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CHAPTER II

PREVIEW OF FINDINGS

A SYNOPSIS of this volume will serve as an outline of its framework and as a preview of its main findings, though most of the necessary qualifications must be omitted. The monograph falls into three major parts. The first of these (Part A) deals with real capital formation in residential real estate and the factors affecting it. The second (Part B) analyzes the flow, uses, and sources of capital funds in this field. The third (Part C) attempts to appraise the long-term prospects for capital growth in residential real estate.

The Record of Capital Formation

The analysis of capital formation begins with a presentation of the record of private residential construction over more than six decades, 1889 to 1953 (Chapter III). When the familiar long cycles are examined for secular trends, construction expenditures in current prices show a long-term increase. In real terms, however, there has been a pronounced change in the rate of growth of gross capital formation. Averages for three long swings in real terms show a substantial rise from the first cycle, approximately 1892-1905, to the second, approximately 1905-1925, and a smaller rise or level movement from the second cycle to the third which is marked off by the 1925 peak and the apparent peak of 1950. This pattern is consistent no matter what unit of measurement of gross capital formation is used: the number of dwelling units for which construction was started during the year, expenditures in constant prices for new dwelling units, or expenditures in constant prices for new units plus additions and alterations. Expenditures in "constant prices" (current prices adjusted to the 1929 price base) represent actual physical construction more accurately than would dollar expenditures unmodified for price change.

Annual dwelling unit starts averaged about two-thirds more during the second cycle than in the preceding swing, but during the third cycle they averaged barely 4 per cent more than in the second cycle. Thus the secular growth of capital formation in residential real estate—certainly beginning long before the nineties, with which this record commences—seems to have come to a halt during the 1925-1950 period.

A similar picture emerges on comparison of shorter but more recent periods including part of the postwar housing boom. Annual averages of deflated expenditures for residential construction from 1946 to 1953 were only a little higher than during the decade of the twenties. The number of dwelling units started, however, averaged 990,000 a

year during the eight postwar years as against 700,000 during the twenties. This difference between dwelling units started and deflated expenditures highlights a long-term trend toward smaller real input per dwelling unit, which will be discussed later.

The relative amplitude of long swings has been increasing over the six decades. Cyclical amplitudes of dwelling unit starts increased more than 40 per cent between the first and second cycles and by about two-thirds between the second and third long swings. Expenditures in constant prices show an even more pronounced rise in cyclical amplitudes. The two World Wars and their aftermaths during the second and third cycles probably accounted for much of this increase in cyclical instability. Whether or not these cycles were accentuated by wars, long swings in residential construction since World War I have closely coincided with those in the rate of growth of the economy as a whole. In contrast, earlier experience had shown a significant divergence in timing between long cycles in residential building and in the rate of growth of total (i.e. gross) national product. This coincidence since World War I must have reinforced the cyclical amplitude of both gross national product and residential construction activity.

Trends in gross capital formation may be partly determined by changes in the composition of residential construction. Several major changes have indeed occurred. First, the "structure-mix" of housekeeping residential building has varied significantly since the beginning of this century. Dwelling units in structures with two or more housekeeping units represented a growing proportion of all new dwelling units through about 1930, although they never accounted for more than half of all units built. This was the era of city building, with its progressively intensified use of land. Since then single-family houses have increased in relative importance; almost 85 per cent of all new units during the forties were this type of structure. The automobile, of course, has been the main initiator of the recent era of suburban sprawl, with its emphasis on the single-family house. Among other things, this drastic change in structure-mix has affected average construction expenditure per dwelling unit.

Second, additions to and alterations of existing structures have become a more important component of gross capital formation. From 1915 to 1953, expenditures for additions and alterations averaged about 11 per cent of expenditures for new dwelling units, and there is reason to believe that this ratio, because of deficiencies in data, understates their relative importance. Expenditures for additions and alterations have been more stable cyclically than expenditures for new construction. Their ratio to new housekeeping residential construction has risen as the total number of existing houses has increased relative to

new construction. Conversions of existing dwelling units have represented a growing proportion of the net additions to the total supply of dwelling units.

On the other hand, expenditures for "nonhousekeeping" construction such as hotels, tourist courts, and summer cottages have declined since the twenties relative to those for "housekeeping" construction, or dwelling units for year-round occupancy. From the last decade of the nineteenth century to the twenties the relative importance of nonhousekeeping facilities in total residential construction increased sharply. In the twenties $7 was spent on new nonhousekeeping construction for every $100 spent on new dwelling units. From 1940 to 1949 the average ratio was only 2.8 per cent, and the ratio for the recent postwar period alone was even lower. To be sure, the past two decades witnessed a sharp increase in the construction of motels, summer cottages, tourist courts, and similar accommodations—in response to the growing popularity of the automobile and of recreation. The proliferation of these relatively inexpensive facilities, however, so far has failed by a wide margin to offset the drastic decline in expenditures for urban hotel construction, a highly expensive building type which had dominated the nonhousekeeping category before the thirties.

Analysis of net capital formation, which is the subject of Chapter IV, sharpens the impression of a drastic secular change in the rate of real growth in residential construction. (Net capital formation is obtained by subtracting capital consumption allowances from gross investment.) Averages for the three long swings in net capital formation in constant prices show a rise of only about 5 per cent from the first to the second cycle (as against an increase of about one-third for gross capital formation) and a drop of almost two-fifths from the 1905-1925 to the 1925-1950 cycle (as against a level movement for gross). Annual average net capital formation in constant prices during the eight postwar years 1946-1953 was 7 per cent lower than that in the twenties (as against a slight increase for gross). The marked difference between the trends in gross and net capital formation is due, of course, to the continuous increase in the physical stock of housing, with an attendant rise in the total of capital consumption allowances, combined with a substantial decline in gross capital formation relative to the value of the housing stock. The ratio of gross capital formation to residential capital in constant prices fell from an average of 74 per cent in 1890-1909 to 56 per cent in 1910-1929 and 24 per cent in 1930-1949.

In this context, estimates of capital consumption are crucial (see Appendix E). It must suffice here to say that capital consumption allowances as calculated for this purpose consist of (1) an annual depreciation charge of a constant 2 per cent of net cumulated structure

values—resulting in a lower allowance than is found in most other studies of capital formation in residential real estate—and (2) estimated demolition losses.

As would be expected, the ratio of net to gross capital formation has shown a secular decline. In current prices, every $100 in gross capital formation was associated with almost $63 in net capital formation during the first of the three long swings examined in this monograph, with less than $55 in net during the second cycle, and with only $34 in the last one. In three periods during the six decades there was actual net disinvestment in residential real estate: in each of the two World Wars and during the Great Depression.

The growth of total residential capital, that is, of structure values in constant prices, has been proceeding at a declining rate. The average rate of growth per decade was 47 per cent from 1890 to 1909, and only 31 per cent between 1910 and 1929. During the two decades from 1930 to 1949 the value of residential capital in real terms did little better than maintain itself, but it increased 14 per cent from 1949 to 1953. The physical stock of housing (number of dwelling units standing) has continued to grow over the past six decades, but the ratio of new dwelling units started to the inventory of existing units has shown a marked downward trend.

Forces Impinging on the Growth of Residential Capital

On the whole, then, the long-term record of capital formation in residential real estate points toward arrested growth or actual decline in real terms, depending upon whether gross or net additions to capital are considered. The forces underlying this apparent trend are separated into two parts: factors that have determined the number of dwelling units built (Chapters V and VI) and factors that have operated to produce changes in real input per new dwelling unit (Chapter VII). These forces could conceivably operate in opposite directions. For example, a decline in the rate of population growth in the long run might reduce the number of new dwelling units constructed, but if real input per new dwelling unit rose at the same time, total construction expenditures in constant prices might still increase or at least fail to drop.

The first of these two basic groups of forces is more familiar than the second. Previous investigations have already established the long-term relationship between the growth of nonfarm population and the level of net additions to the housing stock. The demand unit for housekeeping residential facilities is, of course, the household. The rate of increase in the number of nonfarm households, as well as in total nonfarm population, has shown a secular decline during the six decades con-

sidered in this study. But the decline in the rate of growth of households has been only half the reduction in the rate of growth of population. Average rates of growth per decade of nonfarm households were about 34 per cent in 1890-1910, a little over 28 per cent in 1910-1930, and 26 per cent in 1930-1950. Moreover, absolute increments to households have been increasing. The lack of increase in the number of new dwelling units built from the 1905-1925 cycle to the 1925-1950 cycle therefore cannot be attributed to a declining rate of household growth.

At first sight this finding seems to negate the long-run relationship between population growth and increments to the housing stock. But this is not the case, for new construction is but one means of adding to the housing stock. Conversions of existing dwelling units is another. During the thirties and forties, conversions probably were at a much higher level, both in absolute numbers and in relation to new construction, than in any previous period. The relationship between population growth and net additions to the housing stock was well maintained during the last of the three long swings, but there was a marked shift in the sources of net additions to the housing supply—a shift of greater significance than has been realized.

The smaller decline in the rate of household growth than in the rate of population growth has been due to a 20 per cent fall in the average size of the nonfarm household from 1900 to 1950. This fall can be attributed in part to the well-known secular drop in birth rates, the resulting decline in the number of children per family, and the decreasing age at marriage. Another not unimportant factor has been the establishment of households by social units other than biological families. In 1950 almost one-quarter of all occupied nonfarm dwelling units were absorbed by households which were not husband-wife families.

The manner in which the population arranges itself into households occupying separate dwelling units has been subject to marked changes, which are associated with trends in longevity and other demographic factors, changes in taste and preferences, and the rise in per capita real income. Under the influence of these factors the social units occupying or seeking separate dwelling units have become more and more fragmentized. To take a synthetic and somewhat exaggerated example, the household of an immigrant "family" in an urban area fifty years ago might have consisted of parents, children, one pair of grandparents, and the father's bachelor brother. In the second or third generation the same family constellation often resulted in three households, with the grandparents (whose life spans were lengthened) and the bachelor brother occupying separate dwelling units. This process of fragmenta-

tion has tended to maintain the long-term demand for housing at higher levels than would have been the case otherwise.[1]

Internal migration other than from farm to city has had significant effects on the locational distribution of housing construction (Chapter VI). During the period since 1920, for which data are available, the regional shifts in residential construction roughly corresponded to shifts in population. However, there seems to be no evidence that internal nonfarm migration to date has raised the total level of new residential construction by significant margins. Large foreign immigration until the twenties affected the level and timing of building activity although few immigrants immediately came to occupy new dwelling units.

It is fair to conclude that the declining rate of population growth to date has not been the sole cause of the arrested growth of the number of new dwelling units built. The impact of this force was blunted by the reduction in average household size and an increase in absolute increments in households. Rather, the failure of new dwelling units to rise significantly from the 1905-1925 cycle average to the 1925-1950 average was associated with a substantial increase in conversions of existing dwellings.

This conclusion adds to the significance of the second basic group of forces that has affected the level of residential capital formation: the factors causing the decline in real input per new dwelling unit (Chapter VII). This decline was as much as 40 per cent from the nineties to the late forties, and it has been persistent, with the exception of a few minor fluctuations and one major upturn during the twenties. Here is a long-term force of major magnitude—a force that seems to have escaped the attention of previous investigators of this sector of the economy. A new finding of this kind ought to be closely scrutinized. Both the statistical reliability of the data and the explanations of the phenomenon require examination.

The accuracy of the statistical results in this case hinges upon the reliability of the index of construction cost which is used to transform expenditures per new dwelling unit in current prices into expenditures in constant prices, that is, into a measure of real input per unit. Therefore, the cost index employed for this study was subjected to detailed scrutiny in the light of related statistical materials. This examination (Appendix C) leads to the conclusion that, for long-term analysis, the

[1] Even more important than fragmentation, i.e. an increased tendency for adults to establish separate households, has been the gradual "aging" of the population. Since 1900 there has been a marked rise in that proportion of the population with a high propensity toward separate living arrangements. Cf. Louis Winnick, *The Distribution of Housing Space*, Wiley, 1956.

margin of error cannot be very great, so that the index of construction cost may be used as an approximation of a true price index for new residential construction.

The finding of a marked downward trend in real capital per new dwelling unit since 1890 calls for identification of the complex forces that have determined this change. Some of these have tended to raise real input per unit; others have operated to reduce it. A mere listing must suffice at this point, full discussion of these forces and their interdependence being reserved for Chapters VII and VIII.

The principal factors operating to reduce real capital per new dwelling unit have been:

1. The increasing proportion of housing built in the West and South where, largely for climatic reasons, input per dwelling unit is lower than in the East and North
2. The larger proportion of construction in rural nonfarm areas, where input per unit is lower, since the late twenties
3. A decline in the average size of households and dwelling units
4. The tendency toward lighter materials and construction
5. The long-term increase in the price of new construction relative to other prices, which has induced consumers to economize on housing
6. And possibly occupancy of new construction by an increasing percentage of families farther down in the income pyramid, at least during the past fifteen to twenty years

The main forces operating to raise real capital per dwelling unit have been:

1. The addition or elaboration of construction and equipment items such as garages, closets, heating systems, and kitchen cabinets
2. The growing proportion of single-family houses since the late twenties
3. The rise in real income

A rough calculation indicates that three changes in the composition of new housekeeping residential construction—shifts in its regional distribution, the larger percentage of construction in rural nonfarm areas, and the larger proportion of single-family houses—have, taken in combination, accounted for about one-third to one-half of the decline in real expenditures per new dwelling unit since the decade of the twenties. The remaining half to two-thirds of the decline must be due to the other factors listed above.

That the interplay of all these forces should have produced a marked decline in real input per new dwelling unit appears at least plausible. Nevertheless, there remains a puzzling question. The spectacular rise in per capita real income since 1890 has been accompanied by sub-

stantial increases in per capita real consumption of nearly all other broad classes of consumer goods. The drop in real capital per new dwelling unit, it is true, has been accompanied by a decline in the average size of the household so that per capita real investment has fallen much less than 40 per cent or may have been stable. But why have consumers failed to demand housing of such high quality that real input per new unit would rise?

A tentative answer to this question is given in Chapter VIII. There is at least a strong presumption that housing has suffered a decline in the consumer's scale of preferences, resulting from the emergence of newer goods and services which have more successfully competed for a place in family budgets. The automobile, the growing emphasis on vacations and recreation, the popularity of "eating out," movies, radio and television, and washing machines and freezers have profoundly affected the ways consumers spend their income. In this respect, housing—both an old good and a necessity—has shared the fate of other old and indispensable commodities.

The failure of consumers to respond to rising per capita real income by increasing their per capita use of housing resources is evident in Chart 1. The per capita value in constant dollars of residential capital (the housing stock) was remarkably stable over the sixty years from 1890 to 1950 and was about the same at the end of the period as at the beginning.

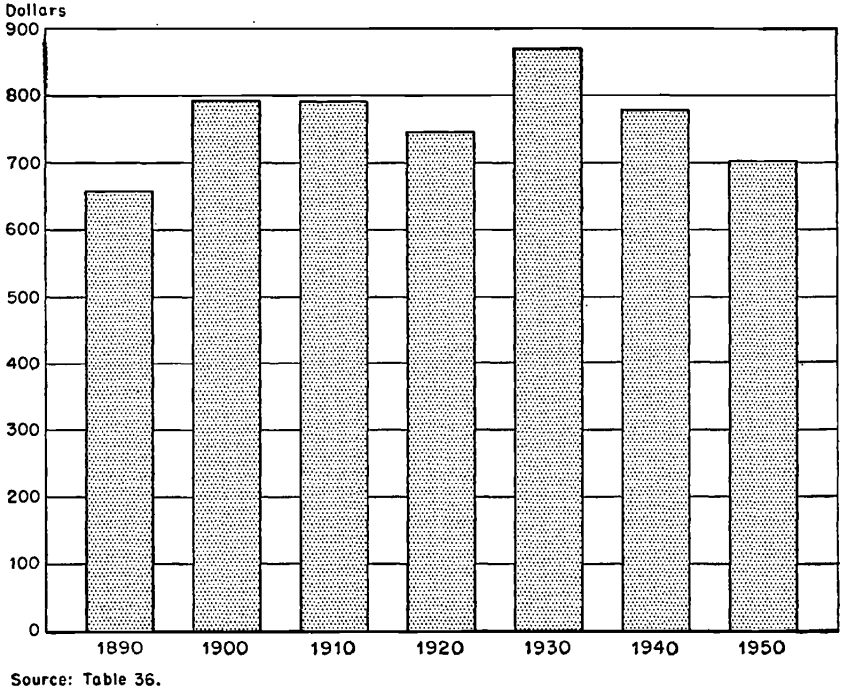
It would be wrong to conclude from these data that consumers have derived no increase in satisfaction from new housing or the total stock of housing. Some reductions in real input per unit, such as is due to use of lighter structural frames, need not result in lower quality. Improved design with more efficient space arrangements may have compensated for the decline in average dwelling unit size. More important, the sharp dividing lines in statistics between construction expenditures and expenditures for durable household goods (such as refrigerators and washing machines) not captured in construction data become less meaningful when consumer satisfactions from household operation, or from the dwelling unit and its total equipment, are considered. In fact, consumers may have substituted outlays for consumer durables, which form part of the household's equipment, for expenditures covered in residential construction statistics.

A Shrinking Sector of the Economy

In view of these findings it is not surprising that a progressively smaller part of the nation's aggregate resources have gone into residential building (Chapter IX). The use of real resources for private residential construction has shown a marked decline since 1891 in

CHART 1

Per Capita Value of Residential Capital, 1929 Prices, Selected Years, 1890-1950



Source: Table 36.

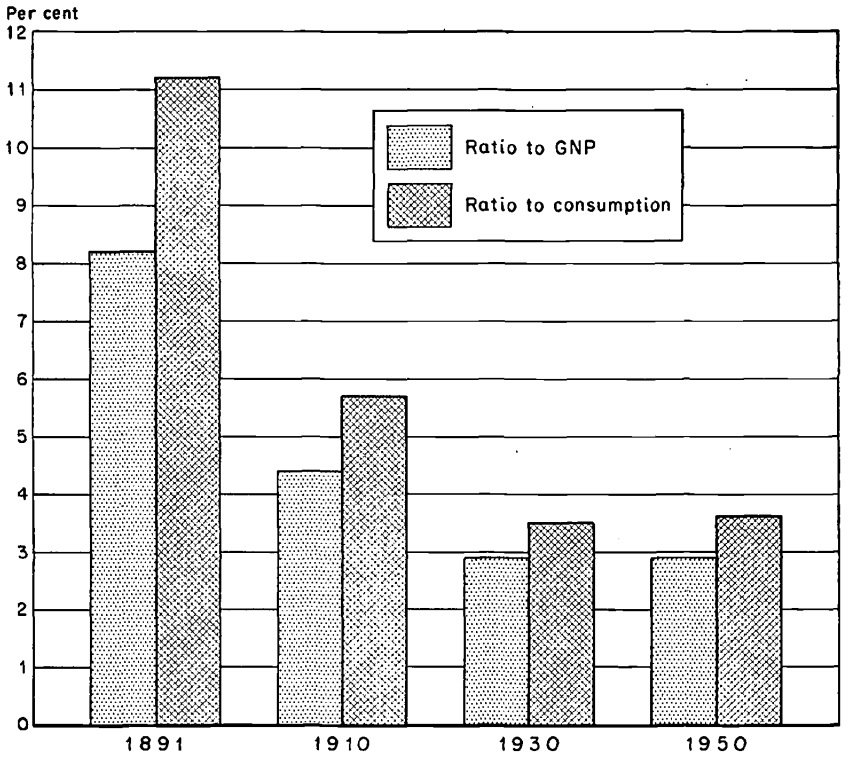
relation to gross national product, total capital formation, and aggregate consumption. Two of these relationships are portrayed in Chart 2. The ratio of gross capital formation in residential real estate to gross national product, in real terms, and measured from five-year moving averages, fell from 8.2 per cent at the beginning of the period to 2.9 per cent in 1950, and the ratio to total consumption in the same terms fell from over 10 to about 3 per cent. Moreover, the decline during these sixty years has been persistent, except for the decade of the twenties.

Residential construction has also become a much less important part of total gross capital formation. If reckoned in constant prices, for every $100 invested in new capital assets, about $30 went into residential real estate in the early nineties, but only $25 in the twenties, and about $13 in 1950. Residential construction has suffered some decline even in relation to total new construction.

These great changes must be interpreted in light of the relationship between population growth and net additions to the housing stock. In no other large sector of the economy has demand been so closely

CHART 2

Ratio of Residential Capital Formation to Gross National Product and Consumption, Selected Years
(based on five-year moving averages of all series in 1929 prices)



Source: Table K-1.

tied to population growth as in residential real estate. Because of the extreme durability of housing, the level of demand for additional residential facilities in the long run has been determined by household growth rather than by replacement of obsolete or used-up units, which has been important to the demand for commodities with shorter consumption periods. In addition, the declining importance of residential construction in the nation's total economic effort must be attributed at least in part to an apparent basic change in consumer attitudes toward housing.

The massive government aids to private residential construction which have been in operation since 1935 so far have not reversed the historical trends of capital formation in this field. Recent as they are, federal credit aids have come to occupy a strategic position in residential construction (Chapter X). From 1935 through 1953 more than

4.5 million new dwelling units, or about 40 per cent of all dwelling units built, were financed under these government programs. During the postwar years 1946-1953 alone, 3.3 million units, or almost 42 per cent of the total, were so financed. It is impossible, of course, to determine how many of these housing units would have been built in the absence of federal aids, but the programs tended to reduce down-payments and carrying charges for new houses and thereby to widen the market for new construction. Government assistance was probably more effective in this respect during the recovery period before World War II than after the war, when liberal credit fortified the price increases due to strong demand for dwellings and thus canceled in part the advantages of lower credit terms to home purchasers.

While mortgage insurance by the Federal Housing Administration was designed to stimulate the construction of rental housing as well as of single-family houses for owner occupancy, it was only after World War II that its rental housing program became large. In fact, four-fifths of all rental dwelling units built from 1947 to 1951 were financed with FHA-insured loans. Nevertheless, the proportion of rental housing to total residential construction was small compared with previous periods. The low ratio of building for rent, combined with the fact that the bulk of rental housing had to be financed under FHA terms unusually attractive to builders, is perhaps a measure of the difficulties faced in rental housing investment during the postwar period.

The emergence of government credit aids has had far-reaching effects on the institutional arrangements through which capital funds are channeled into residential construction. This aspect is discussed in the second major part of the monograph, which deals with long-term changes in the supply of capital funds for residential real estate.

Trends in the Financing of Capital Growth

The analysis of the flow, uses, and sources of capital funds involves questions such as these: What have been the proportions of external and internal funds or, more appropriately in this case, of equity and debt financing? How important are the various financial intermediaries in the supply of mortgage loan funds? What has been the role of new residential construction in the growth of the residential mortgage debt? What are the relationships between the gross flow of mortgage funds and the net change in debt? Are the secular trends in capital formation reflected in the funds accounts? What changes have occurred in the cost and terms of mortgage financing and how are they related to the level of capital formation? And what modifications in the flow, sources,

and costs of capital funds have resulted from the operation of government credit aids since the mid-thirties?

The analysis of capital funds again begins with the presentation of basic data for the period 1890 to 1952. Chapter XI portrays the growth of the residential mortgage debt. The increase in the physical stock of housing has been accompanied by a tendency toward greater use of borrowed funds for the acquisition of new dwellings as well as for the purchase and reconditioning of old. This tendency toward borrowing has probably been more pronounced in this sector of the economy than in any other, except for consumers' durable goods. The residential mortgage debt has increased enormously not only in absolute amount, as one would expect, but also per capita and per household, and in relation to total private long-term debt, personal income, and the value of residential real estate. In the last two of these comparisons, however, cyclical changes have been as pronounced as long-term trends.

From 1890 to 1952 the residential mortgage debt increased about 30 times, from $2.3 to 69.1 billion. The per capita debt in 1950 was almost $432 as against $68 in 1890, and indebtedness per nonfarm household in 1950 was about $1,500 compared with $289 in 1890. The rise in per capita and per household debt, however, cannot be interpreted as evidence of an increasing "burden of indebtedness." The ratio of debt to disposable income—admittedly a crude measure of that burden—has shown large variations: a decline from 1900 to 1920; a spectacular rise during the twenties, resulting in the highest ratio on record for 1930 (41 per cent); a drop during the next 15 years which brought the ratio in 1945 down almost to the level of 1910; and a sharp rise to about 30 per cent in 1952. At that point the ratio was still far below the 1930 level. Residential mortgage debt in relation to residential wealth in 1952 (26 per cent) was also below the previous peak of more than a third, which was reached in the early thirties, although it rose rapidly after 1945.

It is instructive to relate net increases in residential mortgage debt to residential construction expenditures. The ratio has increased in every decade since 1890 except the thirties, and the gain in debt from 1946 to 1950 almost equaled the total outlay for new housekeeping residential construction. The upward drift of this ratio suggests a greater use of external funds for the acquisition of new residential real estate, but it does not give direct evidence of such a trend. Changes in the residential mortgage debt are determined by changes in prices and in financing practices for existing housing and by repayments and other debt reductions (such as those caused by foreclosure), as well as by the demand for mortgage funds for new construction. For many purposes insight into the gross flow of capital funds into residential real

estate is as important as are data on net changes in debt. Chapter XII presents at least partial information of this kind and includes new estimates of the flow of equity and mortgage funds into new residential construction, which show more directly changes in the proportion of these two types of funds in the financing of capital growth.

As to the relationship between gross flow of mortgage funds and net change in debt, it is found for the late twenties and late forties—two periods of high lending activity—that roughly $2 to $4 of home loans were required for every dollar of net increase in the home mortgage debt (debt on one- to four-family houses). The data suggest also that in these periods repayments of home mortgage loans equaled more than half the amount of loans made—a ratio that highlights the importance of repayments as potential sources of funds for reinvestment in mortgages.

The estimates of the flow of equity and mortgage funds into *new* residential construction are admittedly rough in view of the paucity of basic statistical information. But by themselves and in conjunction with the mortgage debt data they lead to several important conclusions.

First, from 1911 to 1952 the ratio of equity funds invested in new residential real estate to expenditures for land and construction appears to have been higher than is usually assumed when reference is made to notorious "shoestring" financing in this field. As much as one-quarter to one-half of the funds used for the acquisition of new residential construction have been in the form of equity funds (including, however, miscellaneous nonmortgage borrowings). The reader must refer to the full discussion in Chapter XII for a reconciliation of this finding with common impressions to the contrary.

Second, this ratio has shown a long-term decline from about one-half before World War I to approximately one-quarter in recent years, with conspicuous rises in the proportion of debt financing during the two construction booms of the twenties and the late forties and early fifties. Thus the decline in the rate of real capital formation in this sector of the economy has been associated with a secular drop in the relative use of equity capital and a corresponding increase in the relative use of debt financing.

Finally, some evidence is found that the demand for funds originating in new construction has declined in importance relative to the demand for funds that originate in transactions involving existing residential real estate—a finding paralleling that of the declining ratio of new construction to the stock of residential real estate.

Changes in the sources of mortgage funds are analyzed in Chapter XIII. Here the most conspicuous trend is the increasing share of financial institutions in holdings of the residential mortgage debt—from 50

per cent of the total around the turn of the century to 84 per cent in 1952. Since the twenties the proportion of debt held by life insurance companies and commercial banks has risen substantially. Life insurance companies held 6 per cent of the debt in 1920, 10 per cent in 1930, and over 22 per cent in 1952. Commercial bank portfolios accounted for about 9 per cent of the debt in 1920 and just over 10 per cent in 1930, but their share in 1950 was almost as large as that of life insurance companies. Because of their growth in total assets, both types of institutions managed to increase their share in total residential mortgage holdings without raising the proportion of assets invested in such holdings. Savings and loan associations have been the largest holders of residential mortgage loan portfolios since 1920, accounting for between a fifth and a quarter of the total during the twenties and in recent years.

During the first two decades of the century, mutual savings banks were the largest institutional lender in the residential mortgage field. However, their share in total debt has declined sharply since the pre-World War I period, from about 25 per cent to 13 to 14 per cent in recent years. Moreover, mutual savings banks, which from the beginning of this century to about 1930 had raised the proportion of assets invested in residential mortgages, reversed this investment pattern thereafter, and it was not until 1952 that they devoted about the same percentage of their total resources to residential loans as in the late twenties.

The decline in the relative importance of mutual savings banks as holders of residential mortgages is due in part to their regional concentration in the Middle Atlantic and New England states. The share of these states in the residential mortgage debt has fallen drastically. Changes in the regional distribution of the debt have roughly paralleled those in the regional distribution of new residential construction: there has been a growing shift from the North and East to the South and West (Chapter XIV). The shift is illustrated most dramatically in the holdings of life insurance companies, the only type of institution that has continuously engaged in nationwide mortgage lending in this country. On the whole, there has been a tendency toward regional equalization of institutional mortgage lending activity, but marked differences persist in the regional distribution of holdings as between the principal types of lenders.

The growth of the residential mortgage debt and the tendency toward greater use of debt financing have been associated with substantial changes in the ease of borrowing—changes which are susceptible to only partial measurement (Chapter XV). It appears that mortgage interest rates since about 1880 have traced out long swings, with

a decline during the last two decades of the nineteenth century, a rise to the mid-twenties, and the well-known drop during the thirties and forties. According to more specific data for institutional loans on one- to four-family houses, average contract interest rates from 1920 to 1947 declined by about one-quarter while average contract lengths nearly doubled and loan-to-value ratios for first mortgages increased approximately one-third.

On the face of it, this is clearly a drastic change in favor of borrowing. That it failed to modify the downward trend in real capital growth testifies perhaps to the strength of this trend. Moreover, the effects of the new financing terms on demand for new construction may have been dulled by the halting and incomplete economic recovery up to World War II and the severe building restrictions during the war itself. Finally, the changes in financing terms contain at least one element that offsets partially the effects of lower interest rates and longer contract maturities on periodic charges and the demand for funds: the more common use of amortized loans. Loan amortization, though a sound financial device, increases the borrower's regular cash outlay when added to the interest required for unamortized mortgages.

To observe relationships between the ease of borrowing and the level of housing construction, Chapter XV compares also the long-term movement of bond yields and selected local mortgage interest rates with the long-term movement of residential construction expenditures. The results, beset as they are by conceptual and statistical difficulties, are no more than suggestive. In two of three long swings a rising level of construction expenditures was associated with increasing stringency of capital measured by bond yields and by contract mortgage interest rates, the exception being the expansion of residential construction from 1933 to 1950. Also, in all of the three long swings a wide or widening spread between gross bond yields and contract mortgage interest rates was associated with major increases in residential building activity. It is perhaps not amiss to state this negative conclusion: Historically, a decline in interest rates has not been a necessary condition for an expansion of capital formation in this sector of the economy.

The secular changes in the flow, uses, sources, and costs of capital funds for residential real estate, which were sketched to this point, have been profoundly affected by government credit aids since the middle thirties (Chapter XVI). Some of the changes, in fact, have been brought about or hastened by the insurance of mortgage loans through the Federal Housing Administration and the guarantee of such loans by the Veterans' Administration. These devices have accentuated the growth of institutional lending and stimulated particularly the participation of commercial banks in residential mortgage lending. By

improving the marketability of residential loans, they have contributed to the development of a nationwide mortgage market of a magnitude probably unprecedented in the history of private mortgage lending in this country, and have thus helped to produce a more even flow of funds into various regions. The federal credit aids accelerated the decline in residential mortgage interest rates and the liberalization of other contract terms from the middle thirties to recent years.

For the first time in the history of mortgage finance in this country, the market decisions which before had controlled the allocation of capital funds to residential construction have been subjected to the influence of a new force of major dimensions, quite different in impact and nature of operations from the traditional public supervision of financial institutions. Investment preferences have been modified by the insurance or guarantee of residential mortgage loans. Mortgage interest rates and other contract terms have become subject to governmental as well as private decisions. The Federal National Mortgage Association, created as a secondary market facility for established mortgage lenders, has at times become a primary source of funds supplementing those supplied by private financial institutions.

A few figures must suffice at this point to illustrate the dimensions of this new force. From 1935 through 1952, government-insured or -guaranteed mortgage loans on new residential construction amounted to about $26 billion, or about 45 per cent of the total estimated flow of mortgage funds into this type of construction. During the postwar years 1947 through 1952 alone, the amount was $20 billion, representing about half the total. At the end of 1952 the estimated balance of FHA and VA loans on both new and existing residential construction was over $29 billion, or more than two-fifths of the aggregate residential mortgage debt. During the six years from 1948 through 1953 the Federal National Mortgage Association purchased almost $3.7 billion of FHA and VA loans. This government agency held about $2.5 billion of such loans in its portfolio at the end of the period, and the bulk of these were VA loans at 4 per cent interest, which had lost attractiveness in comparison with other investment outlets of private financial institutions.

The development of government credit aids on such a scale within less than twenty years, directly affecting at times up to half the total market, obviously has far-reaching implications for the future course of financing and real capital formation in this sector of the economy.

The Place of Residential Building in Economic Growth

The study has revealed the basic trends which determined the role of residential construction in the economic growth of the United States

from 1890 to the early fifties. Whether the trends of the past will change in the future depends at least in part upon the strength of their interrelationships.

These interrelationships can perhaps be most easily understood if capital formation in residential real estate is viewed as an integral part of the economic growth of the United States during the past sixty years. Urbanization has been a part of this process of growth—a phenomenon now being duplicated in many of the less-developed countries. It has been both a condition and a result of the spectacular increase in output and per capita real income since 1890.

Residential building associated with urbanization required a larger proportion of the nation's total resources and investment during the early years of the six decades than during the later years. Certain trends closely correlated with urbanization reduced the share of residential construction in the total economic effort: a decline in the rate of growth of population and households, a fall in the average size of households, the development of demands for new consumers' goods which soon competed strongly with housing for a place in the family budget, the apparent decline in consumer preferences for housing, and the drop in real input per new dwelling unit associated with several of these trends.

Urbanization has been basic to the development of highly organized credit facilities and of consumer attitudes toward borrowing which encouraged debt financing and the extension of home ownership down the income scale. Finally, a government long interested in improving the farmer's fortunes has extended its benevolence to the city and suburban dweller, and has done so on a truly massive scale.

In the absence of companion studies for other economically advanced nations it is impossible to tell whether these trends are inherent in economic growth, but there is sufficient evidence to indicate that many similar developments have occurred in the countries of Western Europe. In any event, the persistence and interconnection of the trends suggest a large degree of future continuity for the United States, assuming that radical relocation of population and industry in the age of A- and H-bombs can be avoided.

The record of more than six decades of capital formation and financing in residential real estate raises crucial questions about future capital growth in this field. Do the findings foreshadow a continued slackening in the rate of residential capital growth and a progressive decline of the share of residential construction in total economic activity? If so, will such a trend affect the role of residential real estate as an outlet for the investment of capital funds? Will the apparent displacement of housing in the consumer's scale of preferences go on without modifica-

tion or reversal? Or will government aids, which have become a powerful influence in residential construction and its financing, operate to arrest the historical trends?

Obviously, responses to these questions draw on judgments—though judgments improved, it is hoped, by whatever contributions the analysis underlying this volume may have made toward a better understanding of the complex forces operating on capital formation in residential construction. Capsule summaries always incur the risk of oversimplification and misinterpretation. Nevertheless, an array of broad conclusions will be presented at this point, with the understanding that the reader must turn to Chapters XVII to XIX for the reasoning behind them and for various assumptions on which they are based. The time period considered extends roughly to 1975.

Factors in Future Capital Growth

The first question to be considered is the future trend in household growth. No matter which one of widely varying population projections is accepted, the historical decline in the rate of increase in the number of nonfarm households is likely to continue—in spite of a further fall in the average size of household. But absolute increments to the number of households, which are directly relevant to the future level of additions to the housing stock, will probably continue to rise within the 1950-1975 period.

However, the findings in this volume demand a sharp distinction between net additions to the housing stock and the number of *new* dwelling units built. Conversions of existing units during the thirties and forties were at a much higher level and represented much more frequent substitutions for new units than in any previous period on record. Future conversion potentials are therefore of great significance for an appraisal of long-term prospects for new residential construction. The large volume of conversions during the past two decades was in part caused by special circumstances on both the demand and the supply side, which were associated first with the depression and then with World War II. Barring a succession of similar conditions, conversions are unlikely to attain again so important a position in the total supply of additional dwelling units.

Thus the failure of the number of new dwelling units to increase significantly from the 1905-1925 cycle average to the 1925-1950 average does not necessarily presage a long-term decline. Moreover, at least two factors will tend to raise the volume of net additions to the housing stock over and above the level of increments to households. One of these is internal nonfarm migration. Assuming continued high mobility of the American population, migration will probably raise the level of

net additions to the housing stock more than it did in the past. For as the rate of population growth continues to decline, outmigration in an increasing number of nonfarm areas is likely to lead to actual population losses and persistent pockets of vacancies. The migrating households will create demand for new dwelling units over and above that associated with the formation of new households.

Second, as per capita real income rises and preference for leisure and recreation grows, an increasing number of households may be expected to demand more than one dwelling unit for their use—the additional units being in the form of summer houses, vacation cottages, and other "seasonal" accommodations. The beginning of this trend is already apparent, and, as the trend gathers momentum, the traditional notion of one dwelling unit per household can no longer be considered a general standard.

One might assume that the increasing age of the housing stock would also tend to raise the level of residential construction, because of progressively higher rates of demolition of worn-out buildings. However, the rate of residential demolitions to date has depended more on the expansion of other land uses in central city areas than on the age or condition of housing structures, and no appreciable change resulting from market forces is anticipated in this respect during the next twenty years or so. The future rate of demolitions may nevertheless be raised substantially by intensified urban renewal programs, highway construction in built-up areas, and similar activities financed or aided by governments.

The historical forces tending to reduce real capital per new dwelling unit have been strong and persistent, and it is difficult to foresee a reversal in this trend barring a radical change in consumers' attitudes that would give housing a higher priority on their income. There will be further improvements and installations in dwelling units that will tend to raise input per unit, such as air conditioning. But many of the new equipment items will be accounted for in national output categories other than new construction expenditures. The factors that have operated to reduce real input per unit will probably continue, although some of them may operate with less intensity: a growing proportion of housing built in the West and South, a decline in the average size of households and of dwelling units (although there are clearly limits in the case of the latter), the tendency toward the use of lighter materials and toward lighter construction, the relative price rise for new construction, and building for the mass market rather than the luxury trade.

A radical change in the consumer's scale of preferences in favor of new housing or better housing is, of course, a possibility. Conceivably,

when consumers approach an optimum of satisfactions in one or more components of a high consumption level their attention (and purse) may shift toward another, and no one will deny that the level of housing consumption of many American households has increased less than their level of consumption of food, clothing, amusement, or consumers' durables.

As home ownership and leisure increase, the old adage that a man's house is his castle may come closer to realization. There is indeed some evidence that these factors have served to intensify consumers' interest in good housing during the past few years. It is too early to tell, however, whether this change signifies more than a reaction to a long period of prosperity. If historical experience is any guide, a rise in per capita real income would not be enough to reverse past shifts in consumer preferences. Moreover, it would be most unreasonable to assume that the development of new consumer goods and services, creating further competition for the housing dollar, will come to a halt.

A change in consumers' preferences in favor of housing may be induced or encouraged by product innovation. If builders could persuade consumers to trade old housing units more rapidly and continually for new units superior in design, style, quality, or prestige value, the level of demand for residential construction would be raised substantially. But is this kind of replacement demand likely to materialize within the life span of the next generation? Substantial innovations in style, design, and quality have appeared in the past without generating such a revolutionary change in consumers' responses. Whether it will be produced by the conveniences of a one-story, single-family house or of air-conditioned buildings or similar innovations now in sight is open to question.

Even if a change in consumers' preferences is discounted, the rate of growth of residential capital formation will probably not continue to decline during the 1950-1975 period. In fact, if the forces operating on the number of new dwelling units attain the potential strength indicated earlier, and if the fall in real input per new dwelling unit slows down, housekeeping residential construction expenditures in real terms probably will increase over the level of 1925-1950. Moreover, real expenditures for additions and alterations are likely to grow in importance. Even under optimistic assumptions, however, capital formation in residential real estate will probably suffer a further relative decline in the nation's total productive effort.

Such a relative decline would not necessarily or correspondingly affect the relative opportunities for investment of mortgage funds in residential real estate. In the first place, the demand for capital funds will be determined not by real capital formation but rather by expendi-

tures for construction in current prices—expenditures which have increased in the long run. Second, the historical tendency toward greater debt financing of the acquisition of new as well as existing residential real estate will probably continue. Over half of the owner-occupied houses in 1950 were held free of debt, and the percentage of such houses mortgaged may increase. The median ratio of debt to value for mortgaged properties, 42 per cent for owner-occupied dwellings in 1950, can still rise. If the trend toward greater debt financing continues, the residential mortgage debt will grow faster than real capital formation in residential real estate and may increase in relation to total private long-term debt, as it did in the past. While the financial soundness of such a development may be questioned, the chances that it will occur are large.

Moreover, a higher probable level of expenditures for modernization and improvement of existing structures will be associated with greater demand for debt funds. Investment in nonhousekeeping residential facilities—motels, tourist courts, vacation cottages, and so forth—will require additional lending. Not only is demand for such accommodations increasing but there is a marked tendency toward quality improvements requiring larger real inputs and larger amounts of capital funds. Greater use of "packaged" home mortgages, which include consumers' durables as well as the real estate proper, will raise the demand for home mortgage funds (at the expense of other types of consumer credit). The historical evidence points toward increasing demands on funds for transactions pertaining to existing units, relative to the demand on funds made by new construction, and this tendency is likely to continue, particularly if secular price changes are upward. Finally, the position of financial institutions in this field can still be enhanced by increases in their share in the total residential mortgage debt at the expense of that of noninstitutional lenders.

All these observations have ignored what is potentially perhaps the most important variable: the future role of government. The concern of government with housing and its financing, though it originated in depression emergencies and was intensified by war and postwar dislocations, is likely to be a lasting and probably increasing influence on residential construction. This concern, by no means limited to housing of the poor, expresses deep-seated social forces which invest housing with real and probably growing public interest. Although the scope and means of government action may differ in varying political and economic climates, use of federal aids for residential construction is likely to increase not only because they are tools in a broad program to improve housing conditions but also because they fit in with full employment policies. Moreover, builders have already become so

dependent upon government aids that they, as well as consumers' groups, invariably turn to Washington whenever a decline in the volume of building occurs or threatens.

Thus the level of residential construction during the next few decades will depend on political decisions as well as on the market, which was controlling before the thirties. Government will attempt to maintain a high volume of house building even in the face of declining market demand. In a broad sense the community at large, through the federal government as its agent, will attempt to revise the allocation of real resources to housing—a revision which consumers individually seem to have been unwilling or unable to undertake. Even without a "grand design" in allocating national resources, the rapidly growing interest of the federal government in the support of residential construction may broadly be interpreted as an effort to counteract the results of the historical forces that have led to a relative displacement of housing in the nation's total economic product.

Past experience does not tell us how effective such an effort will be, particularly under adverse conditions such as contractions in employment and income. How consumers will react to further liberalization of credit is uncertain, although it is fairly well established that housing demand responds more to fluctuations in income than to price changes (including changes in the cost of borrowing). This much of a conclusion seems warranted, however: Government policies that shift a larger proportion of total resources to housing will probably greatly change institutional arrangements for handling the residential mortgage debt—and the changes may be more drastic than those brought about by federal insurance or guarantee of mortgage loans. These latter devices have already so liberalized residential mortgage credit terms that there seems little more to be done in this direction to make borrowing easier. Thus demands for "stronger medicine" in the way of federal credit assistance will undoubtedly develop.

The future level of private residential construction will also be affected by government aids to urban redevelopment, which have just begun to operate on a small scale. In the past, demolitions of residential structures have been so few in relation to the housing stock that their influence on the volume of new house building has been negligible. But government programs for urban redevelopment involve demolition of existing housing and its replacement on a scale far greater than has ever been experienced. The assumption of a one-to-one relationship between the number of demolished and the number of new dwelling units, which is implied in existing numerical projections of capital requirements for urban redevelopment, must be seriously questioned. Nevertheless, intensified programs for urban redevelopment and public

housing are new factors to be reckoned with in an appraisal of long-term prospects of private capital formation and financing in this field.

Finally, a word on the time pattern of residential construction to 1975. Regardless of the "causes" of past long swings in residential construction, the time pattern during the next two decades will be strongly influenced by previous fluctuations in marriage and birth rates, previous economic cycles, and past wars and their aftermaths. These factors indicate that pressure of housing demand on new residential construction will be relatively low in the early part and relatively high in the later part of the remaining period to 1975.

Here again, government activities are potentially capable of modifying the fluctuations that may result from the operation of market forces. The record of the use of federal credit aids as a stabilizing influence in residential construction is by no means encouraging. Government programs until 1950 operated primarily on a one-way street toward more liberal credit, even when restraint has seemed to be called for. But the need for meshing housing programs with general fiscal and economic policies has received increased recognition, and it is perhaps not too much to hope that intelligent application of government aids in periods of expansion as well as of contraction will contribute to greater stability in this important sector of the economy.