Volume Title: Capital Formation in Residential Real Estate: Trends and Prospects

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

Volume Publisher: Princeton University Press

Volume ISBN: 0-870-14099-X

Volume URL: http://www.nber.org/books/greb56-1

Publication Date: 1956

Chapter Title: The Changing Geographical Distribution of New Construction

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

Chapter URL: http://www.nber.org/chapters/c1322

Chapter pages in book: (p. 90 - 105)

CHAPTER VI

THE CHANGING GEOGRAPHICAL DISTRIBUTION
OF NEW CONSTRUCTION

REGIONAL differentials in the growth of population and households, largely the result of internal migration, have brought marked changes in the regional distribution of residential construction. These are analyzed, first, by presenting data on dwelling unit starts by regions; second, by a brief survey of the underlying regional differences in the growth of population and households; and third, in terms of regional building rates. This chapter also discusses other locational shifts, such as urbanization and suburbanization, and raises the question whether migration has had an effect on the aggregate level of new residential construction as well as on its geographical distribution.

Changes in the regional distribution of new dwelling units started can be traced only for the three decades 1920-1950,[1] and the regional data even for this limited period command less confidence than national totals. Even so, the decade shifts revealed in Table 26 appear significant.

Changes in Regional Shares in New Dwelling Units Built

The share of the Pacific region in total nonfarm dwelling unit starts increased from less than 14 per cent in the twenties to roughly 19 per cent during the forties. In terms of number of starts, this region moved from third place in 1920-1929 to second in the thirties and first in 1940-1950 and thus usurped the leading position held by the Middle Atlantic states in the two earlier decades.[2] The Mountain region about doubled its share which grew from 2 to almost 4 per cent. All of the southern regions showed gains in relative importance. The share of the South Atlantic states in the total number of dwelling units started increased from about 11 per cent in the twenties to 17 per cent in the next decade, when it equaled that of the Pacific states, and its rank among the nine regions moved up from fourth to second place during

[1] The new estimates of total nonfarm dwelling units started for 1889-1920, which are presented in Chapter III, cannot be segregated by regions. Although the estimating procedure derived *urban* totals for each region, the data were insufficient to permit a regional distribution of rural nonfarm construction. The term region is used here to refer to the nine geographical divisions as defined by the Bureau of the Census and shown in Table 26. The states included in each region are given in the notes to Table H-1.

[2] In terms of residential construction expenditures over the period 1940-1950, the Pacific stood below the East North Central region, 19.6 and 21.6 per cent, respectively (Table H-7), because of lower expenditures per new unit.

the three decades. The ratio of dwelling units started in the West South Central region to all starts advanced from 8 to 12 per cent, and a small gain was also registered by the East South Central states. (These regional shifts are summarized in Table 26 and emerge graphically in Chart 10.)

The principal losers have been the New England, Middle Atlantic, and East North Central regions. In the Middle Atlantic states, only 47 dwelling units were started during 1940-1949 for every 100 starts during the twenties. In New England this ratio was about 67; and in the East North Central region, 74. In contrast, 121 dwelling units were started in the Pacific states during the forties for every 100 starts during the twenties, and the equivalent ratio for the West South Central region was 129. While not much confidence can be placed in the accuracy of these ratios so far as small differences are concerned, they probably describe correctly the broad orders of magnitude.

Regional Differences in Population Growth

A description of the geographical shift of population and households serves two purposes. It directs attention to the primary factor that has produced shifts in the location of new construction. And, by demonstrating the relationship between regional household growth and regional construction since 1920, it permits the regional household data for the 1890-1920 period to be used as indicators of the changing regional pattern of new building for the pre-1920 period, for which no direct data are available.

The redistribution of population that accompanied the growth of the American economy between 1890 and 1950 is illustrated by striking changes in the regional shares of total nonfarm households. In 1890 the Pacific region contained 3.4 per cent of all nonfarm households, and in 1950, 11.4 per cent; during the same period the shares of the Mountain and West South Central regions increased from 2.2 to 3.3 and 4.6 to 8.8 per cent respectively. The relative decline has been most severe in the northeastern area, the share of New England falling from nearly 11 to less than 7 per cent, and the share of the Middle Atlantic states from 27.9 to 22.2 per cent. Of the remaining regions, only the West North Central has experienced a long-run relative decline. The shares of the East North Central, East South Central, and South Atlantic regions show no noticeable trends for the period as a whole, although the last two regions have gained in more recent decades (Table H-3).

Census data on the regional distribution of nonfarm population are available only for the period since 1920.[3] The earlier censuses, however,

[3] Cf. Appendix G.

TABLE 26

Regional Distribution of New Nonfarm Dwelling Units Started,
by Decades, 1920-1950
(per cent)

|	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
1920-1929	5.5	27.4	20.7	6.1	11.5	4.5	8.4	2.0	13.8
1930-1939	4.3	23.9	12.5	6.9	16.8	4.5	11.0	3.2	16.9
1940-1950	4.2	14.6	17.3	6.3	17.5	5.4	12.2	3.6	18.9

Source: Table H-4.

report the total number of homes (households) by regions, from which the number of farm homes can be subtracted to provide an estimate of nonfarm households. The changes in the regional shares of nonfarm population have been essentially similar to the changes in the shares of households, although there are small differences caused by regional variations in the rate of decline in household size. Differences in household size cause the shares of the older regions in population to be at a somewhat higher level, and the shares of the newer regions to be at a somewhat lower level, than their respective shares in households (Table H-3).

Regional differentials in rates of growth have been spectacular. Between 1890 and 1950 the number of nonfarm households increased 370 per cent for the nation as a whole. But the gain was 1,455 per cent for the Pacific region and nearly 800 per cent for the West South Central region. On the other hand, the increase in the Middle Atlantic region was only 274 per cent, and in New England, under 200 per cent. Between 1920 and 1950, nonfarm population growth in these same areas was 193, 131, 41, and 30 per cent respectively, compared with an aggregate increase of 72 per cent (Tables H-2 to H-4).

The downward trend in the rate of increase in nonfarm households, noted in the preceding chapter for the nation as a whole, is duplicated in most regions. While such a trend is to be expected in the older regions, it is perhaps surprising to find that higher rates of growth in the West occur in the earlier rather than in the more recent decades. From 1900 to 1910 the number of households nearly doubled in the Pacific region and increased by two-thirds in the West South Central region as a result of an extremely heavy inflow of native white and foreign-born population (Table H-3). In the Mountain states the peak rate in the growth of households occurred in the 1890-1900 decade. Two regions, the South Atlantic (which includes Florida) and the East South Central, experienced their greatest growth rates in this sixty-year period during the decade 1940-1950.

CHART 10

Regional Distribution of New Nonfarm Dwelling Units Started,
by Decade, 1920-1950
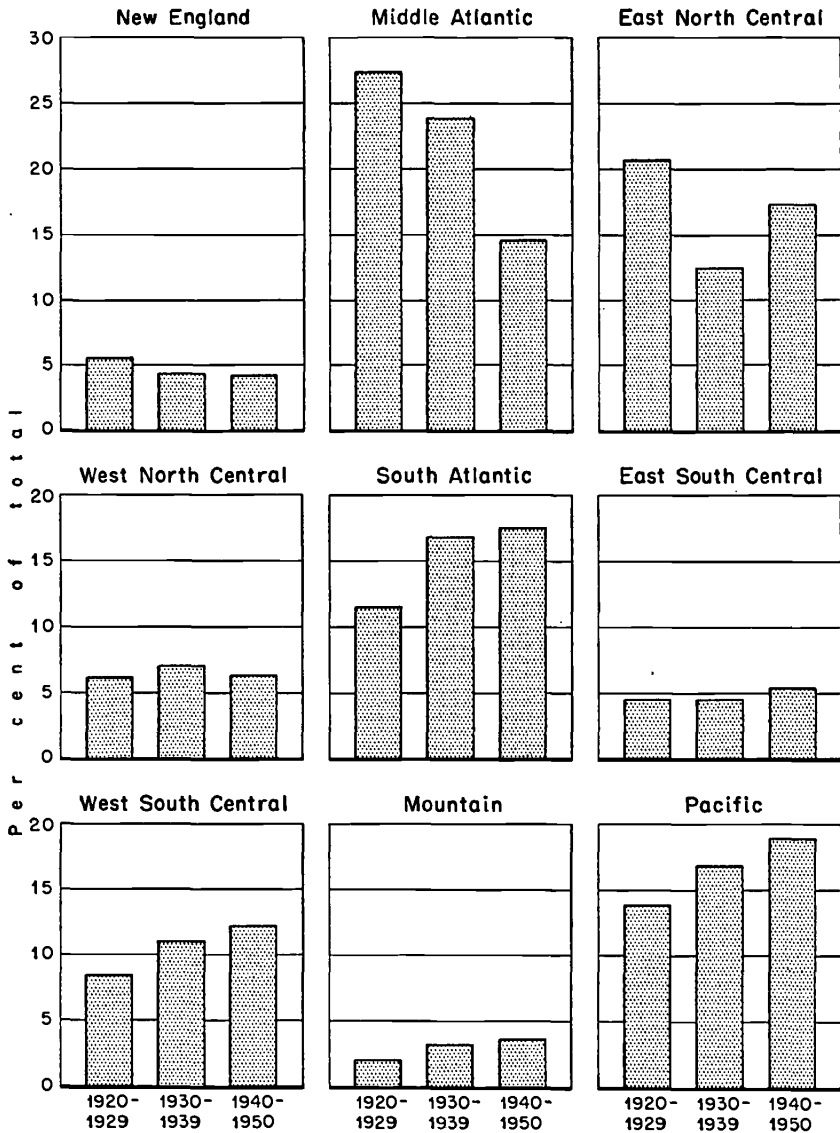
Source: Table H-4.

Regional growth trends can also be expressed in terms of regional shares of the decade change in the national aggregate (Table H-4). According to this measure, the Pacific region has gained an increasingly larger share of the total increment to nonfarm households in every decade since 1890; its share in population increase has risen in each decade since 1920, the earliest bench-mark for regional data on nonfarm population. An opposite trend is evident in the decade shares of the Middle Atlantic, New England, and two North Central regions. During the 1890-1900 decade New England and the Middle Atlantic states accounted for 35 per cent of the total increase in households; in 1940-1950 their combined increase was under 20 per cent. The Pacific and South Atlantic states accounted for less than 14 per cent in 1890-1900 and for over 33 per cent in 1940-1950. The shares in total household growth of the East South Central, West South Central, and South Atlantic regions have been increasing steadily since 1920, after a period of decline.

A comparison of the regional distribution of dwelling unit starts with regional shares in population growth suggests the following conclusions: In each of the three decades since 1920 there is a fair degree of correspondence between a given region's share in total nonfarm population growth and its share in new construction, although this relationship is far from invariant. There is an even closer relationship between regional shares in total household growth and in new construction, illustrating the influence of changes in household size on regional as well as national levels of residential construction. Size of population, on the other hand, appears to play no significant role in the regional distribution of new residential construction.

Regional Building Rates

Finally, the complex relationships between population growth and new residential construction may be analyzed in terms of regional building rates, that is, the number of new dwelling units started per 1,000 population and per 1,000 increase in population (Table 27 and Chart 11).

In most of the regions there is a clear-cut association for the three decades 1920-1950 between the number of new dwelling units per 1,000 population and rates of population growth. When regions are arrayed by both building rates and growth rates it is seen that the regions with the greatest rates of population growth also have the highest building rates. Thus in the 1920-1930 decade 167 new units were built per 1,000 persons in the Pacific region and only 53 in New England. In 1930-1940 the corresponding rates were 57 and 15; in 1940-1950, 118 and 34. An important exception is the Middle Atlantic region. During

TABLE 27

Building Rates and Population Growth Rates by Regions, 1920-1950

	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
1920-1930									
New dwelling units per 1,000 population	53	86	78	55	92	75	99	60	167
New dwelling units per 1,000 increase in population	484	460	342	493	348	295	321	365	387
Rate of growth in nonfarm population	11.7%	20.5%	25.7%	11.8%	30.6%	29.2%	36.5%	18.1%	54.9%
1930-1940									
New dwelling units per 1,000 population	15	25	15	22	41	23	39	30	57
New dwelling units per 1,000 increase in population	481	527	277	317	239	167	250	180	316
Rate of growth in nonfarm population	3.1%	4.9%	5.8%	7.0%	18.9%	14.7%	16.9%	18.3%	19.9%
1940-1950									
New dwelling units[a] per 1,000 population	34	37	49	45	84	57	85	67	118
New dwelling units[a] per 1,000 increase in population	283	333	264	291	251	193	233	208	263
Rate of growth in nonfarm population	12.7%	11.6%	20.1%	14.4%	40.4%	34.9%	44.6%	38.3%	57.7%

[a] New dwelling units started over the eleven-year period 1940-1950.

Source: Tables H-1, H-2, and H-3. Population in each decade is taken as the average of the initial and terminal populations.

CHART 11

Regional Building Rates, by Decade, 1920-1950
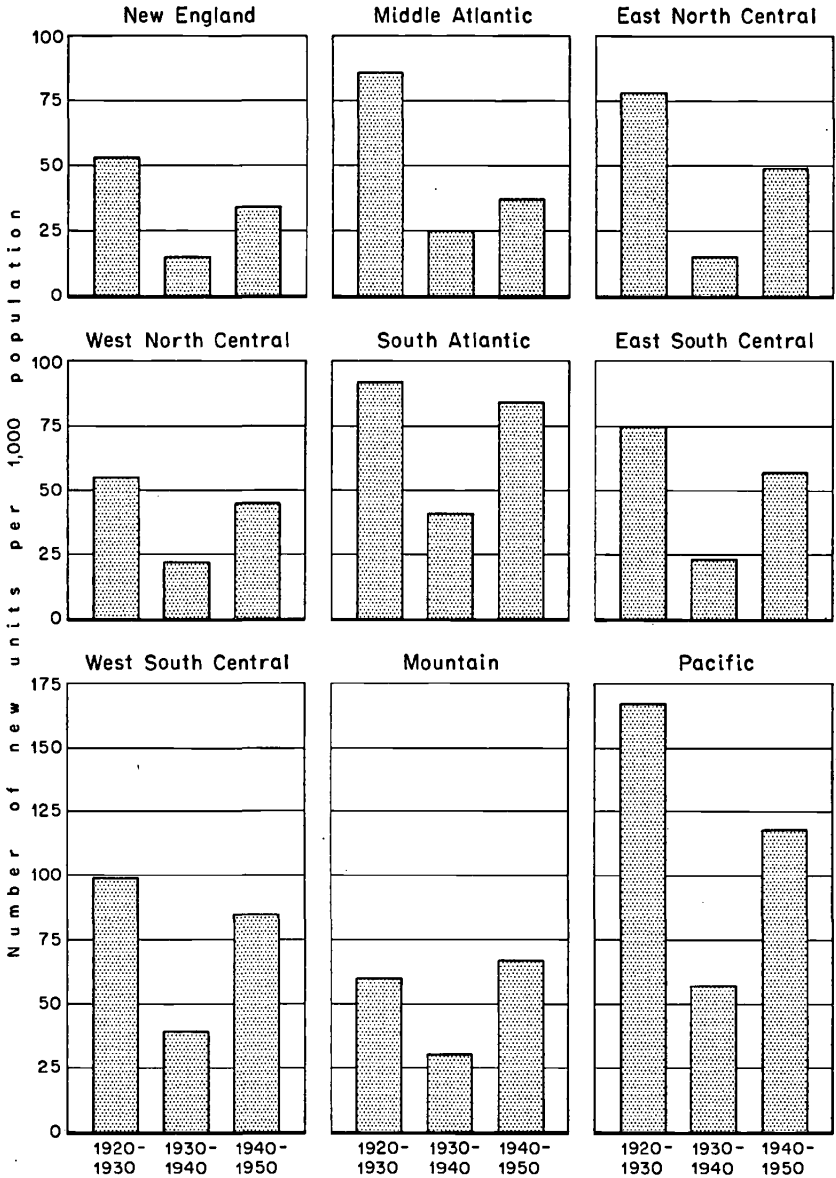
Source: Table 27.

both the twenties and the thirties residential construction in this area was at a substantially higher level than might have been expected on the basis of its population growth. In the 1940-1950 decade, however, the building rate in the Middle Atlantic region showed a more normal relationship to population growth. It is possible that in this region replacement of the typically older residential structures, partly associated with land use changes in its major cities, has become a more important factor than in other parts of the nation. If so, a greater importance for replacement might come about as land uses in newer cities change.[4]

If building rates are based on the number of new starts per 1,000 *increase* in population, there is some evidence of higher rates in the less rapidly growing regions. Thus in the twenties New England added 484 and the Middle Atlantic states 460 new units for each 1,000 persons added to their respective populations, while the Pacific region added only 387 and the West South Central states 321. The explanation, again, may be a greater relative importance of replacement in the older regions. Also, the decade figures may reflect time lags in the supply of new housing for the rapidly increasing population in the newer regions. Finally, higher building rates in some of the older, less rapidly growing areas may be caused in part by the regional concentration of seasonal dwelling units.

While it is uncertain how many seasonal dwelling units enter the series of new housekeeping dwelling units,[5] it seems to be of some significance that between 1940 and 1950 the Northeast (New England and the Middle Atlantic states) nearly doubled its inventory of seasonal units. The increase of seasonal dwellings in the newer regions was far more modest. In the Northeast the increase in seasonal units between 1940 and 1950 accounted for 17 per cent of the total increase in the region's nonfarm housing inventory. The corresponding ratios were 6 per cent in the North Central regions, 4.2 per cent in the South, and less than 2 per cent in the West.[6]

[4] Others have pointed out that Manhattan Island experienced a residential building boom during the twenties in the face of an 18 per cent decline in population and a 10 per cent decline in households. The smaller the area selected for analysis, the greater is the possibility of finding situations where special influences are at work.

[5] Little is known about the origin of our seasonal housing inventory. Unquestionably, a substantial proportion of these vacation units were once farmhouses and thus represent an increment to the nonfarm inventory unaccompanied by capital formation.

[6] Based on data from *Census of Housing 1950*, Bureau of the Census, Preliminary Reports, Series HC-5, No. 3, p. 9, and from *Census of Housing 1940*, Vol. III, *Characteristics of Monthly Rent or Value*, Tables A-1 and A-5.

The Urban and Suburban Movements

Interregional migration, which has so profoundly affected the distribution of new residential construction, is of course only one manifestation of internal migration. Other internal shifts in population during this period have had important effects upon residential building: (1) urbanization and (2) decentralization within the urban sector.

In every decade the share of total population living in urban areas has shown a marked increase, nearly doubling between 1890 and 1950. As far as internal movements are concerned (i.e. apart from the settling of foreign immigrants in urban areas), the gain in the urban share of population has been at the expense of the farm sector; the share of rural nonfarm population has remained more or less constant for the period as a whole, though with a slightly rising tendency. In 1890, total population was distributed as follows: 46.7 per cent farm, 18.1 per cent rural nonfarm, 35.1 per cent urban (Table H-6). In 1950 the distribution was 15.6 per cent farm, 20.6 per cent rural nonfarm, 63.7 per cent urban.[7]

The urban share of total nonfarm population increased from about two-thirds in 1890 to three-fourths in 1950. This shift in population has been accompanied by a similar change in the shares of the urban and rural nonfarm sectors in total nonfarm residential construction (Table 28). As the share of urban in nonfarm population increased, decade by decade through 1930, the share of new dwelling units started in urban areas also rose—from 56 per cent in the 1890-1899 decade to nearly 80 per cent in the 1920-1929 decade. Between 1890 and 1930 the rural nonfarm share in population declined from 34 to 25 per cent and its share in nonfarm construction declined from 43 to 20 per cent. Between 1930 and 1950 the share of urban population remained fairly constant, but the share of urban dwelling unit starts declined from almost 80 per cent in 1930 to nearly 60 per cent in 1950. The explanation probably lies in part in the large volume of conversions in urban areas, which increased the supply of dwelling units without new construction, and in part in the changed definition of urban population.

Within the nonfarm sector the greatest gains in population shares have occurred in the larger urban concentrations. Although the larger cities (over 100,000) by 1890 already accounted for 29 per cent of the nonfarm and 44 per cent of the urban population, continued growth over the next four decades increased their relative shares to 39 and

[7] The share of farm population in 1950 was somewhat reduced, and the share of urban increased, in comparison with other decades, as a result of a change in census definitions (see Appendix G). The difference is, however, too small to vitiate long-run comparisons. On a consistent definition the 1950 urban share was 59.0 per cent.

TABLE 28

Distribution of Nonfarm Population and New Dwelling
Units Started by Urban and Rural Nonfarm Location,
1890-1950

(per cent)

POPULATION			NEW UNITS STARTED		
Census Year	Urban (1)	Rural Nonfarm (2)	Decade	Urban (3)	Rural Nonfarm (4)
1890	66.7	34.0	1890-1899	56.5	43.5
1900	67.4	32.6	1900-1909	65.4	34.6
1910	70.1	29.9	1910-1919	73.0	27.0
1920	73.1	26.9	1920-1929	79.8	20.2
1930	74.7	25.3	1930-1939	62.4	37.6
1940	73.5	26.5	1940-1950	58.7	41.3
1950	75.5	24.5			

Column	Source
1-2	Table H-5.
3-4	1890-1919: David M. Blank, The Volume of Residential Construction, 1889-1950, National Bureau of Economic Research, Technical Paper 9, 1953.
	1920-1950: Housing Statistics, Housing and Home Finance Agency, January 1952, p. 2.

53 per cent, respectively. The medium-sized cities have exhibited no significant trends relative to nonfarm population, the share of cities of 50,000 to 100,000 rising from 6 to 7.2 per cent, and that of cities of 25,000 to 50,000 from 6.9 to 7.3 per cent, between 1890 and 1940. The relative importance of smaller cities has tended to decline. The share of urban places with 2,500 to 5,000 population, for example, fell from about 7 per cent in 1890 to 5 per cent in 1940. Roughly the same trends are evident in shares of each of the city-size classes as a proportion of urban population (Table H-6).

Superimposed upon the movement of population into urban areas has been a growing tendency toward suburbanization. Suburbanization is a difficult phenomenon to measure since the decentralization of population has taken place within as well as outside the boundaries of cities. There is no evidence of suburbanization in the sense that relative population gains in smaller cities have been greater than those in larger cities. The data in the previous paragraph show an opposite movement. The decentralization movement is best seen when population is grouped into metropolitan areas so that the relative growth of the central city and its satellite rings can be observed. In every decade between 1900 and 1950, on the basis of consistent geographical boundaries, the satellite urban rings surrounding the larger cities in fifty-two principal standard metropolitan areas gained population at a

more rapid rate than the central cities; and the relative difference in the rates of growth tended to become larger (Table 29). The rural portions of metropolitan areas, however, experienced a slower rate of growth until the 1920-1930 decade, when the influence of the automobile began to be felt.

TABLE 29

Population Growth Rates of Central Cities and Satellite Areas in Fifty-Two Principal Standard Metropolitan Areas, 1900-1950
(*per cent*)

		SATELLITE AREAS		
DECADE	CENTRAL CITY	*Total*	*Urban Ring*	*Rural Ring*
1900-1910	33.1	27.8	49.7	8.8
1910-1920	23.9	23.3	37.3	6.6
1920-1930	20.4	38.6	49.7	21.5
1930-1940	4.1	12.2	8.6	19.1
1940-1950	9.6	33.6	26.4	46.1
1900-1950	126.4	227.4	322.2	145.1

Source: Donald J. Bogue, *Population Growth in Standard Metropolitan Areas, 1900-1950*, Housing and Home Finance Agency, 1953, p. 13.

In 1900 more than two-thirds of the population in these metropolitan areas was found in the central cities and about 15 per cent in the satellite urban rings; in 1950 the relative proportions had changed to 58 per cent and 25 per cent, respectively.[8] This shift, of course, affected the geographical distribution of new construction. During the period 1920-1926 the ratio of new dwelling units started in the urban environs to the starts in the central cities which they surround was 38.5 per cent, and in the 1930-1936 period, 44 per cent.[9]

The rise in new residential areas around the larger cities was matched by centrifugal shifts of population within the larger cities themselves. Unfortunately, data on these intra-city changes are readily available only for the 1930-1940 decade.[10] When population change within certain designated zones, measured in distance from the center of the city, is traced, a distinct pattern is found: the decade growth rate is higher in the peripheral zones and lower or even negative in the close-in areas.[11]

[8] Donald J. Bogue, *Population Growth in Standard Metropolitan Areas, 1900-1950*, Housing and Home Finance Agency, 1953, p. 13.

[9] David L. Wickens, *Residential Real Estate*, National Bureau of Economic Research, 1941.

[10] Warren S. Thompson, *The Growth of Metropolitan Districts in the U.S., 1900-1940*, Bureau of the Census, 1948.

[11] *Ibid.*, p. 50.

The urban and suburban shifts have brought about changes in both the types of structures which are produced and the average cost per dwelling unit. These changes are discussed in Chapter VII.

Effects of Migration

Increases in the nonfarm population of the United States have been due to three forces: natural increase, immigration from abroad to cities and towns, and internal migration from farms. The nonfarm populations of the various regions have also changed as a result of internal migration—unquestionably an important factor in view of the high rate of mobility of people in this country.

Internal migration affects residential construction in two ways. First, if such migration leads to a net relocation of population, there will be a corresponding, though not necessarily identical, geographical redistribution in residential construction. A redistribution was clearly visible in the regional contruction data presented earlier. Second, internal migration under certain conditions may raise the level of aggregate nonfarm residential construction. The question is whether the latter was the case under the conditions present in the United States from 1890 to 1950.

Historical research on internal migration has scarcely begun, and estimates are available only for total migration including both farm and nonfarm segments of the population. These data are shown on a regional basis in Table H-6 and are summarized in Table 30 to indicate the approximate relative importance of interregional migration.

The net flow of the native white population from 1890 to 1940 was from east to west while the flow of Negro population was from south to north. In every decade four regions lost substantial numbers of native white people: New England (except in 1890-1900), the Middle Atlantic, the East South Central, and the West North Central. The Pacific and Mountain regions, particularly the former, were areas of net inflow during much or all of this period. The South Atlantic region was in the same class only after 1930, largely because of the heavy migration to Florida, which was a net recipient of population as far back as the data go. The West South Central states experienced heavy immigration during the 1890-1910 period but suffered net losses afterward.

All four northern regions continuously served as the destination, and the three southern regions as the origin, of Negro migration. The influx of Negroes into the western area was quite small in all decades between 1890 and 1940; judging from 1950 census data migration was more substantial in the 1940-1950 decade, especially into the Pacific states. The northward movement of Negroes was sufficiently great nearly to

TABLE 30

Net Interregional Migration, Native White and Negro,
as a Proportion of Total Native White and
Negro Population, 1890-1940

(*persons in thousands*)

| | DECADE MIGRATION | | | AVERAGE POPULATION DURING DECADE[a] | | | MIGRATION AS A PERCENTAGE OF AVERAGE POPULATION | | |
DECADE	*Native White*	*Negro*	*Total*	*Native White*	*Negro*	*Total*	*Native White*	*Negro*	*Total*
1890-1900	755	n.a.	n.a.	50,946	n.a.	n.a.	1.5%	n.a.	n.a.
1900-1910	1,670	221	1,891	62,223	9,331	71,554	2.7	2.4%	2.6%
1910-1920	1,139	455	1,594	74,396	10,146	84,542	1.5	4.5	1.9
1920-1930	1,658	752	2,410	88,314	11,177	99,491	1.9	6.7	2.4
1930-1940	1,408	348	1,756	101,115	12,379	113,494	1.4	2.8	1.5

[a] Average of population at initial and terminal years of decade.

n.a. = not available.

Source: Decade migration from Table H-6. No data are available on the net internal migration of the foreign-born. Changes in the number of foreign-born people in any given region are a joint result of internal migration and direct immigration from abroad. There is no means of separating, in existing census data, the two kinds of movements.

Average population from *Historical Statistics*, Bureau of the Census, Series B-41, p. 27, and B-215, p. 31.

offset the outflow of native whites in both the Middle Atlantic and East North Central regions. In fact, since the Negro migration was almost entirely into the nonfarm areas[12] while the outflow of native whites came in part from farm areas, there may have been a net non-farm population gain in these regions as a result of internal migration.[13]

The direction of these flows of internal migration corresponds roughly with the changes in the distribution of new residential construction, which were shown earlier, at least for the period 1920-1950. The migration of Negroes into the North probably helped maintain a somewhat higher level of building in that area than would have been the case otherwise, although little new construction was provided for them directly.

At the same time, the ratios shown in Table 30 serve to place the relative importance of internal (interregional) migration in proper perspective.[14] Thus in none of the five decades did native white and

[12] Committee on Population Problems, *The Problems of a Changing Population*, National Resources Committee, 1938, p. 99.

[13] This does not include the effects of internal migration of the foreign-born, for which no separate data exist. Except for the 1930-1940 decade, the influx of foreign-born population into the older regions, representing in large part direct foreign immigration, was substantial (Table H-5).

[14] The interregional migration totals represent the algebraic sum of net interstate movements of population. Thus if New York State has a net gain of 100,000 persons from inmigration, Pennsylvania a net loss of 30,000, and New Jersey a net loss of

Negro migration exceed 2.6 per cent of total native white and Negro population. The ratios range from 1.4 to 2.7 per cent for native white and from 2.4 to 6.7 per cent for Negro population. A general association, however, is found between the level of interregional migration and the level of residential construction. Both the 1900-1910 and 1920-1930 decade, periods during which construction peaks occurred, were marked by relatively large transregional movements of people. These movements probably contributed to construction booms. If comparable data for 1940-1950 were available they would be likely to show a similar association.

It is impossible to determine from available data the extent to which internal nonfarm migration has raised the aggregate volume of new residential construction. The following observations, though of a general nature, will help in appraising the importance of internal migration for the level of construction activity. Internal nonfarm migration may create additional demand for housing in three ways:

1. *Internal movements without any net geographical redistributions of population, i.e. positive gross but zero net migration.* It is reasonable to assume that a country, region, or city with a highly mobile population will have a higher building rate, i.e. new dwelling units per 1,000 population, than an area with an immobile population, even if both areas have the same rate of population and household growth. The first area will tend to have a higher vacancy rate, as a frictional by-product of rapid turnover in occupancy. The builders in the first area will maintain production in the face of a vacancy rate that would cause a reduction in building in the second area. Internal mobility may also create some amount of "double demand" as people seek new accommodations before their present dwelling is offered on the market.[15]

2. *Internal movements with redistribution of population, i.e. positive net migration.* Additional demand for new construction will be created if the areas of exodus suffer a net absolute loss in population or households. Because their homes cannot be transported with the migrants, vacancies equivalent to the number of emigrating households will appear. In time some of these vacant units, because of marked-down price and rent, will attract resident families currently doubled up. Others may be torn down or used for nonresidential purposes. In prin-

10,000, the Middle Atlantic region is credited with a net gain of 60,000. The net regional flows are therefore smaller than the gross flows of population and fall far short of measuring the total movement of population across local housing market boundaries.

[15] Arthur F. Burns, "Long Cycles in Residential Construction," *Economic Essays in Honor of Wesley C. Mitchell*, Columbia University Press, 1935, p. 99. This essay was reprinted in Arthur F. Burns, *The Frontiers of Economic Knowledge*, Princeton University Press for National Bureau of Economic Research, 1954.

ciple, the gross number of vacancies caused by outmigration would serve as an indicator of the additional housing demand created in the areas receiving the migrants.

No data exist for directly measuring the impact of migration in terms of vacancies. But inasmuch as vacancies would be a consequence of net population losses, some judgment concerning magnitude can be derived from the population data in Table H-2. Thus far at least, there has been no decline in population, urban or rural nonfarm, in any region—not even in the rural nonfarm portions of New England, in which are found striking instances of the declining town and village. The regional population aggregates, of course, mask the existence of individual localities and even portions of cities[16] that have suffered permanent loss of population. But it is difficult to believe that the number of such localities could have been substantial when the nonfarm components of all nine regions have exhibited positive growth rates in every decade. What has happened is that the regions characterized by heavy and continuous outmigration have had compensatory gains from foreign immigration, farm-to-city migration, Negro migration, and natural growth. Much better historical data on vacancies are needed before the effects of migration can be adequately weighed.

3. *Internal migration and declines in household size.* The shifts in population resulting from internal migration have led to a decrease in the average size of household as sons and daughters, who otherwise might have continued to live under the parental roof, sought their fortunes elsewhere.[17] The effect of declining household size on new construction has already been fully discussed. Internal migration has been merely one of the many forces operative on this decline.

It follows from this discussion that any impact of nonfarm internal migration on the aggregate volume of construction would manifest itself, except for the influence of migration on household size, in long-term changes in the level of the vacancy rate, and to some extent in the rate of demolitions and conversions to nonresidential use. As was stated in Chapter V, there is no indication of an upward trend in vacancy rates although historical vacancy data are much too inadequate to provide conclusive evidence. But since no net losses of population have occurred in any significant number of large areas, it is difficult to believe that internal migration has been a factor of great long-run

[16] Leo Grebler, *Housing Market Behavior in a Declining Area*, Columbia University Press, 1952, pp. 38 and 107.

[17] Areas with a relatively large volume of inmigration, according to 1940 census data, also are characterized by a relatively large proportion of single-person households. The lowest average household size at every decade is found in the Pacific region (Table H-2).

importance, so far as the aggregate volume of residential building is concerned.

If in the future the rate of growth of nonfarm population declines substantially, the relative importance of internal migration for residential construction may increase. Under such circumstances the number of areas in which outmigration is not offset by population gain from other sources is likely to be larger. The prospects on this point are discussed in Chapter XVII.