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Chapter Title: The Declining Importance of Residential Construction in the National Economy

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CHAPTER IX

THE DECLINING IMPORTANCE OF RESIDENTIAL CONSTRUCTION IN THE NATIONAL ECONOMY

In broad terms, the analysis so far has suggested a slackening in the absolute growth of residential capital formation during the sixty years 1890 to 1950. This has been attributed to two major sources: a decline in the rate of nonfarm household formation (but smaller than the fall in the rate of nonfarm population growth), and a sharp drop in real input per new dwelling unit. When residential construction is related to economic aggregates there appears an even more pronounced downward trend in the *relative* quantitative importance of nonfarm residential construction in the total economy. This decline apparently originated in the decades preceding the period covered in the present study. The broad trends indicate that gross and net residential construction have accounted for smaller and smaller shares of gross and net national product, gross and net capital formation, and total new construction. Furthermore, residential construction expenditures have decreased relative to total consumption expenditures. The downward movement has not been continuous; the wide swings characteristic of residential capital formation are also found in each of the ratio series that portray the changing economic role of residential construction. The primary focus of this chapter, however, is upon the underlying changes rather than upon the cyclical movements.

The Share of Residential Construction in Gross National Product and Capital Formation

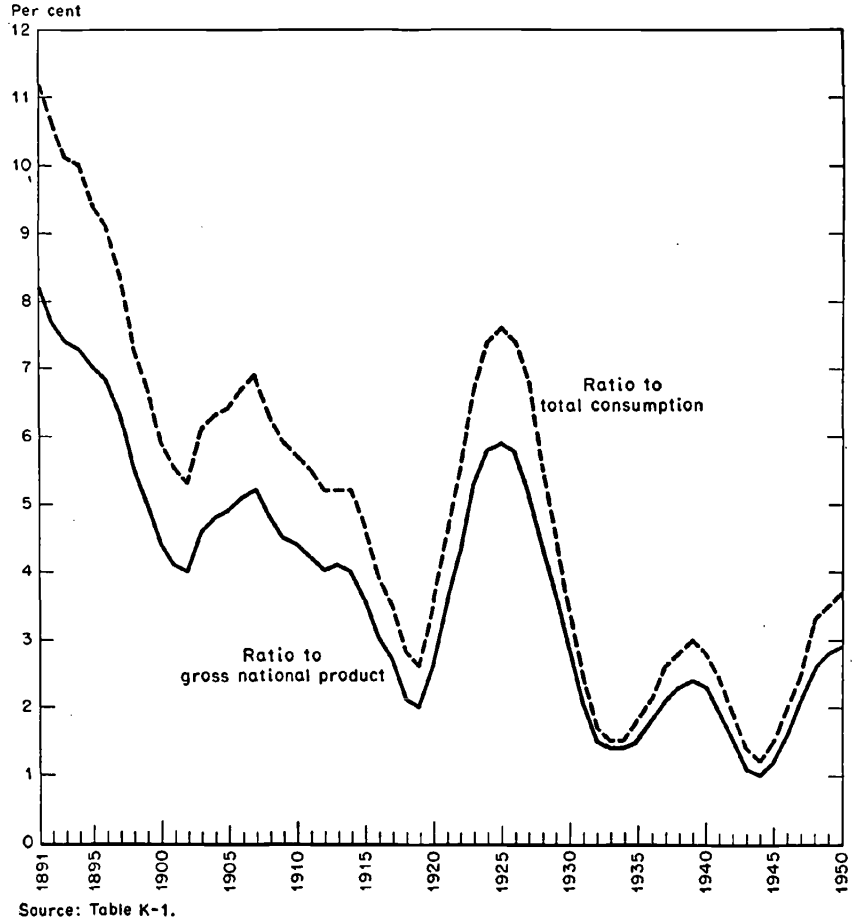
The broad sweep of the relationship between nonfarm residential construction and gross national product and consumption is shown in Chart 13 in five-year moving averages at constant prices.[1] In 1891, nonfarm residential construction expenditures constituted 8.2 per cent of GNP, both taken in 1929 prices. In 1929 the corresponding ratio was 3.7 per cent, and in 1950, 2.7 per cent.

The decline in this ratio was somewhat less dramatic if measured in current prices. In 1950, nonfarm residential construction represented

[1] All ratios, unless otherwise indicated, are derived from five-year moving averages of the series to which reference is made. The primary justification for this method, aside from the smoothing which results, lies in the interpolated nature of the annual data of national product and its component series (see Simon Kuznets, Part C of the Supplement to the forthcoming Summary Volume in the National Bureau's series on Capital Formation and Financing in the United States, p. 1). Unless otherwise noted, the ratios refer to private housekeeping residential construction inclusive of additions and alterations.

CHART 13

Ratio of Gross Nonfarm Residential Capital Formation to Gross National Product and to Total Consumption, 1891-1950
(1929 prices; five-year moving averages)



Source: Table K-1.

4.0 per cent of GNP, as against 3.7 in 1929 and 6.2 in 1891. In constant prices the 1950 ratio was only one-third as large as the initial ratio. In current prices the 1950 ratio was a little more than one-third below the initial ratio. These differences in the ratios formed from current- and constant-price series reflect the greater rise in the prices of construction output relative to the prices of other components of GNP. Between 1891 and 1950 the implicit price index of GNP increased 220 per cent compared with a 481 per cent increase in the residential construction cost index (Table K-1).[2]

[2] Cf. Chapter VII.

The extent of the change can also be observed in measures for more recent decades taken from annual data. Residential construction in the peak year of the twenties, 1925, accounted for 6 per cent, in constant prices, of GNP (Department of Commerce definition) and at the even higher peak of the recent postwar period, 1950, for only half as much—3 per cent (Table K-3).

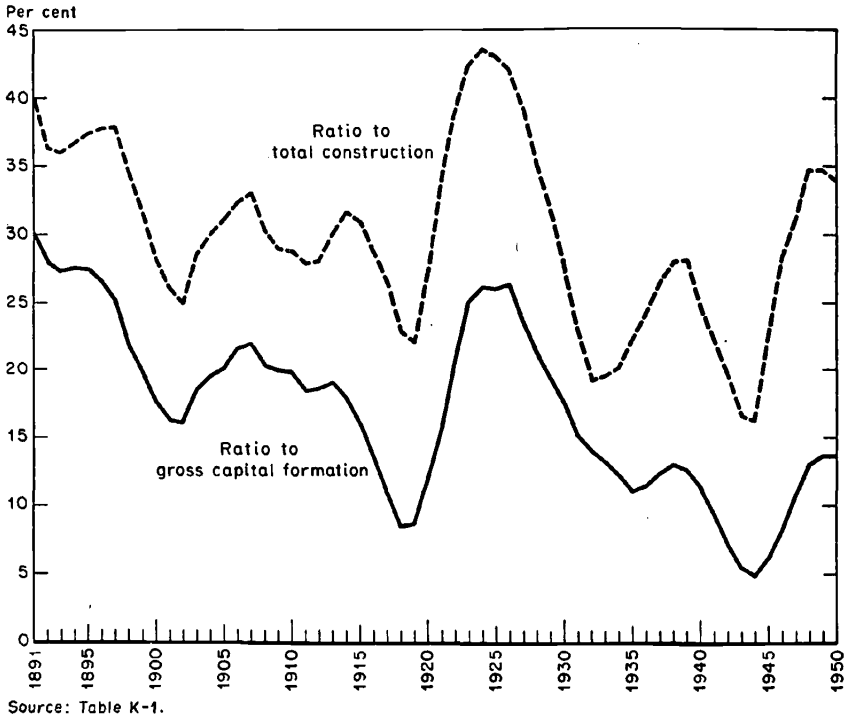
Nonfarm residential capital formation has declined relative to each of the major components of GNP. The movement in the ratio of residential construction to the output of consumers' goods and services (Chart 13) closely parallels the movement in the ratio to GNP, since consumption on the average accounts for about 80 per cent of total output. There is some indication that the decline in relation to consumption is somewhat steeper than that in relation to GNP, reflecting the mild increase in the proportion of consumer goods and services in constant prices during the period covered. At the beginning of the period, residential construction was equal to over one-tenth of the output of consumers' goods and services, but during the past two decades the ratio in constant prices averaged less than 3 per cent (Table K-1). Even the residential boom of the twenties failed to carry the ratio beyond a little more than half the 1891 level. On the basis of annual data, rather than moving averages, gross capital formation in housing in the peak year 1950 amounted to about 5 per cent of the output of consumers' goods and services.

Nonfarm housing has also become a much smaller component of gross capital formation (Chart 14). On the basis of five-year moving averages in constant prices, the share of residential capital formation fell from about 30 per cent of gross investment in the nineties to about one-quarter in the twenties and about 13 per cent at the end of the period.

Residential building is not the only component of total construction that has declined relative to gross capital investment. But the share of residential construction in gross capital formation has declined more rapidly than that of total new construction. The ratio of residential to total construction derived from five-year moving averages decreased rapidly between 1891 and 1902, from 40 to about 25 per cent, and hovered around an average of 30 per cent until World War I (Chart 14). The war caused a further drop in the ratio, to less than 25 per cent. During the twenties, however, the share of residential construction in total construction reached an unprecedented peak of 43 per cent, reflecting the economic strength of this historic housing boom. After 1932, when residential building accounted for barely 20 per cent of total new construction, the ratio rose sporadically, and it stood at about one-third in recent years.

CHART 14

Ratio of Gross Nonfarm Residential Capital Formation to Gross Capital Formation and to Total Construction, 1891-1950
(1929 prices; five-year moving averages)



Source: Table K-1.

The Share of Net Residential Capital Formation in Net National Product and Capital Formation

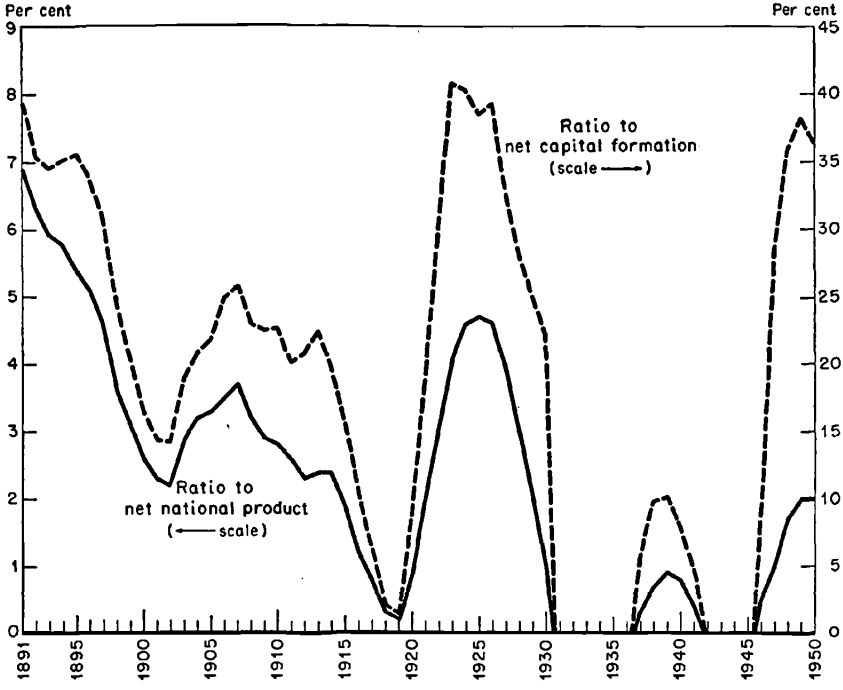
Net residential capital formation compared with net national product and net capital formation moved much like the gross series. The share in constant prices of net residential capital formation in total net national product started at about 7 per cent in 1891 and declined to 2 per cent in 1950. The share in total net capital formation was 39 per cent in 1891, 15 per cent in 1902, 40 per cent in the mid-twenties, 10 per cent in 1946, and 36 per cent in 1950 (Chart 15). The movement of the latter ratio appears quite erratic due in part to the effects of the very substantial charges for capital consumption; the swings are far more violent than in the gross series. The sharp decline during the early and middle thirties reflects disinvestment in the residential sector; after World War II the ascent to a new peak is markedly steep.

An extremely marked decline occurs in all the ratio series between

1891 and 1902. This period accounts for about half of the over-all decline in the ratios during more than fifty years. This decline seems to be the result of timing differences between the swings in residential construction and aggregate economic series. During the years 1891 to 1900 a declining phase in residential construction expenditures coin-

CHART 15

Ratio of Net Nonfarm Residential Capital Formation to Net National Product and to Net Capital Formation, 1891-1950
(1929 prices; five-year moving averages)



Source: Table K-2.

cided with an expansion phase in the rate of growth in national product and capital formation (gross and net).[3] In no later period did the residential sector move so differently from the rest of the economy.

The building boom of the twenties was an abrupt reversal of a downward trend. The bulge in the share of resources flowing into house construction during this decade is not approached in magnitude by the housing boom following World War II, even when the latter period is compared in terms of annual data (Table K-3). The burst

[3] Simon Kuznets, "Swings in the Rate of Secular Growth," mimeographed, National Bureau of Economic Research, Work Memorandum 37, 1952, p. 19. See also the discussion in Chapter III above.

of residential construction during the twenties left its mark upon many statistical series, and especially on the growth in the residential mortgage debt (Chapter X).

Residential Building in Total Construction, 1915-1953

The annual data of the Department of Commerce on total construction since 1915, classified by types of construction, permit a more detailed analysis of the changing relative importance of residential[4] in total construction during the past three or four decades. The declining share of private residential in total new construction is also evident in these data, though the decline appears to be milder than in earlier decades. Despite its decreasing importance, residential construction has remained the most substantial component of total construction, accounting for one-third of the total for the period 1915-1953 as a whole, though with a range in the annual ratios of between 11 and 49 per cent.

The decline is almost entirely the result of the growth of public construction. The share of residential in total *private* construction—averaging about one-half from 1915 to 1953—has remained relatively stable. The share of public construction, averaging a little less than one-third for the period as a whole, has been nearly equal to the residential share but with a much wider range in annual movements. Together, these two components comprise a minimum of one-half and a maximum of seven-eighths of total construction, averaging two-thirds for the entire period.

The shares of residential and public construction bear a strong inverse relation to each other[5] (Chart 16). This relation is, of course, largely a result of deliberate policy during war years and to some extent a result of compensatory fiscal programs during the thirties. It appears during the twenties as well, reflecting persistent differences in the investment decision processes within each sector. In the postwar years 1946-1948 the shares of public and residential construction move in consonance, a fact that, in conjunction with the magnitude of construction expenditures involved, may partially explain the severe pressure on the construction industry and construction costs during this period.

While the shares of public and residential construction, as well as those of other components, show violent movements, the swings in

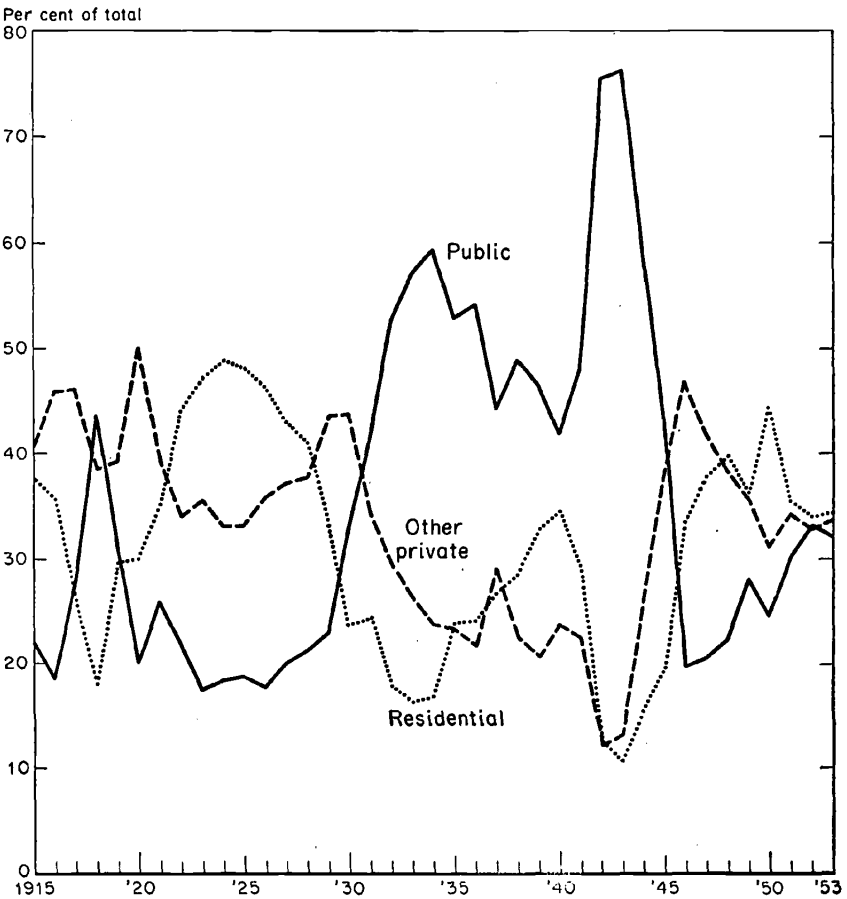
[4] Residential construction in this comparison, which adheres to Commerce classification, is inclusive of nonhousekeeping residential and is therefore somewhat larger than housekeeping totals used earlier.

[5] Miles L. Colean and Robinson Newcomb, *Stabilizing Construction*, McGraw-Hill, 1952, pp. 45-50 and 221-224.

public construction are relatively greater than in residential. The share of residential construction gains somewhat in stability from the fact that swings in residential expenditures leave their imprint on total construction expenditures, not only because of the magnitude of resi-

CHART 16

Percentage Distribution of New Construction by Major Classes, 1915-1953



Source: Table K-5.

dential building alone, but also because it generates related types of construction, such as stores and other community facilities. The more closely a component series resembles an aggregate series in the movement of its absolute volume, the more stable will be the movement in the relative share of the component. Thus while the volume of resi-

dential construction declined by more than 90 per cent between 1926 and 1933, its share in total construction declined by only 65 per cent. The changes in the share of residential construction are, nevertheless, still large, and their magnitude is influenced by public construction, which, by the variety of projects included in this class, damps the swings in total construction expenditures compared with the swings in residential construction.

The only other important components of construction—(1) commercial plus industrial[6] and (2) public utility—each have accounted for about one-eighth of the total during the 1915-1953 period. Farm construction has averaged between 4 and 5 per cent and private institutional[7] about 4 per cent of total construction. Construction in these sectors is discussed in other parts of the National Bureau's Studies in Capital Formation and Financing.

Factors in the Decline in Residential Capital Formation

In any economy with rapidly rising standards of living one would expect the provision of shelter to decline in relative importance. Therefore, the downward trend in the ratios discussed above is not astonishing. But the strength of the trend over the past sixty years is of great significance and may have decided implications for the future demand for both real resources and capital funds.

Housing production has failed to rise with the increase in output of all other goods, producer and consumer, because it is closely related to population growth modified by changing household size (Chapter V). This relationship in turn stems from the lack of replacement demand for housing because of its extreme durability (Chapter IV). Given a declining rate of increase in population and households, the relative importance of residential construction would have tended to diminish even if total output had grown no more rapidly than population, i.e. if per capita gross national product had remained constant. Since total output has grown much more rapidly than population, the downward tendency in the production of new housing was powerfully reinforced.

The relative decline in residential construction expenditures could conceivably have been checked if consumers had reacted to rising income by increasing the size and quality of new housing. But the data on real value per new dwelling unit and on the per capita value

[6] Composed of the following Department of Commerce categories: industrial, warehouses, office and loft buildings, stores, restaurants, and garages.

[7] Sum of the following Commerce categories: religious, educational, social and recreational, hospital and institutional.

of residential capital (Chapters VII and VIII) strongly support the conclusion that this kind of consumer reaction to increased income has failed to materialize. Thus the declining importance of residential construction in the national economy may be attributed at least in part to a decline in consumers' preferences for housing.