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## PART C

### LONG-TERM PROSPECTS—AN APPRAISAL



## CHAPTER XVII

### THE PUSH AND PULL OF MARKET FORCES

AN ATTEMPT was made in preceding chapters to identify, in quantitative form where possible, the strategic factors that over the past sixty years have determined long-term economic growth in an important sector of the economy. What are the salient points of the analysis? And what insight into the future course of capital formation and financing in residential construction can be derived from this examination of the past? Before proceeding to answer these questions, it will be well to state more specifically the purpose of this concluding part of the study and the assumptions on which it is based.

In addition to summarizing the record of six decades, the objective is to assess the present and future position of those forces which have had a strategic influence on past capital formation and financing in this field and to scan the horizon for the emergence of new factors that may modify past experience. The appraisal for the most part will be in qualitative rather than quantitative terms and must necessarily deal with broad ranges of probabilities. It is hoped, nevertheless, that it will provide materials useful for more specific projections and for operational purposes of those holding long-term financial interests in residential real estate. The period considered extends roughly to 1975.

This objective distinguishes the following observations sharply from estimates of "housing needs" which have been prepared by government agencies and private organizations and are often used for numerical projections of capital or building materials requirements.<sup>1</sup> Estimates of nonfarm housing needs compute the number of additional dwelling units required over a period of time if every "family" (however defined) is to have a unit of specified minimum standards. They typically involve allowances for replacement of existing dwelling units falling below these standards, as well as for the increase in nonfarm families, normal demolition losses, and normal vacancy reserves. They are

<sup>1</sup> Cf. *Housing Needs*, National Housing Agency, National Housing Bulletin 1, November 1944, and *How Big Is the Housing Job?*, Housing and Home Finance Agency, October 1951; J. Frederick Dewhurst *et al.*, *America's Needs and Resources*, Twentieth Century Fund, 1947; and Robert W. Hartley *et al.*, *America's Capital Requirements*, Twentieth Century Fund, 1950. The last publication includes references to numerous other estimates of housing needs. Also, *Resources for Freedom*, A Report to the President by the President's Materials Policy Commission, June 1952, Vol. II, pp. 113-114, and *Standards for Measuring Housing Needs*, 79th Cong., 2nd sess., Senate Small Business Committee, Senate Committee Print No. 8. As to the quantitative importance of replacement of substandard dwelling units in housing need estimates, see pp. 296-297.

normative and programmatic in nature and indeed depend on substantial government action for their realization.

Nor is the objective here to provide a numerical forecast of the volume of capital formation and financing in residential real estate to 1975. Such a forecast would involve, among other things, making a set of specific assumptions as to changes in nonfarm population and gross national product—a task beyond the scope of this study of one sector of the economy. And even if one were bold enough to select one or several projections of population and GNP as starting points, he could not ignore the complexity of factors impinging upon residential capital formation and the variety of alternative developments that might occur even at given levels of population and total product—alternatives which will be considered in this chapter. This concluding part of the study, therefore, offers no more than reflections which should illuminate the forces likely to determine capital formation and financing in residential real estate and, in this fashion, should provide leads for more adequate projections.

Even without numerical forecasts, any attempt to glean prospects for the future from the record of past experience rests, of course, upon the assumption of a high degree of continuity in the political, social, and economic life of the nation. Waiving a discussion of the intriguing general aspects of such an assumption,<sup>2</sup> some confidence in its validity can be gained from observation of the past. Two gigantic wars intervened during the sixty years covered by this study. From a long-range view, the wars and their aftermaths, so far as they are now observable, modified but did not upset the operation of the basic forces analyzed in this volume. The wars may have been largely or partly responsible for the duration and amplitude of fluctuations in building activity. Internal migrations associated with the wars may have affected the locational distribution of new construction. World War II may have given further impetus to the development of federal government aids to private residential building, which carried over into the postwar period; and rent control may have influenced the composition if not the level of housing construction.

But viewing the over-all pattern, one cannot help being impressed by the continuity in the face of overwhelming events rather than by discontinuity. Continuity expresses itself in the broad relationships outlined in this volume, such as the basic long-term interconnection between population growth and additions to the housing stock, the declining size and changed composition of the household, the drop in

<sup>2</sup> These aspects are admirably stated in Simon Kuznets' Foreword to *The Role of Federal Credit Aids in Residential Construction*, by Leo Grebler (National Bureau of Economic Research, Occasional Paper 39, 1953).

real capital per new dwelling unit, the declining relative importance of residential construction in total economic activity, the increasing willingness of consumers to use mortgage loans for the acquisition of new homes, and the spectacular development of the financial system to meet the needs of debt financing for this purpose.

In spite of all the changes in household size and composition, no communal forms of living have developed that would represent a revolutionary break in the basic desire of people to organize themselves into small social units in one dwelling unit. Although urbanization and suburbanization, and more recently the activity of government, have wrought important changes, no completely new processes or institutional arrangements for the building and financing of houses have been devised. Popular expectations during World War II that the postwar era would usher in a bright new world of machine-produced houses did not come true. Even the postwar housing shortage and the strenuous efforts of the federal government to stimulate residential construction did not restore the share of house building in total economic activity to the level reached in the twenties. Government insurance or guarantee of mortgages, probably the most potent innovation in this field, is in fact an adaptation of an earlier device, mortgage guarantee by private institutions. Thus the assumption of a high degree of continuity appears to be sufficiently realistic for a broad, forward-looking view.

The following appraisal of long-term prospects does not consider the possible effects of another major war, nor does it consider the possibility of "cold war" of such intensity that the community at large, to minimize risks from atomic warfare, will enter upon large-scale relocation of its population and economic activities within a relatively short period. Such a decision obviously would involve a drastic reallocation of resources and might alter all past relationships and trends.

This assessment assumes that the American economy will be capable of raising domestic standards of living even in the presence of continuing high military and foreign aid expenditures. While not predicated upon full employment, it anticipates that policies aimed at maintenance of full employment will be operative and that these will have a direct impact on government activity in residential construction and its financing. Full employment may be accomplished in many ways, but, in the absence of major wars, it is hardly conceivable that full employment policies will not encompass direct governmental stimulation of residential construction, either privately or publicly financed or both.

*A Declining Outlet for Investment?*

The findings in this volume suggest that residential gross capital formation in real terms has grown at a declining rate (Chapter III). Net capital formation in real terms experienced a slow growth from the first to the second of the three major swings observed since 1889 and a sharp absolute decline from the second to the third (Chapter IV). The magnitudes of change have probably been influenced by the fact that the last of the three periods, 1925-1950, included World War II as well as the Great Depression. Nevertheless, a pattern of declining or arrested growth has appeared—a pattern also found in the rate of increase in the value of the housing stock at constant prices and in the ratio of new dwelling units built to the inventory of existing units. Moreover, except in the twenties, residential construction expenditures in relation to total gross capital formation and to GNP have fallen more or less persistently (Chapter IX).

Do these findings point toward a further decline in the rate of capital growth in this sector of the economy, and to a further relative displacement of residential construction as an outlet for private investment (in real terms)? Or is it possible to discern market forces that will arrest or reverse past trends? Will intensification of existing or the introduction of new government aids modify these trends? And what effects would a continued decline in the rate of real capital growth have on the demand for capital funds originating in residential real estate?

Answers to these questions obviously are important not only to those who are directly interested in the production and financing of new housing construction but also for judgments as to the future course of total economic activity or total investment. If there is strong reason to believe that there will be a continuing downward trend in the ratios of residential construction to gross capital formation and gross national product, then there will also be reason to anticipate that the role of residential building in stimulating or maintaining high levels of general economic activity will be reduced. The diminished contribution of residential construction would need to be offset by larger shares of other components of capital formation or by a greater share of consumer expenditures in GNP.

Just as it was useful in the analysis of past performance to distinguish between the forces determining the number of dwelling units built and those determining average real capital per dwelling unit, it will be desirable to appraise future prospects in the same terms. This appraisal will first encompass basic market forces, including those usually subsumed under "demographic" factors, and then deal with government programs as a modifying influence (Chapter XVIII).

*Historical Forces Affecting the Number of Dwelling Units*

Projections of either the need or the demand for housing are commonly based on population projections, on the ground that there is a basic long-term relationship between increase in population and net additions to the housing stock. The empirical evidence discussed in Chapter V does not invalidate the soundness of this assumption, but it reveals the great complexity of the relationship. Even if a single population projection can be accepted, the number of additional dwelling units may vary widely depending not only on the age and family composition of the population, but also on changes in people's attitudes toward organizing themselves in households. These attitudes, in turn, respond to changes in per capita real income, among other things. The potency of these factors was illustrated in Chapter V, where a potential maximum of 55 million nonfarm households in 1950 was calculated as against 37.4 million actually in existence. Moreover, the relationship between growth in households and net additions to the housing stock does not necessarily hold for *new* dwelling units. As was evidenced by the data for the two decades 1930 to 1950, conversions of existing housing units can be an important source of net additions to the supply.

An even more basic difficulty has been revealed by recent work on defects of past population projections and on the underlying assumptions and techniques.<sup>3</sup> This work raises serious doubt as to whether single population estimates can be used as a basis for projecting either housing need or housing demand over any long span of time.<sup>4</sup> The "population" basis is much less secure than housing analysts have been prone to admit.

The great variations in the number of households that may be created in the two and a half decades from 1950 to 1975 are illustrated in Table 75, which uses four nonfarm population projections based on projections of total population by the Bureau of the Census, and three projections of changes in the average size of nonfarm households. On this basis, results are obtained which vary from 55.8 to 71.7 million nonfarm households in 1975. The highest value in this range is almost 30 per cent above the lowest value. The *increase* in nonfarm households from 1950

<sup>3</sup> Cf. three works by Joseph S. Davis: "Our Amazing Population Upsurge," *Journal of Farm Economics*, November 1949, pp. 765-778; "The Population Upsurge in the United States," Food Research Institute, Stanford, California, War-Peace Pamphlet 12, December 1949; and "Our Changed Population Outlook and Its Significance," *American Economic Review*, June 1952, pp. 304-325. Also Simon Kuznets, "An Experiment in Projection," mimeographed, National Bureau of Economic Research, Work Memorandum 33, 1952.

<sup>4</sup> The estimates mentioned in footnote 1 are based on single population projections.



to 1975 varies from 18.7 to 34.6 million. The highest value within the range would be almost 100 per cent above the lowest value, and the number of additions to the stock of dwelling units (not considering demolitions and similar deductions from the stock) could average from 748,000 to 1,384,000 per year during this twenty-five-year period.<sup>5</sup>

Thus the "demographic" basis for long-term projections of housing demand—which, of course, implies a great many economic forces—turns out to be slippery at best and nonexistent at worst. Nevertheless, some judgments can be expressed about the probable strength of forces operating on the size and number of households. It seems reasonable to expect that an increasing fragmentation of social units forming households will prevail, as it did in the past. Many factors operate in this direction: continued urbanization; the likely further decrease in age at time of marriage; the adoption of culture patterns dominant among white natives by sons and daughters of immigrants; the increase in longevity coupled with the desire of older persons to maintain their own households;<sup>6</sup> social security and pension programs which make it increasingly possible for retired persons to do so; the tendency of single adults in younger age groups to establish a household either individually or in small groups; and, perhaps as the most important force permitting an increasingly larger number of households from a given population, a rise in real per capita income.

If these expectations are correct, two tendencies significant for the demand for dwelling units are likely to develop. One of these is an increase in the proportion of households other than biological families,

<sup>5</sup> Even for a shorter period, 1950-1960, a projection of the number of households (farm and nonfarm) by the Bureau of the Census arrives at greatly varying results. The projected increase in the number of households from 1950 to 1960 varies as follows (*Projections of the Number of Households and Families, 1955 and 1960*, Series F-20, No. 42, December 28, 1952):

High projection	8,934,000
Medium projection	7,354,000
Low projection	4,517,000

The high projection is almost double the low projection. But projections through 1960 are simple compared with those extending over a longer period. For nearly all of the persons who will be heads of households in 1960 were already at least ten years old in 1950. Projections into the more distant future require assumptions as to births as well as many other assumptions.

<sup>6</sup> The effect of increased longevity and rising desire and ability of older persons to maintain separate living quarters may be illustrated by a schematic example of the life cycle of a typical family. Assuming an average age at marriage of 23 years, a period of seven years may be allowed as stage I for the new family to expand to full force, including children. An additional 20 to 25 years may elapse in stage II, in which the children live with the parents. Stage III, in which the "family" shrinks to a two-person household, would begin 25 to 30 years after marriage. With average longevity of 60 years, stage III would be 5 to 10 years. With average longevity of 75 years, stage III would be 15 to 20 years.

TABLE 75  
Illustration of Nonfarm Population and Household Projections  
for 1975, on Varying Assumptions  
(millions of persons or households)

	ACTUAL, 1950	ASSUMED, 1975 <sup>a</sup>			
		Series AA	Series A	Series B	Series C
Total population	151	229	222	215	207
Nonfarm population	128	208	200	193	184
Number of nonfarm households					
At 3.44 persons per household	37.1	..	..	..	..
At 3.3 " " "	..	63.0	60.6	58.5	55.8
At 3.1 " " "	..	67.1	64.5	62.3	59.4
At 2.9 " " "	..	71.7	69.0	66.6	63.4
Increase in number of nonfarm households, 1950-1975					
At 3.3 persons per household	..	25.9	23.5	21.4	18.7
At 3.1 " " "	..	30.0	27.4	25.2	22.3
At 2.9 " " "	..	34.6	31.9	29.5	26.3

<sup>a</sup> The data for total population are illustrative projections of the Bureau of the Census (Current Population Reports, Series P-25, No. 123). To arrive at illustrative projections of nonfarm population, a device suggested by Margaret J. Hagood, after experimentation with several alternatives, was used: a simple geometric curve resulting from the annual rate of decrease in farm population from 1916 to 1950. This method yields a farm population of about 22 million in 1975 as against roughly 24 million reported in the 1950 Census of Population. The figure of 22 million was used with the two medium estimates of total population and adjusted to 23 million for the low and to 21 million for the high estimate of total population, on the assumption of a slight inverse relationship between changes in the sizes of farm population and total population. Mrs. Hagood of the Bureau of Agricultural Economics and Jacob S. Siegel and Paul C. Glick of the Bureau of the Census have been most helpful in the construction of this table, but the specific figures used are not attributable to them individually or to the federal agencies mentioned.

or husband-wife households. As was pointed out in Chapter V, almost one-quarter of all occupied nonfarm dwelling units were absorbed in 1950 by these "other households," including those of individuals. With a rise in real income and a continuance of the social attitudes observed during past decades, the relative importance of "other households" in the number of additional households formed between now and 1975 may increase at a spectacular rate. As an illustration, the household projections of the Bureau of the Census for 1950-1960 involve an increase of "other households" by almost 30 per cent and of the subcategory "primary individuals" (occupying a separate dwelling unit) by 38 per cent, as against a gain of only 13 per cent for husband-wife families. Almost two-fifths of the projected rise in the total number of nonfarm households is assigned to "other households."<sup>7</sup>

<sup>7</sup> *Ibid.*, Table 5, "medium estimate." These specific relationships may be partly due to the projected low marriage rate for 1950-1960 resulting from the low birth rates of the thirties, but they reflect also an allowance by the estimators for the

The second tendency, related to the first, is a further decline in the average size of the nonfarm household. During the first half century, as was shown in Chapter V, the average population per nonfarm household dropped 20 per cent. During the three decades from 1920 to 1950, alone, the average fell more than 18 per cent. A further decline from the 1950 average of 3.44 persons to 3.1 in 1975, the medium projection used in Table 75, would imply an average annual percentage reduction of .40, compared with .61 from 1920 to 1950, that is, would be consistent with the assumption of a slowing up in the rate of decline of average household size. It is clear from the earlier observations that the expectation of a continued shrinkage in the average size of household does not rest solely on a projected decline in the number or rate of births. It is, in fact, compatible with stable or increasing births and birth rates provided the forces operating toward a growth in households other than husband-wife combinations are sufficiently strong.

In the past six decades these forces apparently were insufficient to produce a rising or even constant rate of increase in the number of households, in the face of a sharply declining rate of population growth. As was indicated in Chapter V, the rate of household growth as well as the rate of population growth has shown a secular decline during the past half century, although the decline was much slower for households than for population. It would be rash to conclude, however, that a continued decline in the *rate* of household growth must of itself arrest any further increases in the level of additions to the housing stock. The historical record demonstrates that absolute increments to the number of households have risen—from 6.2 million in 1890-1910 to 9.2 million in 1910-1930 and 13.8 million in 1930-1950. If additions to households should approximate even the lowest of the illustrative projections for 1950 to 1975 in Table 75, the increment would again be larger than for any previous comparable period.<sup>8</sup>

In conclusion, the probable continuing decline in the rate of growth of households does not necessarily have ominous implications for the level of total housing demand in terms of dwelling units. The number of additional households between 1950 and 1975 is likely to exceed any increment on record.

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forces described earlier in the text, as is apparent from the basic assumptions stated in the Bureau of the Census report. During the 1940-1950 decade, husband-wife households increased 27.7 per cent and "other households" only 13.8 per cent. The gain in the number of "primary individuals" was 37.0 per cent. *Ibid.*

<sup>8</sup> On a pro rata basis, the lowest projection of 18.7 million additional households for the period 1950 to 1975 would be equivalent to about 15 million for the two decades 1950-1970, as against 13.8 million for 1930-1950.

*New Forces Affecting the Number of Dwelling Units*

This conclusion is reinforced by examination of several factors which will probably tend to raise the level of net additions to the housing stock over and above the level of increments to households. One of these is internal nonfarm migration.<sup>9</sup> Another is a more-than-proportional increase in the number of seasonal dwellings. A third and more dubious factor is the advancing age of the nonfarm housing stock. A fourth possibility is a change in the consumer's scale of preferences in favor of housing.

As was observed in Chapter VI, there is no evidence that internal nonfarm migration (including the movement to suburbs) in the past has raised the long-run level of total construction significantly, although it has been an important factor in the geographical distribution of new housing. In the future, however, the relative importance of internal migration for the level of housing demand will probably increase. Internal migration may create large, persistent pockets of vacancies in areas of outmigration, leading ultimately to abandonment and demolition of nonfarm dwellings. To the extent that such vacancies occur, the number of additional dwelling units at any level of market demand will exceed the number built without migration to accommodate a population of a given age and household composition. To date, population growth from other sources in most nonfarm areas of outmigration has apparently been enough to preclude such pockets, at least if entire urban communities rather than specific districts in cities are considered. If, as seems likely, the rate of nonfarm population growth declines at a somewhat more rapid rate,<sup>10</sup> natural population growth combined with smaller household size in many nonfarm areas may no longer fill the gaps created by outmigration.

Assuming continued high mobility among the nonfarm population, then, internal migration can be expected to raise the level of net additions to the housing stock. Similarly, a sustained or accelerated exodus of city families to the suburbs would leave vacancies in the urban

<sup>9</sup> Immigration from other countries and farm-city migration are already accounted for in any projection of nonfarm population that may be used for estimates of future housing demand.

<sup>10</sup> It may be noted that all four of the illustrative projections of 1975 nonfarm population given in Table 75 are consistent with such an expectation. The average arithmetic annual rate of increase from 1950 to 1975 would be 2.50 per cent for Series AA, 2.25 per cent for Series A, 2.03 per cent for Series B, and 1.75 per cent for Series C. These rates based on a twenty-five-year period are higher than would have been obtained if average annual rates could have been derived on the basis of decade rates of growth, as in Table 23. But even on a twenty-five-year basis the indicated rate of increase in any of the projections is as low as or lower than the average annual rate of growth in each of the decades from 1890 to 1950, except for the 1930-1940 period (Table 23).

housing stock, which may not be filled by immigration to the cities, and would thus increase the volume of residential construction.

Second, the traditional notion of a maximum of one dwelling unit per nonfarm household may need to be revised if per capita real income continues to advance in the long run. As consumption standards rise it is not at all unreasonable to expect a sharply increasing number of families and other households to have more than one dwelling unit for their use. The summer or week-end home has become increasingly popular among higher income groups, particularly families residing in large metropolitan areas, and the number of tourist cabins and seasonal cottages for rent has increased rapidly. According to the Housing Censuses of 1940 and 1950, the number of seasonal dwelling units in nonfarm areas that were vacant at the time of enumeration rose from 593,652 to 1,097,000 between these dates. The growing emphasis on leisure and recreation in an advanced urban society will probably further increase these types of facilities.<sup>11</sup>

The increasing age of the nonfarm housing stock, under certain conditions, may also tend to raise the level of net additions to the stock. Compared with older countries, however, the average age of existing dwelling units in the United States is remarkably low. The median age of urban dwelling units was 25.4 years in 1940 and 28.7 years in 1950; the median age of rural nonfarm dwelling units was 20.2 years in 1940 and 23.0 years in 1950.<sup>12</sup>

During the period to 1975, increasing age of the housing stock is not likely to affect substantially the level of additions to the housing stock. For residential structures, if kept in good repair, have such long physical and economic life that demolition because of physical deterioration or obsolescence has been rare—an observation reflected in the depreciation charge used in this study for estimates of capital consumption (Appendix E). Historically, residential structures have been demolished primarily to make way for other buildings, either residential or non-residential, as in the case of single-family houses that are razed to be replaced by apartment houses or office buildings, or to make way for public improvements such as bridges and highways. The locations in

<sup>11</sup> Some of the increase in seasonal dwellings involves conversion of farmhouses to the nonfarm category rather than new construction. Nevertheless, the building of new vacation and week-end houses has expanded rapidly. Seasonal dwellings under present statistical procedures are included in current reports on the number of dwelling units started if they meet certain specifications. Otherwise, they should be included in "nonhousekeeping" residential construction expenditures. Since the above observations are not quantitative, the statistical treatment is immaterial. The growing importance of this component of residential construction may, however, require more comprehensive statistical information.

<sup>12</sup> *Census of Housing 1940*, Vol. II, *General Characteristics*, pp. 12-13, and *Census of Housing 1950*, Vol. I, *General Characteristics*, pp. 1-3.

which such "supersession" of land use occurs are determined not so much by the age of existing residential structures as by other factors—greater value of the land in alternative uses, as a consequence of the changing economic environment of an area; or topography, convenience, and other considerations influencing site selection for public improvements. For example, a forty-year-old apartment house in one area may be demolished for replacement by an office building, while large numbers of eighty-year-old structures in another area continue to be used for residential purposes. Thus there is no necessary or fixed relationship between age of residential structures and their remaining life expectancy, although supersession of land use has often occurred in the older sections of cities typically containing older residential buildings.

Whether the increasing age of the housing stock will result in a higher rate of demolition (and ultimately raise the level of residential construction) depends therefore largely on the expansion of other land uses in the more central areas of cities and towns. Because of the apparent decentralization of some of the nonresidential urban activities, this expansion may decelerate.<sup>13</sup> On the other hand, the rate of demolitions is likely to increase because of stricter enforcement of local safety and sanitary laws against the many violations that typically multiply as residential structures become older and obsolete in terms of current minimum housing standards. Other factors inducing a higher rate of demolitions are the expansion of highway construction through built-up urban areas and government aids to urban redevelopment, which will be discussed in Chapter XVIII.

A long, sustained rise in real income and a more even income distribution might cause consumers to abandon the least desirable housing facilities in favor of better accommodations and thus increase the number of dwelling units withdrawn from the market. But historical experience is discouraging on this point. Real per capita income rose substantially from 1890 to 1950, and inequalities of income distribution were reduced during at least the latter portion of this period. Yet demolitions due to abandonment of undesirable housing have in all probability been insignificant.<sup>14</sup> If abandonment through the mid-

<sup>13</sup> The influence of internal nonfarm migration and that of the increasing age of the nonfarm housing stock on future net additions to the stock may in fact overlap, with the result that their net effect would be less than the sum of both. For the most probable areas of heavy outmigration are also characterized by a higher median age of nonfarm dwelling units. In 1940 the latter was 29.3 for urban areas and 26.6 for the rural nonfarm areas in the North, as against only 19.5 for the urban areas and 13.9 for the rural nonfarm areas in the West.

<sup>14</sup> Cf. Leo Grebler, *Housing Market Behavior in a Declining Area*, Columbia University Press, 1952, for a discussion of this point and of demolition experience on the Lower East Side of Manhattan.

twenties was impeded by the stream of immigrants who came to occupy the bottom end of the housing supply, a similar role has since been performed by Negroes moving into northern and western cities, and by Puerto Ricans at least in the case of New York City, and this movement is likely to continue for some time.

Finally, the level of demand for additional dwelling units might be raised if the position of housing in the consumer's scale of preferences were substantially improved. If such a radical departure from apparent trends in consumers' tastes should occur, home owners and tenants would be willing to exchange old for new dwelling units at a more rapid and continuous pace. An accelerated exchange of old for new products would involve a more rapid decline in prices for old dwellings relative to those for new dwellings, with the ultimate prospect of displacing the least desirable part of the housing stock altogether because it would become worthless, or of making it available to groups which otherwise could not afford separate dwelling units.

A change in consumers' attitudes toward housing could conceivably be induced or strengthened by product innovation. Larger numbers of households might trade old for new units if the latter were vastly superior in design, style, location, or quality. In such an event, builders would develop a "replacement market" like that for other durable goods, in addition to the market hitherto served.<sup>15</sup>

In the light of historical experience, this would be a revolutionary change in the character of the market for new residential construction. For the data assembled in this volume suggest that the demand for additional residential facilities from 1890 to 1950 approximately equaled the growth in the number of households. In sixty years of spectacular long-term rise in real income, housing apparently lost rather than gained from changes in consumers' tastes as many new wants, products, and services emerged which in fact constitute much of the content of high levels of consumption. Substantial innovations in the style, design, and quality of housing occurred, and yet they failed to generate a "replacement market."

The possibility of a radical change in consumers' tastes in favor of housing cannot be dismissed, of course. A more positive attitude of consumers toward housing may develop as average hours of work continue their historical decline and leisure increases. Already, consumers use greater leisure increasingly to build or improve homes or to construct or remodel vacation or week-end cottages. A change in con-

<sup>15</sup> This viewpoint is expressed in numerous articles in builders' and architectural journals. See for example, Robinson Newcomb, "Your Changing Market," *NAHB Correlator*, National Association of Home Builders, June 1952. Also, Gilbert Burck and Sanford S. Parker, "The Insatiable Market for Houses," *Fortune*, February 1954.

sumers' preferences may be reinforced by growth of home ownership and by new attitudes toward family size—if the attitudes apparent in the 1946-1953 upsurge of second and third births signify a lasting change.

These are possibilities rather than certainties, and there are factors opposing radical change in consumers' preferences for housing. It can hardly be anticipated that there will be no further development of new goods and services which will compete for a place in the family budget. Moreover, the position of housing in the budgets of large numbers of consumers may have suffered from rent control during and after the war. Tenants living in controlled apartments have become accustomed to paying a much smaller proportion of income for rent than was customary before the war and have adjusted their expenditures to this pattern.

Greater leisure enlarges also the range of alternative uses of time—for education, travel, hobbies, and recreation outside the house. Consequently, gains in leisure may not automatically or necessarily create a lasting positive change in consumers' attitudes toward housing. Certainly, past advances in leisure do not appear to have had this effect.

As to product innovation, the question is whether recent and prospective technological advances and style changes are of an order different from those experienced during the past sixty years. Is the new house of today, designed as it is for highly mechanized household operations, preferably on one floor, so different from older houses that consumers will be induced to trade old for new units in any quantity and on a continuous basis? Will air conditioning in new dwelling units become a decisive factor in their favor? Is the house-building industry developing production and marketing methods substantially different from those in the past? And at what price and rent levels relative to those of old houses will the new products be put into the market?<sup>16</sup> All of these items are in the realm of speculation.

<sup>16</sup> So far as cost and price reduction of new construction is concerned, a basic difficulty has been pointed out by Ramsey Wood in his "Housing Needs and the Housing Market," in *Housing, Social Security, and Public Works* (Board of Governors of the Federal Reserve System, Postwar Economic Series, No. 6, June 1946, pp. 18-19):

"... Proposals to reduce cost to the occupant by reducing particular component costs overlook the important role played by capital values in regulating the amount and kind of new housing added to the supply. It has already been pointed out that new building takes place when the prices of existing houses are higher than the cost of building new houses which consumers regard as comparable, and also that, when building is under way, costs tend to rise to absorb the difference between the market value of existing houses and the sum of the prices of the component resources used in building comparable new houses. This behavior of the market, it has been shown, stops building fairly soon because, when values have risen as



In conclusion, internal migration and increasing demand for seasonal dwelling units emerge as new forces which will probably raise the level of additions to the housing stock. Whether the increasing age of the stock will have similar effects to 1975 is much less certain. And above all looms the uncertainty of changes in the consumer's scale of preferences in favor of housing.

### *Conversions vs. New Construction*

One important question remains. Will the forces determining net additions to the housing stock have their full impact on the construction of *new* dwelling units? As was observed in Chapter V, there has been a notable change in the supply of additional dwelling units. During the thirties and forties conversions emerged as an important means of creating additional dwelling units. Future conversion potentials may have a direct bearing on the construction of new dwelling units. If they are great, the number of newly built units may be reduced. If they are small, the number of newly built units may be larger.

So far as the demand for converted dwelling units is concerned, two sources may be distinguished for the sake of clarity. Much of the demand of households other than those of the husband-wife or "biological family" type is for converted units—either because of their typical proximity to central business districts in cities or because of relatively low rents, or both. In fact, many of these households can only be established if there is a supply of conveniently located converted dwelling units available at relatively low rent. As was indicated before, the demand for separate dwelling units by households of this type is expected to increase in relative importance. On the other hand, large numbers of husband-wife households have found accommodations in converted units during the thirties and forties—although there are no data on this point—because of the pressure for low rent units in the

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high as incomes will permit, and costs have caught up with values, builders cannot operate profitably.

"This process goes on whether the techniques of building and the conditions on which houses are bought and paid for are changing or standing still. The introduction, at strategic times, of techniques and conditions which enable builders or landlords to make new housing available at lower prices than would otherwise be possible may give rise to building which would not have taken place under the earlier circumstances, but the very process of making use of these advantages tends to eliminate them. The market evaluates such advantages against the existing stock of housing and the incomes prevailing in the community; comparable houses command comparable prices; and the cost of building approaches market value."

In other words, cost reductions in new construction are unlikely to cause families to shift from existing housing. The latter would be revalued sufficiently to wipe out any abnormal cost-price spread.

thirties and because of the housing shortage and rent control during and after World War II. As real income rises in the long run, this source of demand for conversions will probably become less important. For the frequently inferior accommodations in converted units will be less attractive than those in new or existing units designed originally for separate household operation.

On the supply side, it is questionable whether the rate of conversions prevailing from 1930 to 1950 can be continued for long. This rate was possible because there was a large supply of older, relatively spacious residential structures adaptable for conversion, primarily in the more central areas of cities. Many of these have already been converted. Many of the dwelling units in newer structures are of such small size and in such location that they do not lend themselves easily to conversion. Moreover, progressive decontrol of rent is removing an important incentive to convert.

The sharp increase in the level of conversions from 1930 to 1950 was due in part to special conditions affecting both demand and supply: a severe depression followed by a war of gigantic dimensions. Unless similar conditions prevail in the next twenty to twenty-five years, conversions are most likely to decline in relative importance.

#### *Forces Affecting Real Capital per Dwelling Unit*

Because of all these factors, the failure of dwelling unit starts during the 1925-1950 cycle to increase over the previous cycle cannot be interpreted as a secular trend and mechanically projected into the future. This failure was associated with an unusually large volume of conversions, and both the high level of conversions and the failure of new dwelling unit starts to exceed the previous cycle average can be ascribed to the succession of the Great Depression and World War II. The arrested growth in new construction was not due to a decline in the level of net household formation, and projections of the increase in households from 1950 to 1975 suggest that the number of new dwelling units will be larger than the number built from 1925 to 1950. Moreover, several new factors point to a somewhat higher volume of new dwelling units relative to household growth.

Still another variable must be considered: the secular fall in real expenditure per new dwelling unit, which was analyzed in Chapter VII. The decline in real input per unit emerged as a major factor contributing to the downward movement of real capital formation in residential real estate. It is important, therefore, to form judgments on the likely future strength and weakness of the forces that have affected real capital per dwelling unit in the past.

Among the forces operating to *reduce* real capital per dwelling unit, further regional population shifts to the South and West are among the most certain probabilities. These would tend to lower real capital per dwelling unit, although the differences between the West and North seem to have narrowed recently in this respect.<sup>17</sup>

Whether the decline in the average size of new dwelling units will continue is much more questionable, even assuming a further drop in the average size of household. Because of high construction costs, the existence of a sellers' market, and preferential financing for lower-priced houses under the FHA mortgage insurance system, new housing construction after World War II was characterized by a large proportion of small dwelling units.<sup>18</sup> The shrinkage of dwelling units cannot continue indefinitely, of course, and the cost reductions possible by further shrinkage become progressively smaller because the cost of certain expensive facilities and equipment items—such as bathrooms, kitchens, and heating systems—does not fall proportionately. Consumer reactions against the small size of single-family houses have become quite pronounced.<sup>19</sup> For several years, moreover, the increasing age of children born during the period of high births after World War II will create pressure for larger dwelling units, at least under favorable business conditions, because of the preference for separate bedrooms for teen-agers. The increase from 1950 to 1960 in the number of children ten to nineteen years old is estimated at about 41 per cent, compared with a decline from 1940 to 1950 of almost 10 per cent in this age group;<sup>20</sup> and this is one of the fairly firm figures in population projections. Real input per new dwelling unit will therefore be less affected by declines in the average size of units than it was in the past.

As to the future movement in the relative price of new housing, it appears that the historical forces making for an increase in the relative price of construction have been so strong and persistent, and the signals of change in this trend so weak, that the increase is likely to continue. Among the complex factors acting to increase the cost of construction are: the relative increase in building materials prices, especially

<sup>17</sup> The average permit for all urban dwelling units in the Pacific division, 1946-1951, was \$6,960, compared with \$7,171 for New England, \$7,243 for the Middle Atlantic states, \$7,849 for the East North Central region, and \$6,462 for the West North Central states (Table 32).

<sup>18</sup> In 1940, only 23 per cent of all new single-family detached houses had four or fewer rooms; in the first half of 1950, 47 per cent were this small. *The Materials Use Survey*, Housing and Home Finance Agency, 1952, p. 5.

<sup>19</sup> "Relevant Considerations in Recent Home Purchases," unpublished report of the Survey Research Center of the Institute for Social Research, University of Michigan, June 1951.

<sup>20</sup> *Current Population Reports*, Bureau of the Census, Series P-20, No. 42, Table 2.

lumber, the large share of wages in total cost, and the slower advances in productivity in residential building operations as compared with the rest of the economy. The prospects for drastic changes in these trends are not encouraging. Upon a sober appraisal, no revolutionary materials seem to be in the offing. The President's Materials Policy Commission has expressed its views on this question as follows: "The Commission has taken into account some improvement in design and methods of using materials by a streamlined industry, but it does not assume total replacement of one material by another by 1975, or any startling changes in design or methods. A bolder approach could prove the more accurate. Electronic air-conditioners, cheap wireless electrical power transmission, a structural wall material with high insulating properties, which could be made transparent or opaque at will, the use of solar energy to heat and to cool our buildings—such developments could revolutionize the use of building materials. Yet to assume these changes when they are not yet in sight would be misleading."<sup>21</sup>

As to construction methods, the Commission anticipates a growing use of pre-assembled, prefinished, or packaged building components; but this process has been in operation for some time: "If there is one general trend which appears to be developing in all phases of the building field, it is the trend toward the reduction of field labor by supplying more and more packaged units which can be incorporated into the building with a minimum of time and effort. The overworked and abused term, prefabrication, is hardly correct for this trend because it includes such diverse elements as prefitted and prefinished door units, walls of houses, . . . large fabricated frame sections, pre-assembled plumbing stacks, and the casting of concrete wall slabs on the flat ready to be upended into place in the building. All of these diverse developments have the common aim of reducing the need for high-priced field labor. Some involve new materials, some merely involve different techniques."<sup>22</sup> Thus, if the increase in the relative price of new housing and the resulting tendency to economize are considered in isolation, a further decline in real capital per dwelling unit seems indicated.

The tendency of a larger percentage of lower income families to seek and occupy new housing, fostered by government aids in the past fifteen years and likely to be encouraged in the future, will operate in the same direction. Since there are limits to a continued decline in the size of dwelling units, and because of the pressures for new installations and facilities in the dwelling unit (see below), this tendency will

<sup>21</sup> *Resources for Freedom*, President's Materials Policy Commission, Vol. I, June 1952, p. 147.

<sup>22</sup> *Resources for Freedom*, Vol. IV, June 1952, p. 156.

probably express itself in lower grade materials and reduced durability of structures.

Considering the forces operating to *raise* real capital per dwelling unit, it seems reasonable to expect that, barring a radical reduction in the willingness or ability of consumers to pay for new housing, there will be installations and innovations as substantial as those that occurred during the past half century. Without engaging in visionary anticipations, one can foresee air conditioning in an increasing proportion of new homes and apartments—an item involving a considerable increase in capital requirements. The finished recreation room in basements will probably become more common as devices for piping entertainment into the house, such as television, are perfected. Houses and apartments with more than one bathroom will be more common. These examples are drawn from trends already apparent in high-priced, single-family homes and apartment houses, and it has often been observed that product innovations and improvements are introduced first in high-priced and later applied to lower-priced lines.

It may be noted, however, that many of the installations characteristic of the higher-priced house of today and likely to be found in the typical house of tomorrow are consumer durables which statistically are excluded from the construction value of dwelling units, regardless of whether or not they are provided by the builder and included in the price or rent of new dwelling units. Refrigerators, freezers, and mechanical dishwashers are among the items in this category. An increasing tendency to furnish these facilities in new housing thus would not be reflected in construction expenditures. The continuum from the structural elements of a house to equipment of this kind must be more or less arbitrarily broken for statistical purposes, and much of the growth in equipment provided by builders will be captured in the consumer durables accounts rather than in construction expenditures.

A further increase in per capita real income may tend to raise real capital per dwelling unit, but this result is far from inevitable if the past trend is any guide. While real capital per dwelling unit is responsive to changes in income under a given set of conditions, the fact remains that the rise in real income over sixty years has been associated with a decline in the average real value of new dwelling units. Moreover, the per capita real value of the entire housing stock has remained roughly constant in the face of pronounced increases in per capita purchases of most other types of consumer goods (Chapter VIII).

Here again, a shift in the consumer's scale of preferences in favor of housing may reverse the past trend toward declining real input per new dwelling unit. For such a shift can express itself in larger real

expenditures per new unit as well as in "uptrading" between old and new dwellings, discussed earlier in this chapter. However, the questions that were raised before in regard to the probability of a drastic revision in consumers' tastes apply here.

On the roughest balancing of the factors operating to increase and those operating to reduce real capital per dwelling unit, it would appear that the odds are in favor of a further decline, but the rate of decline is likely to slow down substantially. This factor considered in isolation—that is, disregarding the number of dwelling units built—would tend to reduce somewhat the volume of real capital formation in residential construction.

Thus, whether real capital formation in new housekeeping residential construction will continue to decline, as it did from the 1905-1925 cycle to the 1925-1950 cycle, depends on the balance of forces operating on the number of new dwelling units and the real input per unit. A strong trend toward an increased number of dwelling units would offset the probable decline in real expenditure per dwelling unit. As an illustration, assume that real expenditures per unit drop 12.5 per cent from 1950 to 1975, or at an average annual rate of about .50 per cent as against the .67 per cent implied in the estimate of a 36.7 per cent decline from the nineties to the post-World War II period. In this case, expenditure per unit in constant prices would fall from roughly \$3,700 in the late forties (Table J-1) to \$3,200 in the early seventies, and might average about \$3,450 for the entire period. If the average annual number of new dwelling units built from 1950 to 1975 were 750,000, or the lowest of the range of new nonfarm households derived from Table 75, the resulting construction expenditures in constant prices would equal the comparable expenditures during the 1925-1950 cycle (Table 6). An average of 750,000 new units per year would be 55 per cent higher than the average for the 1925-1950 period (Table 2).

If the previous appraisal of forces impinging upon the number of dwelling units built is realistic, such an increase is by no means impossible and indeed quite probable. Even under optimistic assumptions as to the number of dwelling units built and real input per unit, however, the ratios of construction expenditures to GNP and gross capital formation are certain to continue their historical fall. The decline in these ratios, it will be recalled, has not been limited to the period since 1925, during which special circumstances may have affected the absolute growth of real capital formation in residential real estate. The decline has been persistent since 1890 (except for the twenties) and most probably originated before then. Without engaging in projections of economic aggregates, one can consider continuance of this trend a certainty. The long-term relative displacement of new residential con-

struction in the nation's total economic effort, however, is but a consequence of a dynamic economy in which new goods and services are developed and levels of total consumption increase beyond mere necessities.<sup>23</sup>

### *Other Components of Capital Formation*

It remains to explore briefly prospects for two other elements of capital formation in residential building: nonhousekeeping construction and additions and alterations.

As was revealed in Chapter III, real capital formation in nonhousekeeping construction in the form of hotels, motels, tourist cabins, dormitories, etc., has shown a significant decline both in absolute terms and relative to housekeeping construction since the middle twenties. The expansion of relatively inexpensive transient and recreational facilities during the automobile era has failed to offset the decline in expensive urban hotel construction, and a spectacular further increase in these facilities would be required to change the recent trend.

Such an increase is by no means impossible. Not only is it safe to assume that the number of nonhousekeeping accommodations will increase, but it appears also from recent developments that their quality, and therefore real capital requirements for these facilities, will advance rapidly. The motor courts and motels constructed during the past few years have shown a tendency toward the use of higher-grade materials, better plumbing and heating equipment, and larger room size—a trend toward luxury appointments reminiscent of an earlier phase of urban hotel construction. Their services are no longer those of a “poor man's good.” With an increase in real income and the growing popularity of recreation and automobile travel, this advance may well begin to raise the importance of nonhousekeeping facilities in total residential construction.

Finally, the proportion of expenditures for additions and alterations to total residential capital formation is likely to increase in the future, as it did in the past. Experience indicates that modernization and improvement of existing structures have offered substantial opportunities for capital investment, probably not fully captured in the official estimates of expenditures for this purpose. In the future a much larger housing stock will be susceptible to capital improvements. The rising age of the housing inventory will also make for larger modernization

<sup>23</sup> These long-term tendencies are usually ignored in projections of housing demand based on past relationships between national income and expenditures for new residential construction. Thus “The Insatiable Market for Houses” in the February 1954 issue of *Fortune* is based on the assumption that the house-building industry would “recover” its 1929 share of national income.

expenditures. Advances in real income will operate in the same direction, for there is probably greater income elasticity for this type of expenditure than for new construction. Progressive removal of rent control, already in process for several years, will eliminate one of the impediments to capital improvements in tenant-occupied dwellings. These forces will probably more than offset the possible tapering off of conversions (pages 276-277), expenditures for which are included in expenditures for additions and alterations.

Additions and alterations will involve both the remodeling of existing structures not yet brought up to standards generally accepted in current new construction and improvements not yet generally incorporated in such construction. The findings of the 1950 Census of Housing indicate that there was still a long way to go toward the qualitative improvement of then-existing housing. The substitution of oil and gas for coal furnaces in central heating systems is still progressing. Radiant panel heating, already popular, and possibly the development of solar heating will require installation of new pipes and other equipment. Many of the smaller houses built after World War II were constructed for possible expansion by completion of unfinished second stories or in other ways. In the improvement of existing structures, as well as in new construction, air conditioning looms fairly large as an outlet for investment.

A large number of the older structures are, of course, too far gone or in neighborhoods too deteriorated to make the installation of such facilities economical or even desirable. However, a substantial proportion of existing housing can and will be improved along these lines if past experience is any guide.

### *Financial Implications*

As was observed before, an increase of real capital formation in residential real estate is quite possible. Even if a decline should occur, however, it does not follow that there would be a corresponding movement in the demand for capital funds and particularly for debt financing. The demand for capital funds originating in new residential building will be determined by construction expenditures in current dollars rather than in real terms. These expenditures in the past have shown a secular rise although the rate of increase has slowed down (Chapter III). Thus, if the secular price rise for new construction continues, larger amounts of funds will probably be required in the long run, unless one assumes a wholly unreasonable rate of decline on the real side.

The demand for debt financing will also be conditioned by the future proportions of mortgage and equity funds used in the acquisition of new residential real estate. As was shown in Chapter XII, there has



been a secular trend toward the use of a greater proportion of mortgage funds. This trend cannot continue indefinitely, of course, and serious questions may be raised as to whether any further increase in the proportion of debt financing would be sound. Nevertheless, the average ratio of mortgage funds to total expenditures for construction and land—roughly 75 per cent in recent years—might still increase, particularly under the impact of intensified federal credit aids, which will be discussed in the next chapter.

Moreover, the demand for mortgage funds will be influenced by many other factors: prices and turnover of existing real estate facilities, the ratio of debt financing to equity financing in the acquisition of old as well as new housing, the volume and financing of additions and alterations, and trends in interest rates and other contract terms. The growth in the residential mortgage debt will also be affected by the rate of repayments of loans, and in the short run by the rate of foreclosures as well.

The analysis in Part B has indicated that there is no invariant relationship between the volume of housekeeping residential construction and increases in the residential mortgage debt, although the financing of new construction has been the strategic factor in the growth of debt. Some evidence was found of long-term decline in the importance of new construction for the growth of debt, relative to the demand on funds made by transactions within the existing stock of facilities (Chapter XII). As the housing stock increases in size and the ratio of additions to the total inventory diminishes, as it probably will, mortgage loans on existing residential real estate—for purchase, refinancing, and additions and alterations—may become more important as outlets for investible funds. Moreover, the tendency toward “packaged” home mortgages which include consumers’ durables in the house as well as the real estate proper will raise the demand for mortgage funds associated with a given volume of new residential construction expenditures. Finally, the financing of nonhousekeeping residential construction and of seasonal housing is likely to absorb more funds relative to housekeeping construction if the previous observations on the probable long-term increase in demand for these facilities prove to be correct.

Although debt financing of the acquisition of *new* residential real estate has been carried rather far, the facts remain that recent ratios of mortgage debt to the total value of the housing stock are still below past peak values (Chapter XI) and that according to the 1950 Housing Census less than half of the owner-occupied dwellings standing were mortgaged, with a median ratio of debt to value on mortgaged homes of about 42 per cent. Thus, given a high rate of turnover of existing housing units, there is considerable room left for raising the proportion

of mortgaged homes and the average debt-to-value ratio—no matter what one's judgment on the desirability of such a development might be. One of the factors in the past growth of residential mortgage debt has been the greater willingness of home purchasers to incur debt and of lenders to advance funds on the security of mortgages, and it would be unrealistic to assume that this trend has run its course.

The historical record shows that the residential mortgage debt has represented a sharply growing proportion of the total private long-term debt, increasing from 15 per cent in 1916 to 45 per cent in 1952, in spite of the decline in the ratio of new residential construction expenditures to total gross capital formation (in current as well as constant prices). In other words, while the production of new residential assets has diminished in importance relative to the production of other capital assets, the use of debt funds in residential real estate has increased relative to the use of such funds in other sectors of the economy. If the probable developments in residential financing, which were sketched in the paragraphs above, hold, the residential mortgage debt is likely to become even more important in the total private long-term debt. But the future ratio of the residential to the total debt will, of course, be determined by trends of debt financing in other sectors of the economy as well as the residential sector.

The position of financial institutions in residential mortgage lending will be enhanced to the extent that the share of noninstitutional lending activity continues to decline. In spite of the historical increase in the share of financial institutions in total residential mortgage debt since 1890 (Chapter XIII), individuals and miscellaneous lenders still account for about one-fifth of aggregate holdings. It is unlikely that they will ever be completely replaced by financial institutions, if for no other reason than because home owners often accept purchase money mortgages when they sell their houses. But low mortgage interest rates, compared with yields on other investments, and the general adoption of amortized loans will probably continue to reduce the interest of individual investors in this field. On the other hand, pension and similar funds which may be expected to increase sharply in the long run are likely to expand their residential mortgage holdings and may compete more actively with established types of financial institutions.

Considering all these forces, residential mortgage financing will continue to make large and probably growing demands on funds available for investment, and particularly on the funds of financial institutions. Another important factor in future potentials for mortgage investment in residential construction, however, will be the role of government, which is discussed in the next chapter.