952 since credit restrictions were operative during these years and the proportion of new residential construction financed with FHA and VA mortgages was smaller than in 1949 and 1950. An even lower ratio might appear to be justified in the light of the minimum downpayments prescribed under these restrictions. However, much of the new residential construction acquired in 1951 was financed with loans committed in 1950 before the restrictions took effect. In June and again in September 1951 minimum downpayments were reduced, and the restrictions were lifted in September 1952.

From 1949-1950 back to 1946-1947 the ratio of mortgage loan to acquisition cost drops gradually from 85 to 80 per cent. For the war years somewhat higher ratios are assumed because of the limitation of new residential construction to housing for war workers almost exclusively financed with high-percentage FHA-insured loans.

During the last half of the thirties the FHA ratio for single-family houses was in the range of 76 to 88 per cent, less than during the forties, and the proportion of FHA financing to total financing of residential construction was lower. Consequently, ratios of 70 to 75 per cent are used for 1936-1940, and 68 per cent for 1934 and 1935, when the FHA program was just getting under way. Two sources of data are available for the period before 1934. The National Bureau of Economic Research data for life insurance companies, commercial banks, and savings and loan associations were used as guides for the twenties, as were Lintner's data for mutual savings banks (John Lintner, *Mutual Savings Banks in the*

(notes continued on next page)

Notes to Table M-1 (continued)

Column Source

Savings and Mortgage Markets, Harvard University, Graduate School of Business Administration, 1948). These data indicate roughly a 50 per cent ratio for first mortgage loans made by life insurance companies and commercial banks on one- to four-family houses, a somewhat higher ratio for mutual savings banks, and a ratio of more than 60 per cent for savings and loan associations. These ratios were generally lower for other types of property, but the difference between book equities and actual flow of equity funds has been particularly great for this kind of property. The ratios given in the National Bureau of Economic Research volumes must be raised to allow for the widespread use of junior mortgages during the twenties, and for the excesses of debt financing for multi-family structures, which during the late twenties, amounted to about 30 per cent of all new dwelling units.

For the period 1911 to 1933, guides to the ratio of mortgage loans to purchase price of single-family houses are also found in the *Financial Survey of Urban Housing*. The data cover twenty-two cities and refer to purchases of both existing and new houses. Home owners in these cities in 1934 were asked when they acquired their properties, what the acquisition cost was, and what amount of debt they assumed at the time of acquisition. From this latter set of data a median value for the average debt-to-acquisition-cost ratios for each year for the twenty-two cities was computed. This time series is presented in column 2 of Table M-3.

The series in this form includes both the acquisition costs of houses acquired debt-free and of houses acquired through mortgage financing. It was necessary, therefore, to shake out the acquisition costs of houses acquired debt-free. The results are shown in column 3. These show the proportion of loan to acquisition cost for those houses that were acquired with mortgages.

These results cannot be directly accepted for the purpose of estimating the flow of mortgage funds into new residential construction. In the first place, they cover both existing and new homes, and the marketing methods used by operative builders may cause substantial variations in loan-to-price ratios between these two groups. Second, the source data refer to single-family houses only. Third, while the series on debt-free acquisitions and the residual series on debt-to-acquisition-cost ratios in debt-financed cases may have various and possibly opposite biases, there is at least a likelihood of an overwhelming downward bias in the data in column 3.

The basic information used was drawn from a sample of home owners in 1934. It is highly probable that this set of home owners acquired their properties with a smaller than average debt-to-purchase-price ratio in each year under study. This is because the debt-to-purchase-price ratio at time of acquisition probably bears some relation to continuity of ownership. As a result, of all those who purchased homes between 1911 and 1933, those who bought homes with a larger proportion of equity money were more likely to be still holding their homes in 1934. A further possible reason for a downward bias is the fact that nonmarket transfers (such as gifts and inheritances) seem to be included in the basic data. Property acquired through nonmarket means probably carried a smaller debt-to-value ratio than property actually purchased.

In the light of these observations, and to account for the higher debt financing in multi-family construction, the ratios actually used for the period 1915 to 1929 (column 3) are in most cases several points higher

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Notes to Table M-1 (continued)

Column	Source
	than those in column 2. These ratios have also been smoothed out, since the variations in the *Financial Survey* sample preclude any great reliance on the year-to-year movement as distinct from the level and direction of change. This is true particularly of the early years when the sources show apparent random movements and the sample of home owners still holding their original property thins out. A particular problem was encountered for the years 1930 to 1933. The source data suggest an increase in the debt-to-purchase-price ratio from 1931 to 1932 and again to 1933. This is in conflict with the notorious and increasing unwillingness of mortgage lenders during these years to make loans for new construction on any but the most conservative basis. The source data are probably heavily influenced during this period by purchases of existing single-family houses, new construction being very low. They may also be influenced by sales of foreclosed properties with high-percentage purchase money mortgages. For these years, therefore, the assumed debt-to-purchase-price ratios for *new* construction are equal to, or fall below, the ratios derived from the source. On the basis of the National Bureau of Economic Research and *Financial Survey* data, and in the light of the varying proportions of multi-family construction, a 65 per cent ratio for 1933 was stepped up gradually to 78 per cent for 1927-1928 and reduced to 70 for 1919-1920. For the period before 1919 a constant ratio of 65 per cent was assumed, one representing the upper limit for first mortgage loans made by the major financial institutions. This ratio should make adequate allowance for such junior financing as occurred during this period.
12	Column 10 multiplied by column 11.
13	Column 5 less (column 9 + column 12).

TABLE M-2

Debt-Free Acquisition of Residential Construction, 1911-1933

	Median Percentage of Owner-Occupied One-Family Houses Acquired Debt-Free, 22 Cities, 1900-1933 (1)	*Assumed Percentage for Total New Construction* (2)
1911	44.9	30
1912	50.0	30
1913	44.0	30
1914	44.9	30
1915	39.3	30
1916	35.8	28
1917	37.7	28
1918	39.2	28
1919	29.8	25
1920	31.6	25
1921	26.5	25
1922	32.0	25
1923	24.3	20
1924	25.3	20
1925	20.1	15
1926	22.3	16
1927	20.9	15
1928	21.8	15
1929	21.5	15
1930	22.8	16
1931	22.6	18
1932	24.5	18
1933	23.2	18

Column	Source
1	Based on *Financial Survey of Urban Housing*, Dept. of Commerce, 1937. Excludes those years for each city in which three or less properties were acquired. Includes existing as well as new houses.
2	Column 6 of Table M-1.

TABLE M-3
Average Ratios of Debt to Purchase Price, 1911-1933

	ONE-FAMILY OWNER-OCCUPIED HOUSES 22-CITY SAMPLE		ESTIMATED RATIO FOR ALL NEW RESIDENTIAL CONSTRUCTION
	All Homes (1)	*Homes Bought with Debt* (2)	(3)
1911	31.7	57.5	65
1912	31.3	62.6	65
1913	31.8	56.8	65
1914	33.6	61.0	65
1915	33.8	55.7	65
1916	39.2	61.1	65
1917	40.4	64.8	65
1918	36.9	60.7	65
1919	45.6	65.0	70
1920	42.8	62.6	70
1921	46.4	63.1	72
1922	43.2	63.5	72
1923	48.6	64.2	75
1924	49.8	66.7	75
1925	54.1	67.7	75
1926	51.5	66.3	75
1927	54.6	69.0	78
1928	51.4	65.7	78
1929	53.1	67.6	75
1930	54.5	70.6	70
1931	54.4	70.3	70
1932	55.7	73.9	68
1933	58.9	76.7	65

Column	Source
1-2	Based on *Financial Survey of Urban Housing,* Dept. of Commerce, 1937. Includes existing as well as new houses.
3	Column 11 of Table M-1.