Structure of the RESIDENTIAL BUILDING INDUSTRY in 1949

November 1954

Bulletin No. 1170

UNITED STATES DEPARTMENT OF LABOR
James P. Mitchell, Secretary

BUREAU OF LABOR STATISTICS
Aryness Joy Wickens, Acting Commissioner

Structure of the RESIDENTIAL BUILDING INDUSTRY in 1949

Bulletin No 1170

UNITED STATES DEPARTMENT OF LABOR

James P. Mitchell, Secretary

BUREAU OF LABOR STATISTICS

Aryness Joy Wickens, Acting Commissioner

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. - - - - - Price 30 cents

CONTENTS

STRUCTURE OF THE RESIDENTIAL BUILDING INDUSTRY IN 1949

INTRODUCTION

Residential building--the work of producing shelter--is one of the most important activities in our society. It is the largest contributor to capital formation and a major consumer of goods and services.

Insight into the structure and scale of residential building operations is of special concern, because the industry's organization determines to a large extent the amount, kind, quality, and distribution of the new housing produced. Information about the industry structure is needed therefore to help in shaping and administering national housing policy. For example, the extension or modification of private home financing aids through such agencies as the Federal Housing Administration, the Veterans Administration, the Federal National Mortgage Association, and the Home Loan Bank Board, must take into account the scale and character of the operations of home builders.

Private business is also aided by such knowledge. The large group of important industries producing building materials and equipment need information about the characteristics, dispersion and size of builders using their products, to assist them in planning their production, sales, and distribution systems. Facts about the organization of homebuilding operations are useful tools to the residential builders themselves in their efforts to improve management, marketing, and financing practices, and to promote national housing policies consistent with broadening their markets and providing the kinds and quality of shelter the country needs.

This report presents and interprets the final and complete results from the only nationwide study so far conducted to analyze the organization and scale of residential builders' operations.[1] It presents facts for the first time in answer to the following fundamental questions:

What share of all new housing is produced by professional, or commercial, builders, i.e., those who build for a living or for profit, as distinguished from amateurs who build houses only for their own occupancy?[2]

Which type of professional builder predominates? The custom builder (general contractor) who builds new housing on order, on someone else's land and to another's specifications; or the merchant or operative builder, who builds new housing to his own specifications on his own land for unidentified future buyers or renters.

What share of the total market does each have, and how large is the respective scale of operations?

Is there a substantial difference between large and small communities in the scale of homebuilders' operations and in the share of new house production by the various types of builders?

---

* By Dorothy K. Newman and Adela L. Stucke of the Bureau of Labor Statistics' Division of Construction Statistics. Edward M. Gordon directed the field survey upon which these findings are based, as well as tabulation of the results.

[1] The study was a sample survey conducted by the Bureau of Labor Statistics in 1951 with research funds provided by the Housing and Home Finance Agency; it covered residential builders' private housing operations in 1949. See Appendix A for a description of the survey methodology. Preliminary findings were presented in a release issued in August 1951, "120,000 Firms in the Residential Building Industry in 1949," and in an article entitled "Structure of the Residential Building Industry, 1949," which appeared in the October 1951 issue of the Monthly Labor Review (pp. 454-456).

[2] These are called "owner-builders," who, acting as their own general contractors, supervise the construction of the project from start to finish; they may subcontract almost all of the work to special trades contractors, or perform a substantial amount of the construction themselves, with or without hired help. See also footnote 12 on p. 4 .

How do builders of 1-family houses differ from builders of apartments?

Do residential builders serve only a local market? What proportion of such builders, if any, build outside their own communities?

What other businesses do residential builders engage in when building is not their principal occupation?

Answers to these questions in the past were usually generalizations based on fragmentary data, or rationalization and interpretation from personal experience.

Although the literature on the building construction industry includes numerous discussions of the characteristics of residential building operations,[3] little additional information has been obtained about these activities since the limited field studies of the Bureau of Labor Statistics for 1938 and 1940-41,[4] with the exception of the recent work, Housebuilding in Transition, by Sherman J. Maisel.[5] In the interim, Miles L. Colean in American Housing (1944)[6] had effectively summarized and interpreted available data, and Leo Grebler in Production of New Housing (1950)[7] had critically analyzed the problems and limitations inherent in the available information and had suggested how gaps in the data could be filled.

Maisel's book has contributed greatly to a substantive knowledge of the residential building industry's present organization, based on a comprehensive and scientific sample survey of builders in the San Francisco Bay area in 1949-50. It differs from this study mainly because it describes the structure of 1- and 2-family housebuilding operations exclusively, and its orientation is restricted to one large metropolitan area.[8] It also includes some observations about the scope and organization of 1- and 2-family housebuilders nationally, however, based on a special tabulation of data from the Bureau of Labor Statistics study, the full results of which are presented in this report.

The Bureau of Labor Statistics' sample survey was made in 1951, and, like most of Maisel's study, covered residential builders' private housing operations in 1949.[9]

[3] The organization and scale of residential builders' operations are discussed in many of the publications cited in the bibliographies of the following books: Miles L. Colean, American Housing: Problems and Prospects. New York, The Twentieth Century Fund, 1944 (pp. 441-455). Leo Grebler, Production of New Housing. New York, Social Science Research Council, 1950 (pp. 176-180).

[4] See "Builders of 1-Family Houses in 72 Cities," Monthly Labor Review, September 1940 (pp. 732-743); "Operations of Urban Home Builders," Monthly Labor Review, May 1941 (pp. 1283-1285); and "Builders of 1-Family Houses in 11 Areas, 1940 and 1941," Monthly Labor Review, April 1943 (pp. 801-807). Although these studies contributed to an understanding of residential builders' organization and have been widely quoted for over a decade, they were nevertheless restricted in value, because: (1) the cities or areas studied were limited in number and were chosen without attention to scientific sampling techniques; (2) in the first 2 studies, data were based on operations only within the city limits of permit-issuing places, although many builders operate both inside and outside the city limits and some builders produce housing in more than one city; in addition, these 2 studies made no allowance for possible overstatement of the number of builders resulting from duplicate counting of firms that obtained permits under more than one name; (3) no distinction was made between individuals or firms engaged in housebuilding as a business, and the amateurs or owner-builders. All persons or firms whose names appeared on the building permit as the persons or firms having the general contract, or the owners (in the case of operative or owner-built houses) were classified as builders; and (4) the incidence of contract or custom building, covered only in the second study cited, was overstated because a house was considered contract-built if it was contracted for before construction began, although developers may build some houses for speculation and sell copies of these houses on order. The latter are not contract-built, in the sense that they are initiated and designed by the owner or his architect and built on the owner's lot.

[5] Sherman J. Maisel, Housebuilding in Transition. Berkeley and Los Angeles, University of California Press, 1953.

[6] See footnote 3.

[7] See footnote 3.

[8] In addition, Maisel describes the details of builders' management, production, financing, and marketing operations, subjects outside the scope of the Bureau's studies.

[9] Public housing production was excluded. Public housing accounted for 36,300 dwelling units in 1949, or 4 percent of all units started, and was produced largely by firms operating exclusively as general contractors.

The Bureau's survey found that although commercial residential builders were substantially outnumbered by owner-builders in 1949, the latter accounted for only a minor part of the new housing. In fact, despite the numerous owner-builders and the many firms in residential building in 1949 whose principal occupation was in other lines of work, a substantial core of specialized producers of housing existed. These residential builders--responsible for over half of all the new housing started that year--constituted a true residential building industry, readily distinguished from other segments of the construction industry.

Most of the commercially built new housing was produced by operative builders, even though they accounted for somewhat fewer of the residential builders in 1949 than did the general contractors. This reflects the relative size of operations of the two groups, with operative builders' production larger on the average than that of the general contractors. In apartment housing construction alone, however, general contractors' operations were larger, on the average, although their total production of apartment units was not as great.

Although small producers predominated in commercial residential building, both in operative building and contract work, they accounted for less than half of the commercially built housing. The very largest firms, those that started 100 dwelling units or more, comprised only 1 percent of the commercial residential builders but accounted for a third of the industry's output. The medium-size firms that started 25 to 99 dwelling units each in 1949--only 3 percent of all the commercial residential builders--produced nearly a fourth of the dwelling units started that year. In fact, the scale of residential building operations had risen, on the whole, since the late 30's and early 40's, according to the available evidence.

Residential builders' scale of operations was substantially greater in metropolitan than in nonmetropolitan areas. Consistent with this is the fact that operative builders were somewhat more numerous than residential general contractors in metropolitan areas, but were far outnumbered by general contractors in the nonmetropolitan areas. However, operative builders nevertheless accounted for more of the commercially built output than general contractors even in the nonmetropolitan areas, where the latter predominated.

The year 1949 is a good reference point for a comprehensive view of the structure of the residential building industry. For the first time in the post-World War II period, costs were relatively stable, and the industry was free from governmental controls, shortages, and critical financing problems. Residential builders were able to assemble efficient crews and develop their projects unhampered by restrictions over the type and size of structures they could erect, such as existed under the Veterans Emergency Housing Program in 1946-47, or by the delays and uncertainties resulting from the acute labor and materials shortages after the war, or by the rapidly rising costs and the tightened mortgage market in 1948.[10]

Mortgage money was plentiful in 1949; credit terms, especially for Government-assisted (Federal Housing Administration and Veterans Administration) loans, were extremely liberal[11]; and there was extensive demand for new housing which even the relatively large production of 1946-48 had scarcely begun to meet. In fact, housing activity shattered all previous records in 1949. In that year, too, residential builders made substantial progress in effective group organization and action. Thus, it is reasonable to conclude that the basic postwar organization of the residential building industry was well established in 1949. It is unlikely that any fundamental modifications in the residential building industry have occurred since then. Undoubtedly, some shifts have taken place since 1949 in the scale of operations and the relative share of production among the vari-

[10] See Bureau of Labor Statistics Bulletin No. 941, Construction and Housing 1946-47, (pp. 18-23) and Bulletin No. 984, Construction, 1948 in Review, (pp. 28-33).

[11] This was chiefly the result of revisions in Federal housing programs, under provisions of the Housing Acts of 1948 and 1949, whereby mortgage ceilings and loan-to-value ratios were raised, and the funds of the Federal National Mortgage Association for buying FHA and VA loans were increased.

ous types of builders, but the extent of these changes cannot be gaged without statistical evidence. Conjectures about their direction attempted at the close of this report (p. 13) are based solely on an interpretation of historical events.

PARTICIPANTS IN NEW HOMEBUILDING

Residential building is unique among major American industries in having a substantial group of amateurs in the activity. Professional builders were outnumbered over 2-to-1 by owner-builders in 1949.[12] The former, however, who constituted less than a third of those who built new housing, accounted for 70 percent of the new units started (table 1).

This report deals primarily with those who built housing as a business enterprise, since these builders--commonly referred to either as commercial or professional builders--define and shape the industry as well as account for most of the output. Nevertheless, because of its importance in the total production, owner-built housing will be discussed in the relevant context.

Contract vs. Operative Builders

The common observation in the past has been that general contractors, in addition to contributing the largest number of commercial residential builders, accounted for the major share of new housing production.[13] Data obtained in this study, however, show that although general contractors in residential building were somewhat more numerous than the operative builders in 1949, the latter built most of the commercially built housing. Less than half of the commercial firms were engaged exclusively in operative building in 1949 (45 percent), but these firms nevertheless accounted for almost two-thirds of the new housing produced by firms. General contractors, who comprised most of the remainder of the commercial residential builders (49 percent), accounted for 25 percent of the new commercially built housing. A small group (6 percent) which engaged in both general contracting and operative building, accounted for the remainder (12 percent); most of this group's housing output was operatively built.

Contract building is more prevalent within nonmetropolitan than metropolitan areas,[14] where larger markets stimulate the speculative type of housing venture characteristic of the operative builders. Nevertheless, although in the nonmetropolitan areas general contractors, or custom builders, far outnumbered the operative builders in 1949, the latter accounted for more of the commercially built dwelling units.

---

[12] Owner-builders were those building for other than commercial purposes, without the services of a general contractor. Any part of the work could be done by special-trade contractors, each responsible only for the work of specific trades; or by the owner, with or without the help of family members or friends; or by workmen hired directly by the owner; and any combination of these methods could be used.

Almost all of the owner-builders were individuals who constructed one house only intended for use by their own families or close relatives. There were some instances of owner-building in which a man built a dwelling unit for his own family and another for relatives (ordinarily parents or children) either as 2 separate houses, or in a 2-family building. In addition, this builder classification included a small number of other types of builders, widely diverse in their characteristics, e.g., a man who acted as his own general contractor in building several houses for his children, each of whom had been married recently, and an institutional home operated by a large fraternal organization which built a number of staff residences on its grounds, with the superintendent of the home directly supervising the construction.

[13] Colean, op. cit., p. 63; Grebler, op. cit., p. 7.

[14] In the 168 standard metropolitan areas as defined in the 1950 Census.

Owner Initiated vs. Builder Initiated Housing

Custom building in one sense could be conceived to include all dwellings built specifically to the owner's design and specifications, and thus to comprise owner-built[15] as well as contract-built housing. Admittedly, this does not conform to the popular concept of custom building as including only houses built by a general contractor according to individual drawings and specifications, particularly if these are prepared by an architect.

Many of the owner-built houses, particularly those priced at $15,000 or more (17 percent) were similar to custom- or contract-built homes even under the popular definition, since the owner-builder, acting as general contractor, in many cases employed an architect and subcontracted all of the construction[16]. Owner- and contract-built housing were also alike in that both types were owner-initiated and constructed on the owner's land, according to his specifications and design. In this sense both types were custom-built or "tailormade." The general contractor, like the special trades subcontractors, performed a service function, carrying out the owner's intention.

Contract- or owner-built housing predominated in the nonmetropolitan areas in 1949, accounting for about 80 percent of the new housing started in these smaller places. In contrast, in the metropolitan areas, most of the new housing (60 percent of the 1-family houses and 62 percent of all the new units) was put under construction by operative builders. In both metropolitan and nonmetropolitan areas combined, in 1949, half the new housing was owner-initiated and half was producer-initiated.

Operative builders, producing for unidentified future buyers or renters, determined the number of units to build, their design, quality, size, location, and price; frequently developed the land, and assumed the risk of selling or renting the dwellings. In many cases they reduced their risk by building sample houses and selling copies on order. Whether they laid the foundations for all the units before signing contracts, or only as they sold copies from a sample few, they nevertheless produced a ready-made product. Their mode of operations differed from those of the contractor and the owner-builder in much the same way as apparel manufacturing differs from custom tailoring or dressmaking.

SCALE OF OPERATIONS

In its 1949 scale of operations, professional residential building consisted of a predominance of small producers accounting for less than half the total commercial production, and a comparatively small number of large and medium-size firms producing the bulk of the output. In this respect, residential building resembled a number of major manufacturing industries

---

15 Although the term "owner-built" usually refers to single-family homes produced by individual owner occupants, a few 2-family houses built by owners in 1949 were included in this category for purposes of this study; one unit usually was for the owner's family and the other was to be rented. In addition, a few units erected for staff or inmates by institutions acting as their own general contractors were also classified as owner-built housing. (See footnote 12 above, and table 2.)

16 The extent to which owners did some of the construction themselves is unknown. Available data on the valuation placed on the owner houses show that the homes ranged all the way from minimum shelter and shell houses to elaborate, high-priced structures. The large proportion of houses valued under $6,000 in the nonmetropolitan places (39 percent) suggests that a significant number of the houses were of the type often erected in rural areas by an owner with the help of family members and friends. In such instances, some of the work may be subcontracted. This procedure is usually followed in plumbing and electrical work, especially in those localities where separate plumbing and electrical permits are required. It is likely that virtually all of the work on the more elaborate houses in value classes above $15,000 was subcontracted, and the owner merely performed the managerial function of the general contractor. The majority of these houses were in metropolitan areas where strict building codes are in operation. (See table 8.)

The Bureau's survey[17] found that about 95 percent of the 1949 professional residential building firms were small (fewer than 25 dwelling units started during the year), and that these firms accounted for only 45 percent of the commercially built new housing. The large firms (100 units or more) and medium-size firms (25 to 99 units) together accounted for only 4 percent of the total number of commercial residential builders, but produced 55 percent of the industry's output. The large firms alone (1 percent of all the professional residential builders) accounted for a third of the production. In contrast, more than 40 percent of all the firms building commercially, started only 1 house in 1949, and they accounted for less than 10 percent of the commercially built units (tables 3 and 4).

Unlike other industries, however, residential building is a sideline of numerous firms and individuals whose chief occupation is in other, though often related fields --such as building materials sales, special trades contracting, or the skilled trades. (See table 6.) Occasionally these people build a single house, or a few houses, depending on their resources and the size of the venture which they regard as worthwhile. Some work on their houses themselves in spare time or between jobs, and others build as an intermittent supplement to their business activities. This explains to a substantial degree the extensiveness of small-scale operations among the commercial builders.[18]

Since all previous studies have covered only 1-family housebuilding, and duplicate counting of some builders in the BLS 1938 study tended to underestimate the size even of 1-family housebuilding operations,[19] there is no way of measuring accurately how much the size distribution of residential building firms may have changed, in terms of total private housing production, by using the BLS 1949 survey results. A crude but nevertheless suggestive measure of change in the scale of operations of residential builders may be made by using the results of the BLS urban surveys of 1938 and the study in 11 defense areas in 1940-41, and comparing them with the 1949 data for metropolitan areas only, combining both owner-built and commercially built 1-family houses in 1949, as in the earlier reports.[20] Admittedly, data for cities are biased in the direction of smaller scale operations than data for metropolitan areas,[21] and separate projects of the same builder that may have been authorized on separate building permits were combined in the 1949 and 1940-41 surveys, but not in the 1938 study. Furthermore, data on the builders' size of operations in 1949 are in terms of all the dwelling units they started, instead of only the 1-family houses they began.[22] Nevertheless, the differences in the distribution of operations between 1938 or 1940-41 and 1949 are sufficiently large to warrant the conclusion that they resulted in part from a change in scale of operations and not solely from variations in survey coverage.

---

17 Based on Maisel's classification as to scale of operations. Op. cit., p. 21. In this report, however, the classification, except where noted otherwise, applies to the total number of dwelling units builders started during the year, rather than to 1- and 2-family housebuilding exclusively, as in Maisel's study. Size of builder distributions using both criteria would not differ significantly, however, because of the predominance of single-family housing in total production in 1949--4 to 1. See table 18.

18 See p. 8 for a discussion of the other business activities of residential builders in 1949 and the relation to small scale of operations.

19 See footnote 4.

20 Maisel measured roughly the changes in scale of operations for 1- and 2-family housebuilding in San Francisco using data for San Francisco collected in the BLS study covering 1-family urban operations in 1938. In addition, he used a special tabulation from the 1949 BLS survey, which showed the relation of total size of builder to the builders' 1- and 2-family housebuilding operations nationally, and compared the results with adjusted figures from the 1939 Census of Construction and from the 1938 BLS urban study. The comparisons revealed a substantial increase in average scale of operations and in the relative importance in the total output of the larger firms. Maisel, op. cit., pp. 21-26; tables 5, 7, 8; and Appendix B.

21 Note, however, that a test made in Cleveland in 1938 showed that inclusion of builders operating in the suburbs only, as well as those operating in both the city and the suburbs, did not materially change the builders' distribution by scale of operations, because of the small size of the strictly suburban builder group. (See "Builders of 1-Family Houses in 72 Cities," in Monthly Labor Review, September 1940, pp. 732-43.)

22 See footnote 17. In addition, see p. 11 and tables 13 and 18 where it is shown that most builders tended to specialize in either 1-family houses or multifamily structures and that the distribution by size of operations varied little as between 1-family house builders and all builders.

About 95 percent of the builders and individuals took out permits for fewer than 10 single-family houses each in 1938 in urban places and in 1940 and 1941 in 11 defense areas. These small builders were responsible for 75 percent of the urban houses authorized in 1938, and for 56 and 44 percent, respectively, of the houses in 1940 and 1941. In 1949, 95 percent of the builders and individuals started fewer than 10 dwellings each, but in contrast to the earlier surveys, accounted for only a little over 25 percent of the 1-family house production.

The scale of residential building operations was substantially greater in metropolitan than in nonmetropolitan areas in 1949, obviously because of the vast difference in the markets. The large and fast growing populations of metropolitan areas makes mass housing developments and large apartment buildings feasible, whereas such operations would exceed the total demand of small local markets.[23]

Thus, metropolitan areas claimed more than 80 percent of all the commercially built private dwelling units started in 1949, but only 55 percent of the professional builders. There were no large builders at all (100 or more dwelling units) in the nonmetropolitan places, and the median commercially built dwelling unit begun in 1949 in these small localities was started by a builder of only 2 to 4 units. In contrast, the median unit in metropolitan areas was begun by a builder of 50 to 99 units. In other words, half the professionally built dwelling units in nonmetropolitan places were built by builders of fewer than 5 units in 1949, whereas half the dwelling units started in 1949 in metropolitan areas were built by builders of at least 50 units.

Although most of the metropolitan area output (64 percent) was the work of medi um and large builders (25 dwelling units or more), most of the residential builders in these populous centers were small in terms of total scale of operations. A third of the builders started only 1 house each in metropolitan areas, and another half began only 2 to 9 dwelling units. Using the Maisel classification, 94 percent of all the professional builders in metropolitan areas in 1949 were small-scale builders (less than 25 units each) and they accounted for a little under 40 percent of the commercially built dwelling units. The medium-size builders (25-99 units each) were 5 percent of the total in metropolitan areas and began about 25 percent of the units. The remaining 1 percent of the metropolitan-area builders--the very large-scale producers who began 100 units or more--constructed about 40 percent of all new private housing begun commercially in metropolitan places and for almost 35 percent in the country as a whole.

THE GENERAL CONTRACTOR

General contractors built on a smaller scale, on the average, than either the operative builders or the firms that did both general contracting and operative building in 1949. Although there were firms of each kind at every size level, proportionately fewer general contractors produced on a medium and large scale compared with the others, and middle- and large-size builders were responsible for a smaller share of the general contractors' output.

Nearly 6 in 10 of the general contractors started only one house in 1949, compared with a little over 3 in 10 of the operative builders. Nine in 10 began fewer than 5 dwelling units, and virtually all began fewer than 10. These small contractors[24] (less than 10 units each) accounted for about three-fifths of the general contractors' 1949 housing output. In operative building, firms of this size (86 percent of the operative builders) were responsible for only a fourth of the housing production (tables 3 and 4).

---

[23]See Donald J. Bogue, Population Growth in Standard Metropolitan Areas, 1900-1950. Washington, D. C., Housing and Home Finance Agency, December 1953 (p. 13); and Maisel, op. cit. (p. 23).

[24]The size designation is in terms of their residential building operations alone, and not in terms of their operations in building construction as a whole, which may have been extensive.

The relatively small size of general contractors' homebuilding activities, however, was characteristic of their single-family house operations rather than their apartment building. They built larger apartment projects on the average than either the operative builders or those who did both operative building and contract work [25] (p. 11, and table 5).

The fact that very few general contractors started more than 10 single-family houses during the year clearly indicates that the widespread practice of building 1-family houses to order, house by house, on separate sites limits the volume of production. In such operations, each owner furnishes the lot and house specifications. Changes are often ordered by the owner in the course of construction. In addition, the number of custom-built individual homes that can be built at the same time by a single firm is severely limited by the managerial force required to supervise the numerous details involved. [26] With the same amount of supervisory personnel the operative builder can initiate and carry through construction on many more houses at one time than the custom-building general contractor. The construction of a group of operatively built houses can be planned and scheduled as a unit, because they can be erected at one site, with basically the same design, and with the entire bill of materials for a project known in advance.

A few general contractors also started medium to large-scale single-family housing projects in 1949 on a contract basis for others. In such cases, an individual or firm owned the land, submitted plans, and asked for bids on a project of single-family homes which they planned to sell or rent. The general contractors who won the contracts performed the service function of building to the owners' order. The promoting groups, many outside of the industry, quickly liquidated their investment or earned a rental income. Smaller contract jobs for such promoting firms and individuals were even more common than the medium-or large-size projects. Altogether, however, only 3 percent of the general contractors were engaged in building single-family houses for others to place on the market, and the resulting projects constituted less than 10 percent of all the general contractors' output of houses in 1949. Thus, these speculative-type contract-built enterprises in 1949 did not affect significantly the scale of 1-family house operations of general contractors. It is clear also that the amount of venture capital used for building 1-family houses in this manner was small. Capital for 1-family housebuilding was obtained chiefly from the intended occupants and their mortgagors, or the builders themselves.

THE OPERATIVE BUILDER

The 1- to 4-House Operative Builder

Although medium and large scale operations were much more characteristic of operative builders than of general contractors, the operative builders' group also included numerous 1-house entrepreneurs, and the great majority of operative builders started fewer than 5 dwelling units in 1949 (table 3). These very small merchant builders represented a third of all the professional builders and accounted nationwide for 10 percent of the commercially built private housing production during the year. More of these small enterprises were in the metropolitan than in the nonmetropolitan areas, although they accounted for proportionately more of the builders and output in the smaller places.

How do these small operative builders, especially those building only 1 or 2 houses in the year, make a living? [27] A large proportion of them actually engaged in residential building only as a side line. [28] The 1- to 4-house builders predominated among

[25] See footnote 9.

[26] Maisel found that, even among medium-sized firms in San Francisco, the principals usually had only one or two assistants in management activities. Op. cit., p. 210. Maisel found also (p. 218) that all the San Francisco housebuilding firms surveyed were personally owned and financed.

[27] See Maisel, op. cit., p. 211. Maisel found that the median San Francisco builder completing 1 to 9 houses in 1949 received a net profit before taxes of about 5.7 percent of sales volume. The profit on two $18,000 houses at this rate would be about $2,000. Most houses built in 1949 sold for less than $12,000.

[28] This is true also of very small scale general contractors.

those entrepreneurs who reported that residential building was their subordinate business in 1949. (See table 5.) Many were special building trades contractors or journeymen, lumber dealers, or associated in one way or another with real estate operations, who built one or a few houses as a speculative venture to supplement their income (table 6). The low capital requirements for housebuilding, which is financed largely on credit and through loans secured by the property, is an inducement to many to enter the business as a brief speculation, particularly in a period of extensive demand as in 1949. There is no other major industry in which a group normally outside, accounts for so large and productive a part.

These small operative builders enter and leave the homebuilding industry in quick succession, accounting for a sizable share of the high business turnover for which construction is notable.[29] They predominated among the 40 percent of the operative building firms that in 1949 reported entering the residential building business within the year (table 7).

On the other hand, many of them probably built housing for their principal support since, as Maisel found, small builders often receive their income in the form of wages and not as a return on investment or as profits. The sense of independence derived from running their own business offsets the low return or, frequently, the lack of return, on their capital.[30]

The Operative Builder in Nonmetropolitan Areas

As significant as the comparatively large number of very small operative builders in the metropolitan areas, was the important number of merchant builders of substantial scale in nonmetropolitan places,[*] remote from the wider and more stable markets of large centers.

Fifteen percent of the nonmetropolitan operative builders started at least 5 units during the year. These builders accounted for 25 percent of all the professionally built private units begun in those relatively small areas, and for 10 percent of all nonmetropolitan private housing starts, including the owner-built. In addition, over 1,000 operative builders began at least 10 dwelling units each in nonmetropolitan places in 1949, accounting for 17 percent of the professionally built housing starts there, and 7 percent of the total, including the owner-built. Several hundred middle-sized builders of 25-99 dwelling units each, accounted for as much as 8 percent of the nonmetropolitan housing production by commercial builders, and 3 percent started by builders and owners together (tables 1, 3, and 4). As recently as 1944, Miles Colean wrote in <u>American Housing</u> that "Their (operative builders') influence...has scarcely been felt in the smaller nonmetropolitan centers."[31] The growth of their importance in small localities reflected the fast growing populations in many small nonmetropolitan places, and the increasing, even pressing, housing demand there, which resulted from extensive migration during the 1940's away from farms, and from both farms and cities, toward small towns and villages in the West, and toward decentralized industrial and military installations throughout the country.[32]

---

[29] See "Recent Business Population Movements," <u>Survey of Current Business</u>, U. S. Department of Commerce, Vol. 34, No. 1, January 1954 (pp. 11-16), and "Size Characteristics of the Business Population," <u>op. cit.</u>, Vol. 34, No. 5, May 1954 (pp. 15-24). These articles relate to contract construction only. Although operative building is not classified under "Contract construction," but is classified with "Finance, insurance, and real estate," in these reports, in accordance with the Bureau of the Budget's Standard Industrial Classification, it is believed that entry and discontinuance rates of the operative builders are similar to those of the construction contractors.

[30] Maisel, <u>op. cit.</u>, pp. 36-37.

[31] <u>Op. cit.</u>, p. 143.

[32] Some of these places are in urbanized areas, according to the 1950 Census, even though they do not fall within standard metropolitan areas. See Donald J. Bogue, <u>op. cit.</u>, pp. 45-50, for discussion of the relation between urbanized areas and the standard metropolitan areas and their urban fringe, and pp. 33-44 for comparison of metropolitan and nonmetropolitan growth in geographic divisions.

The Medium- and Large-Scale Operative Builder

There were only a handful, comparatively, of operative builders who started 25 or more dwelling units in 1949 in the country as a whole (2,950), but they were important producers of housing that year. They accounted for two-fifths of the commercially built private dwelling units started nationally and about half of those begun in metropolitan areas (tables 3 and 4).

All of the large merchant builders, and virtually all of medium scale, were in the metropolitan areas, where a huge backlog of effective demand was swelled by large and growing markets.[33] Many of these operative builders sold their entire project from one or a few model houses, and whole apartment developments were rented well before completion.

The largest producers built mostly to meet the single-family housing demand of middle-income families in the metropolitan areas. This was true also in urban places in 1938, when the large operative builders were concentrated in the middle-price housing field.[34] The median price of the 1-family homes started by operative builders of 100 or more houses in 1949 was a little over $8,500. (See table 8.) For all other size groups except one-house builders, the median price was $9,000 or more.[35]

In general, the price distribution of 1-family houses started by operative builders of all sizes in 1949 was indicative of considerable emphasis on the moderate to low-priced house. Nearly 6 in 10 of the operatively built 1-family houses were priced at less than $10,000, and the median price was $9,200. (See table 8.) Prices were, of course, much higher in metropolitan than in nonmetropolitan areas, where costs and wages generally are lower and the effective demand is for smaller and less expensive houses than in larger places. Even in the metropolitan areas, however, the median price was under $10,000 ($9,500), influenced substantially by the moderate prices in mass housing projects. In 1949, at least, it was no longer true that new housing was being built largely for a limited economic group, as it appeared in 1940, according to the Temporary National Economic Committee, when conducting its investigations "Toward More Housing."[36]

In view of the extensive pressure for new housing in the metropolitan areas, it is surprising that large-scale housebuilding in the moderate-price range was not more prevalent and did not account for an even greater share of the production.[37] In part, the answer lies in the relative youth of most firms in the residential building industry. The industry had in effect to be organized anew after almost complete inactivity during World War II. To illustrate, a third of the operative builders in metropolitan areas in 1949 had been in the industry less than a year, and nearly 60 percent had been in the industry only since the close of the war. (See table 7.) Most of these firms began as small enterprises. Relatively little time had elapsed before 1949 in which to build a large-scale business with the managerial skill and experience and the hundreds of thousands of dollars of working capital that are required.

---

[33] See p. 7 .

[34] "Builders of 1-Family Houses in 72 Cities," Monthly Labor Review, September 1940, pp. 732-743.

[35] Maisel's findings in the San Francisco area study were similar. Op. cit., p. 28. Selling price includes the price of land.

[36] Monograph No. 8 (Washington, Government Printing Office, 1940), Part I, pp. xv-xvi. The construction cost of a typical single-family house a little more than doubled between 1940 and 1949, whereas family income rose nearly 1-1/2 times. About 45 percent of families in 1949 had wage or salary income of $2,500 to $5,000 and 17 percent had $5,000 or more, compared with 13 percent and 2 percent, respectively, in 1939. See May 1953 supplement to Construction and Building Materials, p. 32, for historical data on residential construction costs compiled by E. H. Boeckh and Associates, Washington, D. C. See also, U.S. Bureau of the Census, Current Population Reports, Consumer Income: Income of Families and Persons in the United States, 1949. Release Series P-60, No. 7, Table 12, p. 27.

There is no satisfactory historical price index for new houses. Construction cost is used here instead of a price index. See "Relationships Between an Index of House Prices and Building Costs" by David M. Blank in Journal of the American Statistical Association, Vol. 49, No. 265, March 1954 (pp. 67-78), for a rationalization of the interchangeability of the two.

[37] There were 700 large operative builders (100 or more units) in 1949. Only around a third of these (something over 200) began 250 units or more each—either in single-family housing projects or in apartment projects.

BUILDERS WHO COMBINED OPERATIVE BUILDING AND GENERAL CONTRACTING

The small group of residential builders (6 percent of the professional builders) who interchanged their operations during the year and did both operative building and general contracting, were found mostly in metropolitan areas. Unlike the firms engaged exclusively in general contracting or operative building in 1949, the majority of them started more than 5 dwelling units in the year. They were predominantly in the upper range of the small builders (5 to 24 units), and a third of them began at least 10 dwelling units during the year. On the other hand, the output of large builders (100 units or more) accounted for a much smaller proportion of the units started by these operative-general contractor firms than by firms engaged exclusively in operative building.

This group of builders, who built to order some of the time, and at other times initiated their own projects, appeared to be a substantial and relatively stable type of firm. Virtually all of them were engaged solely or principally in building construction in 1949, unlike a large proportion of the other residential builders, particularly the small ones who built 1 or 2 houses on the side to supplement their income from a regular business or job (tables 9 and 10).

APARTMENT BUILDING

Few builders specialized in apartment building in 1949, and even fewer started both 1-family houses and apartments. The builders who did apartment building exclusively, however, accounted for most of the units in apartment structures (72 percent). (See tables 13, 14, and 15.) The great majority of the builders (88 percent) specialized in single-family houses in 1949, reflecting the character of the total private housing output in which single-family homes predominated 4 to 1.

Most of the firms that specialized in putting up multifamily structures (2 or more units) were operative builders (80 percent). Although over half of these builders reported residential building as their principal or only business, a rather substantial group (one-third) reported it as just a side line (table 17). This suggests that a sizable amount of apartment construction was initiated and completed in 1949 by "speculative sponsors"[38] rather than by long-term investors.

General contractors started only a fourth of the apartment units begun in 1949 (as well as a fourth of the 1-family houses) and constituted only a sixth of the builders specializing in multifamily construction. However, their apartment projects were larger on the average than those of the operative builders (table 5).

In both instances, however, the average number of units per builder specializing in multifamily structures, although far more than for the 1-family housebuilders, was less than 25. It is not safe to conclude from these small averages, however, that "Even where large projects are most characteristic, housebuilding is usually a small-scale business,"[39] because, taken by themselves, they are misleading. They were weighted heavily by the numerous builders who started 2 to 4 units in multifamily buildings in 1949. These builders were more like the small single-family housebuilders of similar scale.[40] They constituted three-fourths of all the builders who specialized in multifamily structures in 1949, and their average production was only 2 dwellings in 1 building (table 18).

In contrast, the 8 percent of the firms that specialized in apartment construction and also started 25 units or more, averaged 146 units per builder, and accounted for three-fourths of the units produced by all the multifamily-structure specialists, and well

[38] These are producers and merchandisers of rental housing, whose interest is in the profit from the construction job and from capital appreciation after building up occupancy and high rent rolls, after which the project is sold to a permanent investor. See discussion of such operations in Production of New Housing by Leo Grebler, pp. 118-122.

[39] Colean, op. cit., p. 77.

[40] Maisel, in fact, combines all 1- and 2-family housebuilders into a single group, which he defines simply as "housebuilders."

over half (54 percent) of all the multifamily units started by all types of builders (tables 15 and 19). In addition, three-fourths of all the units started in 5-or-more family structures were produced by builders of 100 or more units in 1949. Most of them were produced by builders specializing in apartment building. Only a fourth of all the units in 1-family and 2-4 family houses were the product of large-scale builders (100 or more units). It appears, therefore, that apartment-house building of the type usually conceded as such (in structures accomodating more than 4 households) was at least of medium, and more commonly of large scale in 1949.[41] Virtually all of it was in the metropolitan areas (table 16).

SINGLE-FAMILY HOUSE BUILDING

Because 1-family housing predominated so greatly in housing activity during 1949, the structure and scale of operations of the homebuilding industry as a whole tend to reflect the activities of single-family housebuilders.

Although no new conclusions come to light, it is worthwhile examining briefly some facts about 1-family residential building by itself. For example, the scale of operative builders' 1-family house building was relatively much greater than that of the other builders. Most of the operatively built houses (6 in 10) were the product of firms that started at least 25 single-family houses in 1949 (table 20). When contract-built houses are added, however, the proportion declines appreciably.[42] The proportion of one-family houses begun by builders of moderate to large size (25 or more houses) drops further, of course, if owner-built homes are added, to around 30 percent. Conversely, the proportion begun by builders of less than 5 houses rises sharply, from about a fourth to one-half.

Because of their larger scale operations, operative builders started a much greater proportion of the commercially built 1-family houses in 1949 than the general contractors, even though the latter predominated among residential builders who specialized in 1-family-house construction (tables 13 and 15).

SPECIALIZATION IN RESIDENTIAL BUILDING

It has been assumed widely that most housing is not built by a special class of producers, but rather by builders who also construct stores and offices, and other similar structures, or by firms interested chiefly in such activities as the real estate or lumber business, or by artisans or the home owners themselves.[43] Data obtained in this survey indicate that a large volume of housing was in fact built by owners and artisans and by firms and individuals not engaged principally in residential building for a livelihood in 1949. In addition, however, they show that there was a substantial core of specialized producers of housing that year, which constituted a bona fide residential building industry. Available data suggest that more than half the private 1949 housing was produced by homebuilding specialists.

Such specialists were found among all types of commercial residential builders. The large proportion of operative builders who reported residential building as their sole business in 1949 comprised more than a fourth of all the professional builders who started private housing that year, and produced nearly half of the commercially built dwelling

---

[41] Large-scale apartment building was stimulated in 1949 as a result of the renewal late in 1948, after a lapse of several months, of the liberal financing arrangements under wartime Title VI (Sec. 608) of the National Housing Act. The already liberal provisions of Sec. 608 were further liberalized after the close of World War II. The 90-percent loan-to-value ratio of the original legislation (1942) had remained the same, but mortgage ceilings were raised after the close of World War II. The appraisal basis was changed from "reasonable replacement cost" to "necessary current cost," and, in 1948, to cost prevailing on December 31, 1947.

[42] See tables 15 and 19. Scale of operations in single-family house production alone is available only for operative builders (table 20) and for builders specializing in single-family housebuilding in 1949 (tables 16, 18, and 19). The 1-family houses started by builders of both 1-family houses and other types of units constituted 7 percent of all the 1-family houses started in 1949, and 11 percent of those commercially built.

[43] Colean, op. cit. (pp. 63-64).

units. To this group may be added many of the general contractors who reported that building construction (including nonresidential as well as residential building) was their sole occupation, and most of the builders who shuttled from residential operative building to general contracting. (See tables 9 and 10.)

LOCALISM OF RESIDENTIAL BUILDING

Residential builders serve local markets almost exclusively. The house is fixed to the ground, and the limited managerial staff of firms that build to order precludes building single houses or apartment projects in widely separated places. Even large operative builders find it too costly and risky to build in new localities, where the character of building ordinances, geographic pattern of growth, land assembly problems, and taste and requirements in housing may be unfamiliar to them.[44]

Detailed analysis of the residential building operations of firms in 24 metropolitan areas among the sample places studied in the 1949 survey showed that in all but 3 of the places (Boston, Mass.; New Haven, Conn.; and Lancaster, Pa.), less than 2 percent of the builders operated outside as well as inside their home metropolitan area. Two of these three places were in New England where densely populated places of relatively small area are contiguous with one another. Even in those places, however, well over nine-tenths of the firms confined their housing activities to the home metropolitan area.

In addition, the amount of outside-area residential building was small. The figures shown in tables 21 to 26 are based on the number of commercially built dwellings started within each of 24 selected metropolitan areas. However, even if outside-of-area homebuilding by the builders in each of the selected metropolitan areas is included, the average scale of commercial builders' residential building operations is unchanged for all areas except Dallas, where the average increases only from 11 to 12. The outside activities of Dallas builders were located several hundred miles from the home area, thus suggesting a much wider radius for out-of-area operations in the West where populous communities are more widely separated, than that of firms in the more densely populated Eastern States whose outside work was in nearby localities.

Broadly speaking, data relating to the 24 metropolitan areas reflect the national pattern in the structure and scale of operations of the residential building industry in 1949. For example, small firms predominated in most of the areas, but accounted for a small proportion of the output; the average number of units begun by operative builders usually exceeded the average for general contractors; production of operative builders generally was well above the combined output of all the other commercial builders; and apartment builders had larger-scale operations than the single-family house builders.

Nevertheless the areas differed widely in many respects. To cite just 2 extreme examples, the proportion of owner-builders ranged from nearly 3 in 10 in Dallas to over 7 in 10 in Detroit, and the ratio of general contractors to operative builders ranged from about 1 to 3 in Miami, Tulsa, and Washington, D. C. to almost 3 to 1 in Lancaster. These and other differences did not appear to be related to population size or geographic location of the areas. They reflected the unique configuration of each individual housing market at the time.[45]

IMPLICATIONS OF THE 1949 STRUCTURE

Among the more significant influences that shaped the organization of residential building operations in 1949 was the relation of housing production to population growth in the preceding two decades. A sharp drop in homebuilding during the depression 30's, and again in the wartime 40's, had resulted by 1949 in large, accumulated housing needs which required only favorable conditions to be translated into effective demand.

---

[44] See Maisel, op. cit. (pp. 216-217). See also Grebler, op. cit. (p. 16), and Colean, op. cit. (p. 80).
[45] See Chester Rapkin, Louis Winnick, and David M. Blank, Housing Market Analysis: A Study of Theory and Methods. Washington, D. C., Housing and Home Finance Agency, December 1953.

Exact figures are not available, but some concept of the extent of the latent pressure on housing in 1949 may be had from the fact that about 3.3 million more new nonfarm households[46] occupying separate quarters[47] were formed, compared with the 8.4 million new permanent nonfarm dwelling units supplied, in the two decades from 1930. This already large potential market for new housing was augmented by married couples living with relatives, and the returned World War II veterans whose housing requirements were met only to a limited extent by the recovery in housing production immediately after the war. These forces, together with very high postwar birth rates, high incomes, and easy Government guaranteed and insured credit, created tremendous housing demands. Consequently, builders had an assured market in 1949. They could sell or rent as many dwellings as they could produce. There were numerous incentives, and little risk for individuals in other lines of work to take a small flyer in residential building; for individuals or groups to abandon a less profitable business and build houses; and for building firms to multiply their previous scale of operations. Efficient and inefficient alike survived and flourished, and deficiencies in site selection or house design had little effect on sales and often went unnoticed, or were disregarded.

This complex of circumstances explains both the numerous small merchant builders in business that year, as well as the increased number and relatively large output of the medium and large entrepreneurs. To some extent, it explains also the importance of the entrepreneurial organization in 1949.

Do any of the same influences persist in 1954 and what changes have occurred in the residential building operations that might affect the structure of the industry? Answers to these questions could help suggest the nature of the present organization of the residential building business, in the absence of precise current statistics.

Many conditions have changed since 1949. Market pressure has diminished from the almost explosive force that it was during the immediate postwar years and following entry into the Korean conflict (1946-50). Credit has not been as easy since imposition of Regulation X in October 1950 and the Treasury-Federal Reserve Board accord in March 1951, and although the hard money policy of early 1953 has since been modified and mortgage funds are readily available, mortgage interest rates are higher. Construction costs have risen, and the shift from a seller's or landlord's market to a buyer's or renter's market has necessitated active marketing of new housing and the provision of improved housing values.

These factors conceivably could have the effect of reducing the total number and proportion of operative builders, because greater competition for a more selective market would eliminate the marginal entrepreneurs building as a speculative venture. The impact, however, would be quite variable, falling heaviest on the small operative builders of single-family houses, especially those producing fewer than 5 houses. The latter would not be as readily attracted to residential building in the first place, as they were when marketing was no problem. Moreover, it is unlikely that these small builders will have sufficient capital to permit a standing inventory of even 1 house. They require quick turnover to stay in business.

Conversely, the medium- and large-scale operative builders of 1-family houses in 1949 who remained in the industry, and the well-established firms of moderate to large size who may have entered it since 1950, are likely to be firmly entrenched, and, if they have not expanded, at least they need not have reduced their operations. This conclusion is supported by the following considerations.

---

[46] Includes single-person households and households consisting of unrelated individuals living together, as well as new married couples, and other family groups. This figure was derived using BLS estimates of the number of new nonfarm dwelling units started (see Construction During Five Decades, BLS Bulletin 1146, table 1, p. 3), and unpublished revised estimates obtained from the Bureau of the Census, showing the number of nonfarm households based on a consistent definition of the urban area, and of the household.

[47] Including trailers and shacks and other temporary facilities, as well as converted units and new dwellings.

First, private housing activity has been maintained at well over the 1949 level,[48] because of continuing extensive demand sustained by a growing and mobile population, and a prosperous and basically stable economy. In addition, the terms of Government-assisted financing of owner-occupied housing have continued to favor the middle- to lower-income groups and moderate-cost homes,[49] for which demand is greatest and which are supplied largely by operative builders. Operative builders also are benefiting from a variety of advances that have been made in the industry in techniques and management which contribute directly to efficiency. For example, significant strides have occurred in mechanization, standardization, and simplification in homebuilding, involving the more extensive use of new materials and prefabricated parts and assemblies.[50] Advances have occurred also in the design of project houses, to provide greater livability without increasing costs; in community and site planning; and in market analysis and merchandizing. Product manufacturers, architects, and builders, through their associations and trade journals, have worked separately and cooperatively toward these ends to expand the housing market. Assistance has come also from universities, acting independently, or with the sponsorship of private trade associations, or utilizing research funds provided by the Federal Government under provisions of the Housing Acts of 1949-52.

These aids have been more influential in maintaining the mass market of the operative builders than the custom market of the general contractors. General contractors require the flexibility of individualized operations, and thus cannot take advantage of the economies of multi-unit scheduling, purchasing, and erection. To be sure, improvements which affect the cost of single units and the level of bids, tend to broaden the custom market. The total amount of custom building, however, depends a good deal on economic conditions and the number and proportion of families in the higher income groups, which supply the bulk of the demand for contract-built homes. The number and proportion of such families, as well as the middle-income families, has been increasing,[51] whereas construction costs have not risen commensurately,[52] so that a substantial custom market exists. Operative builders, however, have been effectively competing for this market, as well as for the middle-priced market. Some of these builders in metropolitan areas have produced groups of distinctively styled and even elaborately equipped houses which, although utilizing basically the same design, have different exteriors, and are erected on attractive and well-located sites.

To the extent, then, that there have been organizational changes in the industry since 1949, it would appear to be in the direction of fewer medium- and large-scale operative builders who may be producing a larger share of the commercially built single-family housing. These builders may be accomplishing this mostly at the expense of the very small operative builders, who, along with marginal firms of all sizes and types, are less likely to enter the business in the first place than they were in 1949, or, if they do enter, to remain in the business for long.

---

[48] Number of new private nonfarm dwelling units started in:

Year	1-family structures	2-family structures	Multifamily structures
1949	792,400	34,700	161,700
1950	1,150,700	42,300	159,200
1951	892,200	40,400	87,500
1952	939,100	45,900	83,500
1953	932,800	41,500	94,000

[49] By permitting higher mortgage loan-to-value ratios, the lower the price of the house.

[50] See Maisel, op. cit., pp. 49-50. See also, Cost Savings Through Standardization, Simplification, Specialization in the Building Industry, prepared for Foreign Operations Administration, by the Bureau of Labor Statistics, December 1953. Mimeo.

[51] See U. S. Bureau of the Census, Current Population Reports, Series P-60; Numbers 7, 9, 12, 15; Table 1.

[52] See footnote 37.

APPENDIX A--SURVEY DESIGN

The Sample

The sample of the Survey of Residential Builders was a highly stratified dual-stage design in which the primary sampling units were standard metropolitan areas and nonmetropolitan counties.

Stage 1: The metropolitan areas were stratified by geographic region, and, within regions, into 2 strata, characterized by high and low population increase between 1940 and 1950. Twenty-nine primary sampling units were selected from the universe of metropolitan areas, which was arranged to achieve strata of approximately equal size in terms of nonfarm population. The sample of 18 nonmetropolitan areas was a subsample of the sample of nonmetropolitan counties used by the Bureau in its surveys of dwelling units started in 96 nonpermit-issuing rural nonfarm counties.[53] However, the residential builder sample design did not include areas to represent the smallest counties (composed mostly of farm population, and accounting for 10 percent of the rural nonfarm dwelling units standing in 1940), which were eliminated before sample selection also from the 96-county universe.

Stage 2: The final units of sampling in all sample areas were the dwelling units started by a single builder in sample areas where building permits were not issued, or, in permit-issuing places,[54] the "permit unit." The latter consists of a group of building permits issued at one time to a single individual or firm. Whenever possible, permit units issued to identical individuals or firms were combined in advance of sample selection.[55] Dwelling units started and permit units were stratified by type of structure. Permit units were stratified also by number of dwelling units, and disproportionate sampling was used to give the larger permit units a greater probability of selection. Approximately 12,000 elementary sampling units were selected in all primary sampling areas.

There was an intermediate step in the case of the New York metropolitan area, in which a subsample of minor civil divisions was selected. Before selection, the minor civil divisions were stratified according to number of dwelling units authorized by building permits in 1949.

Estimating Method

Ratio-type estimates were used at the primary sample level. For the metropolitan areas, the ratio was the total characteristic being estimated for sample areas, divided by the number of dwelling units started, or authorized by permits, in the sample areas. The result was then applied against a known total of dwelling units started or authorized in all metropolitan areas in 1949. In the nonmetropolitan areas, the denominator was nonfarm dwelling units standing in sample places in 1940, and the known total was nonfarm dwelling units standing in all nonmetropolitan counties in 1940.

A major problem of estimation occurred at the within-area level because of the overexposure of some individuals or firms. If a builder obtained building permits at different times under different names, it was not possible to combine his operations in advance of sample selection. Thus the probability of selection of some builders was greater than that of others. This was overcome by a system of weighting which took account of all permit units obtained by the builder during the survey period. This problem of overexposure was also encountered between primary areas because some builders operated in more than one primary sampling unit. A similar technique of weighting was used to adjust for this additional situation of possible duplication.

---

[53] See "Estimating National Housing Volume," in Monthly Labor Review, October 1947, pp. 410-416.

[54] These are places that require permits to build under their local building ordinances.

[55] Relevant building-permit information (name and address of the builder, the number of dwelling units authorized by each permit unit, and a description of the projects involved) was transcribed from building-permit records in each of the sample building-permit-issuing localities in the 29 sample metropolitan areas, by trained field agents, supervised by personnel permanently employed in each of the 5 BLS regional offices (Atlanta, Boston, Chicago, New York, and San Francisco).

Reliability

The sample as a whole was designed to produce a minimum error at a fixed specified cost. Optimum allocation (to achieve maximum reliability within the cost ceiling) was used at all stages of selection. Consideration was thereby given to costs of survey work, to differences in variance between metropolitan and nonmetropolitan areas, and between minor civil divisions within primary sampling units, and to variation due to size of builders' operations.

Unfortunately, curtailment of resources before analytical phases of the work had progressed beyond the preliminary stages, precluded computation of the sampling error over the whole range of the results. Analyses of the variances which led to initiation of the sample design used, however, clearly indicated that neither the large percentages (certainly those in excess of 10 percent) nor the averages applying to major characteristics could be affected substantially by sampling variation. Caution should be exercised in using small percentages, of course, or the averages or figures for small groups. The likelihood is that the response error or bias may be of greater consequence than the error due to sampling variability. There is no way of measuring the former, except that insofar as the schedule design was adequate and the conduct of the interview survey carefully planned and supervised, such errors and biases were kept to a minimum.

Survey Method

The survey was conducted by personal interview, using a pretested schedule, by over 250 field agents trained by construction technicians of the Bureau's Division of Construction Statistics. Full-time construction analysts assigned to the Bureau's 5 regional offices directed operations in the field through a network of supervisory personnel who were in touch almost daily with the interviewers.

The interviews were made in the spring of 1951, and information was obtained from about 12,000 builders and owners about their private nonfarm residential building operations in 1949. The completed schedules were edited and coded in the regional offices under the immediate direction of the regional construction analysts, who operated under the guidance of the technicians in Washington. Regional operations at this stage permitted prompt transmittal and correction of schedules in the field, whenever inconsistencies, errors, or omissions were detected. The schedules were reviewed again in Washington before tabulation.

APPENDIX B--GLOSSARY

Professional builders. Also commercial builders.

Those who build for a living or for profit.

Owner-builders. Also amateur builders or amateurs.

Those who build for other than commercial purposes, without the services of a general contractor. Any part of the work may be done by special trade contractors; or by the owner, with or without the help of family members or friends; or by workmen hired by the owner. Any combination of these methods may be used. The types of owner-builders, as defined in this study, are described in footnotes 12 and 15, on **pages 4 and 5**.

General contractors. Also custom builders.

Those who build housing to order, on someone else's land and to another's specifications.

Operative builders. Also merchant builders or entrepreneurs.

Those who build housing on their land to their own specifications, for unidentified future buyers or renters.

APPENDIX C--TABLES

1. Residential builders and private nonfarm dwelling units started: Distribution by type of builder and by activity in metropolitan and nonmetropolitan areas, 1949

2. Residential builders and private nonfarm dwelling units started: Distribution by size of builders' operations, commercial- and owner-builders, 1949

3. Commercial residential builders: Distribution by type of builder, by size of operations, and by activity in metropolitan and nonmetropolitan areas, 1949

4. Private nonfarm dwelling units started by commercial builders: Distribution by type of builder, by size of operations, and by activity in metropolitan and nonmetropolitan areas, 1949

5. Average number of private dwelling units started per commercial builder, by type of builder, by builder's type-of-structure specialization and extent of activity in building construction, in metropolitan and nonmetropolitan areas, 1949

6. Percent distribution of firms that did not derive their income solely as operative residential builders or as general contractors, by type of supplementary business or occupation, 1949

7. Percent distribution of operative builders in 1949, by year of entry into operative residential building, in metropolitan and nonmetropolitan areas

8. Private 1-family houses started by operative- and owner-builders: Distribution by price class, by activity in metropolitan and nonmetropolitan areas, and by size of operative-builders' 1-family house operations, 1949

9. Commercial residential builders: Distribution by type of builder, by extent of activity in building construction, in metropolitan and nonmetropolitan areas, 1949

10. Private nonfarm dwelling units started by commercial builders: Distribution by type of builder, by extent of builders' activity in building construction, in metropolitan and nonmetropolitan areas, 1949

11. Commercial residential builders: Distribution by size of operations, by extent of activity in building construction, in metropolitan and nonmetropolitan areas, 1949

12. Private nonfarm dwelling units started by commercial builders: Distribution by size of operations, by extent of builders' activity in building construction, in metropolitan and nonmetropolitan areas, 1949

13. Commercial residential builders: Distribution by type of builder, by builders' type-of-structure, specialization, and by activity in metropolitan and nonmetropolitan areas, 1949

14. Private nonfarm dwelling units started by commercial builders: Distribution by builders type-of-structure, specialization, and by activity in metropolitan and nonmetropolitan areas, 1949

15. Private nonfarm dwelling units started by commercial builders: Distribution by type of builder, by activity in metropolitan and nonmetropolitan areas, and by type of structure, 1949

16. Private nonfarm dwelling units started by commercial builders: Distribution by size of operations, by type of structure, and by activity in metropolitan and nonmetropolitan areas, 1949

APPENDIX C --TABLES

17. Commercial residential builders: Distribution by builders' type-of-structure specialization, by extent of activity in building construction, by type of builder, and by metropolitan and nonmetropolitan areas, 1949

18. Commercial residential builders: Distribution and average number of units started per builder, by size of operations, by type of residential structures started, and by activity in metropolitan and nonmetropolitan areas, 1949

19. Private nonfarm dwelling units started by commercial builders: Distribution by size of operations, by builders' type-of-structure specialization, and by activity in metropolitan and nonmetropolitan areas, 1949

20. Private 1-family houses started by operative builders: Distribution by size of operative builders' 1-family house operations, in metropolitan and nonmetropolitan areas, 1949

21. Number of residential builders: Percent distribution by type of builder, selected metropolitan areas, 1949

22. Number of private nonfarm dwelling units started: Percent distribution by type of builder, selected metropolitan areas, 1949

23. Commercial residential builders and private nonfarm dwelling units started: Percent distribution by size of builders' operations, selected metropolitan areas, 1949

24. Commercial residential builders and private nonfarm dwelling units started: Percent distribution by type of builder and by builders' type-of-structure specialization, selected metropolitan areas, 1949

25. Average number of dwelling units per builder, by type of builder and by builders' type-of-structure specialization, selected metropolitan areas, 1949

26. Commercially built private nonfarm dwelling units: Percent distribution by type of structure and by type of builder, selected metropolitan areas, 1949

Table 1.--Residential builders and private nonfarm dwelling units started: Distribution by type of builder and by activity in metropolitan and nonmetropolitan areas, 1949

Type of builder	Total, United States		Metropolitan areas		Nonmetropolitan areas		Percent in--		
	Number	Percent distri-bution	Number	Percent distri-bution	Number	Percent distri-bution	Total United States	Metro-politan areas	Nonmetro-politan areas
	Residential builders								
All types of builders..	387,800	100	164,600	100	223,200	100	100	42	58
Commercial builders...	109,800	28	60,100	37	49,700	22	100	55	45
Operative builders...	48,800	12	28,800	18	20,000	9	100	59	41
General contractors..	54,000	14	26,200	16	27,800	12	100	49	51
Operative builders-general contractors	7,000	2	5,100	3	1,900	1	100	73	27
Owner builders	266,800	69	96,200	58	170,600	76	100	36	64
Unknown	11,200	3	8,300	5	2,900	1	100	74	26
	Private nonfarm dwelling units started								
All types of builders..	988,800	100	692,900	100	295,900	100	100	70	30
Commercial builders...	698,200	71	577,600	84	120,600	41	100	83	17
Operative builders...	440,900	45	380,500	55	60,400	20	100	86	14
General contractors..	171,700	17	122,900	18	48,800	16	100	72	28
Operative builders-general contractors	85,600	9	74,200	11	11,400	4	100	87	13
Operative operations	51,100	5	44,800	7	6,300	2	100	88	12
Contract operations.	34,500	4	29,400	4	5,100	2	100	85	15
Owner builders	270,600	27	98,200	14	172,400	58	100	36	64
Unknown	20,000	2	17,100	2	2,900	1	100	85	15

Percent distribution may not add to 100 because of rounding.

Table 2.--Residential builders and private nonfarm dwelling units started: Distribution by size of builders' operations, commercial- and owner-builders, 1949

Size of operations (dwelling units started in 1949)	Number			Percent distribution		
	All types of builders	Commercial builders	Owner builders	All types of builders	Commercial builders	Owner builders
	Residential builders					
Total	*387,800	109,800	266,800	100	100	100
1 unit	310,750	46,500	264,250	82	42	99
2-4 units	42,850	40,550	2,300	11	37	1
5-9 units	11,950	11,700	(1)	3	11	(2)
10-24 units	6,900	6,900	0	2	6	0
25-49 units	2,000	2,000	0	1	2	0
50-99 units	1,250	1,250	0	(2)	1	0
100 or more units..	900	900	0	(2)	1	0
	Private nonfarm dwelling units started					
Total	**988,800	698,200	270,600	100	100	100
1 unit	310,750	46,500	264,250	32	7	98
2-4 units	112,750	107,850	(1)	12	15	(2)
5-9 units	71,850	70,400	(1)	7	10	(2)
10-24 units	95,050	95,050	0	10	14	0
25-49 units	67,350	67,350	0	7	10	0
50-99 units	75,100	75,100	0	8	11	0
100 or more units..	235,950	235,950	0	24	34	0

See footnotes on p. 38.

* Includes 11,200 builders who could not be identified by type.

** Includes 20,000 units started by unidentified types of builders.

Table 3.--Commercial residential builders: Distribution by type of builder, by size of operations, and by activity in metropolitan and nonmetropolitan areas, 1949

Size of operations (dwelling units started in 1949)	Number of builders			Percent distribution		
	Total, United States	Metropolitan areas	Nonmetropolitan areas	Total, United States	Metropolitan areas	Nonmetropolitan areas
	All commercial builders					
Total.............	109,800	60,100	49,700	100	100	100
1 unit...........	46,500	20,400	26,100	42	34	53
2-4 units........	40,550	22,850	17,700	37	38	36
5-9 units........	11,700	7,600	4,100	11	13	8
10-24 units......	6,900	5,350	1,550	6	9	3
25-49 units......	2,000	1,850	(1)	2	3	(2)
50-99 units......	1,250	1,150	(1)	1	2	(2)
100 or more units	900	900	0	1	1	0
	Operative builders					
Total.............	48,800	28,800	20,000	100	100	100
1 unit...........	16,500	7,900	8,600	34	27	43
2-4 units........	20,050	11,750	8,300	41	41	42
5-9 units........	5,450	3,550	1,900	11	12	9
10-24 units......	3,850	2,950	900	8	10	5
25-49 units......	1,350	1,150	(1)	3	4	(2)
50-99 units......	900	800	(1)	2	3	(2)
100 or more units	700	700	0	1	2	0
	General contractors					
Total.............	54,000	26,200	27,800	100	100	100
1 unit...........	30,000	12,500	17,500	56	48	63
2-4 units........	18,150	9,150	9,000	34	35	32
5-9 units........	3,900	2,800	1,100	7	11	4
10-24 units......	1,450	1,250	(1)	3	5	(2)
25-49 units......	(1)	(1)	(1)	(2)	(2)	(2)
50-99 units......	(1)	(1)	0	(2)	(2)	0
100 or more units	(1)	(1)	0	(2)	(2)	0
	Operative builders-general contractors					
Total.............	7,000	5,100	1,900	100	100	100
1 unit...........	0	0	0	0	0	0
2-4 units........	2,350	1,950	(1)	34	38	(2)
5-9 units........	2,350	1,250	1,100	34	25	58
10-24 units......	1,600	1,200	(1)	23	24	(2)
25-49 units......	(1)	(1)	(1)	(2)	(2)	(2)
50-99 units......	(1)	(1)	0	(2)	(2)	0
100 or more units	(1)	(1)	0	(2)	(2)	0

See footnotes on p. 38 .

Table 4.--Private nonfarm dwelling units started by commercial builders: Distribution by type of builder, by size of operations, and by activity in metropolitan and nonmetropolitan areas, 1949

Size of operations (dwelling units started in 1949)	Number of private nonfarm dwelling units			Percent distribution		
	Total, United States	Metropolitan areas	Nonmetropolitan areas	Total, United States	Metropolitan areas	Nonmetropolitan areas
	Units started by all commercial builders					
Total.............	698,200	577,600	120,600	100	100	100
1 unit...........	46,500	20,400	26,100	7	4	22
2-4 units........	107,850	60,550	47,300	15	10	39
5-9 units........	70,400	49,400	21,000	10	9	17
10-24 units......	95,050	78,450	16,600	14	14	14
25-49 units......	67,350	61,350	6,000	10	11	5
50-99 units......	75,100	71,500	3,600	11	12	3
100 or more units	235,950	235,950	0	34	41	0
	Units started by operative builders					
Total.............	440,900	380,500	60,400	100	100	100
1 unit...........	16,500	7,900	8,600	4	2	14
2-4 units........	52,550	30,700	21,850	12	8	36
5-9 units........	33,250	23,450	9,800	8	6	16
10-24 units......	54,350	43,350	11,000	12	11	18
25-49 units......	46,550	41,000	5,550	11	11	9
50-99 units......	55,800	52,200	3,600	13	14	6
100 or more units	181,900	181,900	0	41	48	0
	Units started by general contractors					
Total.............	171,700	122,900	48,800	100	100	100
1 unit...........	30,000	12,500	17,500	17	10	36
2-4 units........	46,200	24,250	21,950	27	20	45
5-9 units........	24,550	17,750	6,800	14	14	14
10-24 units......	18,750	16,650	(1)	11	14	(2)
25-49 units......	6,700	6,250	(1)	4	5	(2)
50-99 units......	9,700	9,700	0	6	8	0
100 or more units	35,800	35,800	0	21	29	0
	Units started by operative builders-general contractors					
Total.............	85,600	74,200	11,400	100	100	100
1 unit...........	0	0	0	0	0	0
2-4 units........	9,100	5,600	(1)	11	8	(2)
5-9 units........	12,600	8,200	4,400	15	11	39
10-24 units......	21,950	18,450	(1)	26	25	(2)
25-49 units......	14,100	14,100	(1)	16	19	(2)
50-99 units......	9,600	9,600	(1)	11	13	(2)
100 or more units	18,250	18,250	0	21	25	0

See footnotes on p. 38.

Table 5.--Average number of private dwelling units started per commercial builder, by type of builder, by builder's type-of-structure specialization and extent of activity in building construction, in metropolitan and nonmetropolitan areas, 1949

Item	Average number of dwelling units started per builder		
	Total, United States	Metropolitan areas	Nonmetropolitan areas
All commercial builders	6	10	2
Operative builders	9	13	3
General contractors	3	5	2
Operative builders-general contractors	12	15	6
Builders of 1-family houses only	5	7	2
Operative builders	7	11	3
General contractors	2	3	2
Operative builders-general contractors	10	11	5
Builders of 1-family and multifamily structures	24	28	7
Operative builders	36	39	(1)
General contractors	13	15	(1)
Operative builders-general contractors	24	28	(1)
Builders of multifamily structures only	15	18	5
Operative builders	13	17	5
General contractors	21	22	(1)
Operative builders-general contractors	(1)	(1)	(1)
Builders having building construction[3] as sole business	7	11	3
Operative builders	11	17	4
General contractors	4	5	2
Operative builders-general contractors	12	14	6
Builders having building construction[3] as principal business	8	12	3
Operative builders	10	16	3
General contractors	4	6	2
Operative builders-general contractors	18	21	(1)
Builders having building construction[3] as subordinate business	2	3	2
Operative builders	3	4	2
General contractors	2	2	2
Operative builders-general contractors	9	(1)	(1)

See footnotes on p. 38 .

Table 6.--Percent distribution of firms that did not derive their income solely as operative residential builders or as general contractors, by type of supplementary business or occupation, 1949

Business or occupation	Total, United States	Metropolitan areas	Nonmetropolitan areas
All types	100	100	100
Special trades contracting	42	43	41
Carpentry	33	32	36
Masonry	4	5	2
Other	5	6	3
Building materials dealers*	10	7	14
Real estate and land development	9	15	3
Farming**	7	1	13
Others***	19	23	15
Unknown	13	11	14

* Mostly lumber dealers. ** Represents persons whose chief occupation was farming, but who produced nonfarm housing in 1949. *** Includes a wide range of activities, none of which was significant enough numerically to classify separately, such as: architecture, insurance, officials or employees in retail trade and manufacturing, medicine, the ministry, resort or theater operation, and a number of others.

Table 7.--Percent distribution of operative builders in 1949, by year of entry into operative residential building, in metropolitan and nonmetropolitan areas

Year	Total, United States	Metropolitan areas	Nonmetropolitan areas
Before 1930	10	12	7
Before 1935	12	14	9
Before 1940	18	21	14
1940-45	8	10	4
1946-48	22	26	16
1949	40	33	51
Unknown	12	10	15

Table 8.--Private 1-family houses started by operative- and owner-builders: Distribution by price class, by activity in metropolitan and nonmetropolitan areas, and by size of operative-builders' 1-family-house operations, 1949

Item	Percent of houses in specified price[4] class--							Median price
	All price classes	Under $6,000	$6,000-7,499	$7,500-9,999	$10,000-14,999	$15,000 or more	Unknown	
All operative-builders	100	6	16	36	27	7	7	$9,200
In metropolitan areas	100	2	14	38	30	8	8	9,500
In nonmetropolitan areas	100	39	33	16	9	(2)	(2)	6,400
Size of operations (1-family houses started in 1949)								
1 house	100	28	(2)	(2)	27	(2)	(2)	8,800
2-4 houses	100	20	14	19	24	13	10	9,000
5-9 houses	100	11	13	24	30	12	10	9,700
10-24 houses	100	(2)	9	30	33	13	11	10,200
25-49 houses	100	(2)	15	34	35	(2)	(2)	9,600
50-99 houses	100	(2)	17	48	28	(2)	(2)	9,100
100-249 houses	100	(2)	21	51	19	(2)	(2)	8,700
250 or more houses	100	(2)	23	39	21	(2)	10	8,600
All owner-builders	100	28	6	11	19	17	19	8,900
In metropolitan areas	100	11	7	12	23	25	22	11,600
In nonmetropolitan areas	100	39	6	10	17	12	16	6,700

See footnotes on p. 38 .

Table 9.--Commercial residential builders: Distribution by type of builder, by extent of activity in building construction, in metropolitan and nonmetropolitan areas, 1949

Type of builder	Number of builders	Percent of builders having building construction[3] as--			Percent for whom extent of building activity was unknown
		Sole business	Principal business	Subordinate business	
	Total, United States				
All commercial builders	109,800	66	9	20	4
Operative builders	48,800	62	9	25	4
General contractors	54,000	68	9	18	4
Operative builders-general contractors	7,000	81	11	(2)	(2)
	Metropolitan areas				
All commercial builders	60,100	67	10	18	5
Operative builders	28,800	62	9	24	5
General contractors	26,200	70	11	14	5
Operative builders-general contractors	5,100	78	12	(2)	(2)
	Nonmetropolitan areas				
All commercial builders	49,700	66	9	23	2
Operative builders	20,000	62	10	26	2
General contractors	27,800	67	8	22	3
Operative builders-general contractors	1,900	89	(2)	(2)	(2)

See footnotes on p. 38 .

Table 10.--Private nonfarm dwelling units started by commercial builders: Distribution by type of builder, by extent of builders' activity in building construction, in metropolitan and nonmetropolitan areas, 1949

Type of builder	Number of dwelling units	Percent of dwelling units started by builders having building construction[3] as--			Percent of units for which extent of builders' activity was unknown
		Sole business	Principal business	Subordinate business	
	Total, United States				
All commercial builders	698,200	78	12	8	2
Operative builders	440,900	78	11	8	3
General contractors	171,700	76	12	9	3
Operative builders-general contractors	85,600	78	16	6	(2)
	Metropolitan areas				
All commercial builders	577,600	79	12	6	3
Operative builders	380,500	80	11	6	3
General contractors	122,900	78	14	5	3
Operative builders-general contractors	74,200	77	18	5	(2)
	Nonmetropolitan areas				
All commercial builders	120,600	73	9	16	(2)
Operative builders	60,400	73	11	15	(2)
General contractors	48,800	71	7	20	(2)
Operative builders-general contractors	11,400	85	(2)	(2)	0

See footnotes on p. 38 .

Table 11.--Commercial residential builders: Distribution by size of operations, by extent of activity in building construction, in metropolitan and nonmetropolitan areas, 1949

Size of operations (dwelling units started in 1949)	Number of builders	Percent of builders having building construction[3] as--			Percent for whom extent of building activity was unknown
		Sole business	Principal business	Subordinate business	
	Total, United States				
Total	109,800	66	9	20	4
1 unit	46,500	61	8	27	4
2-4 units	40,550	64	11	20	5
5-9 units	11,700	85	6	6	(2)
10-24 units	6,900	74	14	10	(2)
25-49 units	2,000	81	(2)	(2)	(2)
50-99 units	1,250	85	(2)	(2)	(2)
100 or more units	900	80	(2)	(2)	(2)
	Metropolitan areas				
Total	60,100	67	10	18	5
1 unit	20,400	62	8	26	4
2-4 units	22,850	62	11	20	7
5-9 units	7,600	79	9	8	(2)
10-24 units	5,350	79	11	(2)	(2)
25-49 units	1,850	79	(2)	(2)	(2)
50-99 units	1,150	84	(2)	(2)	(2)
100 or more units	900	80	(2)	(2)	(2)
	Nonmetropolitan areas				
Total	49,700	66	9	23	2
1 unit	26,100	60	8	29	3
2-4 units	17,700	67	10	20	(2)
5-9 units	4,100	97	(2)	(2)	(2)
10-24 units	1,550	56	(2)	(2)	(2)
25-49 units	(5)	(2)	(2)	(2)	(2)
50-99 units	(5)	(2)	(2)	(2)	(2)
100 or more units	0	0	0	0	0

See footnotes on p. 38 .

Table 12.--Private nonfarm dwelling units started by commercial builders: Distribution by size of operations, by extent of builders' activity in building construction, in metropolitan and nonmetropolitan areas, 1949

Size of operations (dwelling units started in 1949)	Number of dwelling units	Percent of dwelling units started by builders having building construction[3] as--			Percent of units for which extent of builders' activity was unknown
		Sole business	Principal business	Subordinate business	
	Total, United States				
Total	698,200	78	12	8	2
1 unit	46,500	60	8	28	(2)
2-4 units	107,850	69	10	18	3
5-9 units	70,400	85	7	6	(2)
10-24 units	95,050	76	14	7	(2)
25-49 units	67,350	81	12	(2)	(2)
50-99 units	75,100	85	10	(2)	(2)
100 or more units	235,950	82	14	2	2
	Metropolitan areas				
Total	577,600	79	12	6	3
1 unit	20,400	62	(2)	26	(2)
2-4 units	60,550	67	11	17	(2)
5-9 units	49,400	80	10	7	(2)
10-24 units	78,450	79	11	7	(2)
25-49 units	61,350	79	14	(2)	(2)
50-99 units	71,500	84	10	(2)	(2)
100 or more units	235,950	82	14	2	2
	Nonmetropolitan areas				
Total	120,600	73	9	16	(2)
1 unit	26,100	60	(2)	29	(2)
2-4 units	47,300	71	10	18	(2)
5-9 units	21,000	96	(2)	(2)	(2)
10-24 units	16,600	57	25	(2)	(2)
25-49 units	6,000	100	0	0	0
50-99 units	3,600	100	0	0	0
100 or more units	0	0	0	0	0

See footnotes on p. 38.

Table 13.--Commercial residential builders: Distribution by type of builder, by builders' type-of-structure specialization, and by activity in metropolitan and nonmetropolitan areas, 1949

Type of builder	All builders		Residential builders starting--					
			1-family houses only		1-family and multi-family structures		Multifamily structures only	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	Total, United States							
All commercial builders	109,800	100	96,650	88	4,450	4	8,700	8
Operative builders	48,800	100	40,150	82	1,550	3	7,100	15
General contractors	54,000	100	50,750	94	1,700	3	1,550	3
Operative builders-general contractors	7,000	100	5,750	82	1,200	17	(1)	(2)
	Metropolitan areas							
All commercial builders	60,100	100	49,950	83	3,650	6	6,500	11
Operative builders	28,800	100	22,400	78	1,400	5	5,000	17
General contractors	26,200	100	23,400	89	1,350	5	1,450	6
Operative builders-general contractors	5,100	100	4,150	81	900	18	(1)	(2)
	Nonmetropolitan areas							
All commercial builders	49,700	100	46,700	94	800	2	2,200	4
Operative builders	20,000	100	17,750	89	(1)	(2)	2,100	10
General contractors	27,800	100	27,350	98	(1)	(2)	(1)	(2)
Operative builders-general contractors	1,900	100	1,600	84	(1)	(2)	(1)	(2)

See footnotes on p. 38.

Table 14.--Private nonfarm dwelling units started by commercial builders: Distribution by builders' type-of-structure specialization, and by activity in metropolitan and nonmetropolitan areas, 1949

Type of builder	All dwelling units started		Dwelling units started by builders of-- 1-family houses only		1-family and multi-family structures		Multifamily structures only	
	Total number	Percent	Total number	Percent	Total number	Percent	Total number	Percent
	Total, United States							
All commercial builders..	698,200	100	464,500	67	106,500	15	127,200	18
Operative builders.....	440,900	100	292,150	66	55,700	13	93,050	21
General contractors....	171,700	100	117,250	68	22,400	13	32,050	19
Operative builders-general contractors	85,600	100	55,100	64	28,400	33	(1)	(2)
	Metropolitan areas							
All commercial builders..	577,600	100	359,800	62	100,750	17	117,050	20
Operative builders.....	380,500	100	242,200	64	55,150	15	83,150	22
General contractors....	122,900	100	70,600	57	20,450	17	31,850	26
Operative builders-general contractors	74,200	100	47,000	63	25,150	34	(1)	(2)
	Nonmetropolitan areas							
All commercial builders..	120,600	100	104,700	87	5,750	5	10,150	8
Operative builders.....	60,400	100	49,950	83	(1)	(2)	9,900	16
General contractors....	48,800	100	46,650	96	(1)	(2)	(1)	(2)
Operative builders-general contractors	11,400	100	8,100	71	(1)	(2)	(1)	(2)

See footnotes on p. 38.

Table 15.--Private nonfarm dwelling units started by commercial builders: Distribution by type of builder, by activity in metropolitan and nonmetropolitan areas, and by type of structure, 1949

Type of builder	Total, United States		Metropolitan areas			Nonmetropolitan areas		
	Number of dwelling units	Percent distribution	Number of dwelling units	Percent distribution	Percent of total U. S.	Number of dwelling units	Percent distribution	Percent of total U. S.
	All dwelling units							
All commercial builders..	698,200	100	577,600	100	83	120,600	100	17
Operative builders.....	440,900	63	380,500	66	86	60,400	50	14
General contractors....	171,700	25	122,900	21	72	48,800	40	28
Operative builders-general contractors	85,600	12	74,200	13	87	11,400	10	13
	1-family houses							
All commercial builders..	520,850	100	413,250	100	79	107,600	100	21
Operative builders.....	324,900	62	274,700	67	85	50,200	47	15
General contractors....	125,550	24	77,750	19	62	47,800	44	38
Operative builders-general contractors	70,400	14	60,800	15	86	9,600	9	14
	2-4 family structures							
All commercial builders..	57,900	100	46,100	100	80	11,800	100	20
Operative builders.....	37,100	64	26,900	58	73	10,200	86	27
General contractors....	14,800	26	13,800	30	93	(1)	(2)	(2)
Operative builders-general contractors	6,000	10	5,400	12	90	(1)	(2)	(2)
	5-or-more-family structures							
All commercial builders..	119,450	100	118,250	100	99	(1)	100	(2)
Operative builders.....	78,900	66	78,900	67	100	(1)	(2)	(2)
General contractors....	31,350	26	31,350	26	100	(1)	(2)	(2)
Operative builders-general contractors	9,200	8	8,000	7	87	(1)	(2)	(2)

See footnotes on p. 38.

Table 16.--Private nonfarm dwelling units started by commercial builders: Distribution by size of operations, by type of structure, and by activity in metropolitan and nonmetropolitan areas, 1949

Size of operations (dwelling units started in 1949)	All dwelling units started		Dwelling units in-- 1-family houses		2-4-family structures		5-or-more family structures	
	Number	Percent distribution	Number	Percent distribution	Number	Percent distribution	Number	Percent distribution
	Total, United States							
Total.................	698,200	100	520,850	100	57,900	100	119,450	100
1 unit..............	46,500	7	46,500	9	0	0	0	0
2-4 units...........	107,850	15	89,100	17	18,750	32	0	0
5-9 units...........	70,400	10	62,700	12	5,000	9	(1)	(2)
10-24 units.........	95,050	14	76,450	15	7,600	13	11,000	9
25-49 units.........	67,350	10	51,500	10	8,850	15	7,000	6
50-99 units.........	75,100	11	62,150	12	(1)	(3)	10,400	9
100-249 units.......	95,350	14	64,950	12	8,900	15	21,500	18
250 or more units...	140,600	20	67,500	13	6,250	11	66,850	56
	Metropolitan areas							
Total.................	577,600	100	413,250	100	46,100	100	118,250	100
1 unit..............	20,400	4	20,400	5	0	0	0	0
2-4 units...........	60,550	10	47,300	11	13,250	29	0	0
5-9 units...........	49,400	9	41,950	10	4,800	10	(1)	(2)
10-24 units.........	78,450	14	62,150	15	6,500	14	9,800	8
25-49 units.........	61,350	11	50,450	12	3,900	8	7,000	6
50-99 units.........	71,500	12	58,550	14	(1)	(2)	10,400	9
100-249 units.......	95,350	17	64,950	16	8,900	19	21,500	18
250 or more units...	140,600	24	67,500	16	6,250	14	66,850	57
	Nonmetropolitan areas							
Total.................	120,600	100	107,600	100	11,800	100	(1)	100
1 unit..............	26,100	22	26,100	24	0	0	0	0
2-4 units...........	47,300	39	41,800	39	5,500	47	0	0
5-9 units...........	21,000	17	20,750	19	(1)	(2)	(1)	(2)
10-24 units.........	16,600	14	14,300	13	(1)	(2)	(1)	(2)
25-49 units.........	6,000	5	(1)	(2)	4,950	42	0	0
50-99 units.........	3,600	3	3,600	3	0	0	0	0
100-249 units.......	0	0	0	0	0	0	0	0
250 or more units...	0	0	0	0	0	0	0	0

See footnotes on p. 38.

Table 17.--Commercial residential builders: Distribution by builders' type-of-structure specialization, by extent of activity in building construction, by type of builder, and by metropolitan and nonmetropolitan areas, 1949

Type of residential structure started	Number of builders	Percent of builders having building construction [3] as-- Sole business	Principal business	Subordinate business	Percent for whom extent of building activity was unknown
	All commercial builders				
All dwelling units	109,800	66	9	20	4
1-family houses only	96,650	67	9	20	3
1-family and multifamily structures	4,450	74	13	(2)	(2)
Multifamily structures only	8,700	53	7	30	10
	Operative builders				
All dwelling units	48,800	62	9	25	4
1-family houses only	40,150	64	10	24	2
1-family and multifamily structures	1,550	72	(2)	(2)	(2)
Multifamily structures only	7,100	51	(2)	34	10
	General contractors				
All dwelling units	54,000	68	9	18	4
1-family houses only	50,750	68	9	18	4
1-family and multifamily structures	1,700	76	(2)	(2)	(2)
Multifamily structures only	1,550	65	(2)	(2)	(2)
	Operative builders-general contractors				
All dwelling units	7,000	81	11	(2)	(2)
1-family houses only	5,750	83	10	(2)	(2)
1-family and multifamily structures	1,200	73	(2)	(2)	(2)
Multifamily structures only	(1)	(2)	(2)	(2)	(2)
	Metropolitan areas				
All dwelling units	60,100	67	10	18	5
1-family houses only	49,950	68	10	18	4
1-family and multifamily structures	3,650	77	(2)	(2)	(2)
Multifamily structures only	6,500	51	8	28	13
	Nonmetropolitan areas				
All dwelling units	49,700	66	9	23	2
1-family houses only	46,700	66	9	23	3
1-family and multifamily structures	800	(2)	(2)	(2)	(2)
Multifamily structures only	2,200	61	(2)	36	(2)

See footnotes on p. 38.

Table 18.--Commercial residential builders: Distribution and average number of units started per builder, by size of operations, by type of residential structures started, and by activity in metropolitan and nonmetropolitan areas, 1949

Size of operations (dwelling units started in 1949)	Percent of builders starting--				Average number of dwelling units started per builder of--			
	Total units	1-family houses only	1-family and multi-family structures	Multi-family structures only	Total units	1-family houses only	1-family and multi-family structures	Multi-family structures only
	Total, United States							
Total	100	100	100	100	6	5	24	15
1 unit	42	48	0	0	1	1	0	0
2-4 units	37	34	32	76	3	3	4	2
5-9 units	11	10	25	8	6	6	6	6
10-24 units	6	5	26	8	14	14	14	16
25 or more units	4	3	16	8	91	74	108	146
	Metropolitan areas							
Total	100	100	100	100	10	7	28	18
1 unit	34	41	0	0	1	1	0	0
2-4 units	38	34	28	73	3	3	3	2
5-9 units	13	12	28	9	7	6	7	7
10-24 units	9	8	24	10	15	14	15	16
25 or more units	6	5	20	8	95	75	109	179
	Nonmetropolitan areas							
Total	100	100	100	100	2	2	7	5
1 unit	53	56	0	0	1	1	0	0
2-4 units	36	33	(2)	88	3	3	(1)	3
5-9 units	8	8	(2)	(2)	5	5	(1)	(1)
10-24 units	3	3	(2)	(2)	11	11	(1)	(1)
25 or more units	(2)	(2)	(2)	(2)	(1)	(1)	(1)	(1)

See footnotes on p. 38.

Table 19.--Private nonfarm dwelling units started by commercial builders: Distribution by size of operations, by builders' type-of-structure specialization, and by activity in metropolitan and nonmetropolitan areas, 1949

Size of operations (dwelling units started in 1949)	Number of dwelling units started by builders of--				Percent of dwelling units started by builders of--			
	Total units	1-family houses only	1-family and multi-family structures	Multi-family structures only	Total units	1-family houses only	1-family and multi-family structures	Multi-family structures only
	Total, United States							
Total	698,200	464,500	106,500	127,200	100	100	100	100
1 unit	46,500	46,500	0	0	7	10	0	0
2-4 units	107,850	86,950	5,000	15,900	15	19	5	12
5-9 units	70,400	59,050	7,100	4,250	10	13	7	3
10-24 units	95,050	67,950	16,300	10,800	14	15	15	9
25 or more units	378,400	204,050	78,100	96,250	54	44	73	76
	Metropolitan areas							
Total	577,600	359,800	100,750	117,050	100	100	100	100
1 unit	20,400	20,400	0	0	3	6	0	0
2-4 units	60,550	45,850	3,450	11,250	10	13	3	10
5-9 units	49,400	38,600	6,600	4,200	9	11	7	4
10-24 units	78,450	55,150	13,050	10,250	14	15	13	9
25 or more units	368,800	199,800	77,650	91,350	64	55	77	78
	Nonmetropolitan areas							
Total	120,600	104,700	5,750	10,150	100	100	100	100
1 unit	26,100	26,100	0	0	22	25	0	0
2-4 units	47,300	41,100	(1)	4,650	39	39	(1)	46
5-9 units	21,000	20,450	(1)	(1)	17	20	(1)	(1)
10-24 units	16,600	12,800	(1)	(1)	14	12	(1)	(1)
25 or more units	9,600	4,250	(1)	4,900	8	4	(1)	48

See footnotes on p. 38.

Table 20.--Private 1-family houses started by operative builders: Distribution by size of operative builders' 1-family house operations, in metropolitan and nonmetropolitan areas, 1949

Size of operations (1-family houses started in 1949)	Total, United States		Metropolitan areas		Nonmetropolitan areas	
	Number	Percent distribution	Number	Percent distribution	Number	Percent distribution
Total..................	342,260	100	306,630	100	35,630	100
1 house.............	16,610	5	10,170	3	6,440	18
2-4 houses..........	36,760	11	24,530	8	12,230	34
5-9 houses..........	31,330	9	25,280	8	6,050	17
10-24 houses.........	51,260	15	46,880	15	4,380	12
25-49 houses.........	45,350	13	42,650	14	2,700	8
50-99 houses.........	79,420	23	75,590	25	3,830	11
100-249 houses.......	47,780	14	47,780	16	0	0
250 or more houses...	33,750	10	33,750	11	0	0

Table 21.--Number of residential builders: Percent distribution, by type of builder, selected metropolitan areas, 1949[5]

Metropolitan area	Number of builders	Percent distribution					
		All types of builders	Commercial builders				Owner builders
			Total	Operative builders	General contractors	Operative builders-general contractors	
Atlanta, Ga.	2,185	100	35	20	12	3	65
Binghamton, N. Y.	370	100	30	16	11	3	70
Boston, Mass.	3,010	100	40	19	15	6	60
Chicago, Ill.	6,715	100	34	13	18	3	66
Cleveland, Ohio........	2,565	100	35	17	13	5	65
Dallas, Tex.	1,070	100	72	29	33	10	28
Dayton, Ohio...........	640	100	38	17	20	1	62
Denver, Colo.	1,600	100	45	29	12	4	55
Detroit, Mich.	5,105	100	28	17	10	1	72
El Paso, Tex.	335	100	40	18	22	(2)	60
Grand Rapids, Mich. ...	1,065	100	32	16	10	6	68
Lancaster, Pa.	420	100	29	7	19	3	71
Los Angeles, Calif. ...	12,055	100	41	21	16	4	59
Miami, Fla.	2,920	100	37	26	9	2	63
Mobile, Ala.	430	100	30	12	17	1	70
New Haven, Conn.	1,160	100	30	8	18	4	70
New York, N. Y.	13,355	100	53	28	22	3	47
Philadelphia, Pa.	3,240	100	43	18	22	3	57
Pittsburgh, Pa.	2,605	100	29	15	12	2	71
San Francisco, Calif. .	2,700	100	59	23	26	10	41
Seattle, Wash.	2,415	100	34	20	12	2	66
Stockton, Calif.	345	100	45	23	18	4	55
Tulsa, Okla.	760	100	37	25	9	3	63
Washington, D. C.	1,700	100	47	32	11	4	53

See footnotes on p. 38.

Table 22.--Number of private nonfarm dwelling units started: Percent distribution by type of builder, selected metropolitan areas, 1949[5]

Metropolitan area	Population (1950 census)	Number of dwelling units started	Percent of dwelling units started by-- All types of builders	Commercial builders: Total	Commercial builders: Operative builders	Commercial builders: General contractors	Commercial builders: Operative builders-general contractors	Owner builders
Atlanta, Ga.	671,797	10,240	100	87	69	13	5	13
Binghamton, N. Y.	184,698	1,025	100	76	47	12	17	24
Boston, Mass.	2,369,986	8,170	100	76	46	21	9	24
Chicago, Ill.	5,495,364	26,400	100	84	39	31	14	16
Cleveland, Ohio	1,465,511	11,800	100	85	54	10	21	15
Dallas, Tex.	614,799	9,060	100	97	61	15	21	3
Dayton, Ohio	457,333	2,070	100	81	44	35	2	19
Denver, Colo.	563,832	6,500	100	86	69	7	10	14
Detroit, Mich.	3,016,197	31,840	100	87	80	6	1	13
El Paso, Tex.	194,968	1,790	100	88	69	17	2	12
Grand Rapids, Mich. ..	288,292	2,645	100	72	29	13	30	28
Lancaster, Pa.	234,717	1,030	100	67	14	33	20	33
Los Angeles, Calif. ..	4,363,911	71,000	100	89	61	16	12	11
Miami, Fla.	495,084	15,870	100	88	55	14	19	12
Mobile, Ala.	231,105	1,035	100	71	21	31	19	29
New Haven, Conn.	264,622	2,240	100	63	32	21	10	37
New York, N. Y.[6]	12,911,994	83,440	100	92	73	14	5	8
Philadelphia, Pa.	3,671,048	22,200	100	92	77	11	4	8
Pittsburgh, Pa.	2,213,236	9,520	100	79	55	16	8	21
San Francisco, Calif.[7]	2,240,767	20,210	100	93	47	29	17	7
Seattle, Wash.	732,992	6,640	100	71	36	25	10	29
Stockton, Calif.	200,750	1,155	100	84	56	19	9	16
Tulsa, Okla.	251,686	5,175	100	89	67	7	15	11
Washington, D. C.[8]....	1,464,089	32,480	100	97	57	34	6	3

See footnotes on p. 38.

Table 23.--Commercial residential builders and private nonfarm dwelling units started: Percent distribution by size of builders' operations, selected metropolitan areas, 1949[5]

Metropolitan area	Size of 1949 operations (dwelling units started)						
	All size groups	1	2-4	5-24	25-49	50-100	100 or more
	Percent distribution of builders						
Atlanta, Ga.	100	29	42	21	4	2	2
Binghamton, N. Y.	100	45	31	21	1	1	1
Boston, Mass.	100	34	42	22	2	(1)	(2)
Chicago, Ill.	100	29	36	25	5	2	2
Cleveland, Ohio	100	29	36	26	5	3	1
Dallas, Tex.	100	31	32	29	3	3	2
Dayton, Ohio	100	29	39	28	4	(1)	(2)
Denver, Colo.	100	39	31	25	2	2	1
Detroit, Mich.	100	20	30	34	8	4	4
El Paso, Tex.	100	30	36	23	4	5	2
Grand Rapids, Mich.	100	28	40	29	2	1	(2)
Lancaster, Pa.	100	30	33	35	2	0	0
Los Angeles, Calif.	100	29	40	26	2	1	2
Miami, Fla.	100	20	48	23	5	2	2
Mobile, Ala.	100	39	39	18	2	0	2
New Haven, Conn.	100	43	40	14	2	(2)	(2)
New York, N. Y.[6]	100	37	39	16	2	4	2
Philadelphia, Pa.	100	29	41	20	4	3	3
Pittsburgh, Pa.	100	33	33	26	4	3	1
San Francisco, Calif.[7]	100	27	44	23	2	1	2
Seattle, Wash.	100	53	31	14	1	(2)	1
Stockton, Calif.	100	40	41	15	2	1	1
Tulsa, Okla.	100	24	27	37	4	5	3
Washington, D. C.[8]	100	26	33	27	5	3	6
	Percent distribution of dwelling units started						
Atlanta, Ga.	100	2	9	17	11	9	52
Binghamton, N. Y.	100	6	19	29	4	8	34
Boston, Mass.	100	7	21	35	9	8	20
Chicago, Ill.	100	3	8	25	17	15	32
Cleveland, Ohio	100	3	9	23	17	19	29
Dallas, Tex.	100	3	8	27	9	16	38
Dayton, Ohio	100	4	15	42	18	3	18
Denver, Colo.	100	5	11	28	8	16	32
Detroit, Mich.	100	1	4	21	15	14	45
El Paso, Tex.	100	3	8	22	10	30	27
Grand Rapids, Mich.	100	5	17	57	10	5	6
Lancaster, Pa.	100	6	18	57	19	0	0
Los Angeles, Calif.	100	3	9	21	6	6	55
Miami, Fla.	100	2	9	19	14	10	46
Mobile, Ala.	100	7	16	34	9	0	34
New Haven, Conn.	100	10	26	31	17	5	11
New York, N. Y.[6]	100	3	9	13	6	19	50
Philadelphia, Pa.	100	2	8	13	10	13	54
Pittsburgh, Pa.	100	4	10	26	17	22	21
San Francisco, Calif.[7]	100	3	12	22	7	9	47
Seattle, Wash.	100	11	16	27	5	3	38
Stockton, Calif.	100	6	17	22	11	11	33
Tulsa, Okla.	100	2	6	28	10	26	28
Washington, D. C.[8]	100	1	2	8	4	6	79

See footnotes on p. 38.

Table 24.--Commercial residential builders and private nonfarm dwelling units started: Percent distribution by type of builder and by builders' type-of-structure specialization, selected metropolitan areas, 1949[5]

Metropolitan area	All commercial builders	Commercial builders starting 1-family houses only				All other commercial builders
		Total	Operative builders	General contractors	Operative builders-general contractors	
	Percent distribution of builders					
Atlanta, Ga.	100	84	46	30	8	16
Binghamton, N. Y.	100	87	49	30	8	13
Boston, Mass.	100	96	46	37	13	4
Chicago, Ill.	100	95	35	51	9	5
Cleveland, Ohio	100	92	45	35	12	8
Dallas, Tex.	100	86	35	38	13	14
Dayton, Ohio.	100	86	36	46	4	14
Denver, Colo.	100	81	52	23	6	19
Detroit, Mich.	100	96	60	34	2	4
El Paso, Tex.	100	84	34	50	0	16
Grand Rapids, Mich.	100	99	50	29	20	1
Lancaster, Pa.	100	93	23	60	10	7
Los Angeles, Calif.	100	62	27	30	5	38
Miami, Fla.	100	60	38	18	4	40
Mobile, Ala.	100	78	24	52	2	22
New Haven, Conn.	100	95	24	59	12	5
New York, N. Y.[6]	100	73	38	35	(2)	27
Philadelphia, Pa.	100	94	37	50	7	6
Pittsburgh, Pa.	100	86	42	38	6	14
San Francisco, Calif.[7] ..	100	77	28	37	12	23
Seattle, Wash.	100	91	53	33	5	9
Stockton, Calif.	100	71	32	33	6	29
Tulsa, Okla.	100	87	61	18	8	13
Washington, D. C. [8]	100	88	58	23	7	12
	Percent distribution of dwelling units started					
Atlanta, Ga.	100	42	30	8	4	58
Binghamton, N. Y.	100	69	53	9	7	31
Boston, Mass.	100	84	55	19	10	16
Chicago, Ill.	100	77	36	26	15	23
Cleveland, Ohio	100	75	42	11	22	25
Dallas, Tex.	100	79	53	12	14	21
Dayton, Ohio	100	57	35	20	2	43
Denver, Colo.	100	70	57	6	7	30
Detroit, Mich.	100	89	81	7	1	11
El Paso, Tex.	100	87	71	16	0	13
Grand Rapids, Mich.	100	97	40	18	39	3
Lancaster, Pa.	100	86	21	45	20	14
Los Angeles, Calif.	100	45	32	8	5	55
Miami, Fla.	100	52	35	7	10	48
Mobile, Ala.	100	44	17	19	8	56
New Haven, Conn.	100	82	37	32	13	18
New York, N. Y.[6]	100	54	46	7	1	46
Philadelphia, Pa.	100	73	60	9	4	27
Pittsburgh, Pa.	100	54	33	14	7	46
San Francisco, Calif.[7]..	100	58	35	12	11	42
Seattle, Wash.	100	54	34	11	9	46
Stockton, Calif.	100	65	40	16	9	35
Tulsa, Okla.	100	86	69	4	13	14
Washington, D. C.[8]	100	22	18	2	2	78

See footnotes on p. 38.

Table 25.--Average number of dwelling units per builder, by type of builder and by builders' type-of-structure specialization, selected metropolitan areas, 1949[5]

Metropolitan area	Average number of dwelling units started per builder											
	All commercial builders	Operative builders	General contractors	Operative builders-general contractors	Commercial builders starting 1-family houses only				All other commercial builders			
					Total	Operative builders	General contractors	Operative builders-general contractors	Total	Operative builders	General contractors	Operative builders-general contractors
Atlanta, Ga.	13	17	5	9	6	8	3	7	46	53	24	33
Binghamton, N. Y.	8	9	4	15	6	8	2	7	18	11	13	41
Boston, Mass.	5	6	4	4	4	6	3	4	21	12	41	21
Chicago, Ill.	10	13	7	19	8	11	5	17	46	38	60	38
Cleveland, Ohio	11	14	3	19	9	6	3	19	33	51	5	20
Dallas, Tex.	11	18	4	17	10	17	3	13	17	20	7	46
Dayton, Ohio	7	8	6	5	5	7	3	5	21	14	39	0
Denver, Colo.	8	10	2	11	7	9	2	10	13	15	5	13
Detroit, Mich.	18	26	4	11	17	24	4	11	48	69	3	0
El Paso, Tex.	11	21	4	16	12	24	4	0	9	9	7	16
Grand Rapids, Mich. ...	6	5	3	12	6	5	3	11	16	0	4	51
Lancaster, Pa.	5	5	4	14	5	5	4	11	10	0	5	26
Los Angeles, Calif. ...	12	16	5	16	9	14	3	13	17	19	11	19
Miami, Fla.	13	11	8	43	11	11	5	34	15	11	19	55
Mobile, Ala.	6	4	4	49	3	4	2	32	15	5	27	66
New Haven, Conn.	4	7	2	5	4	6	2	5	13	16	6	18
New York, N. Y.[6]	11	17	4	9	8	14	2	40	20	26	16	9
Philadelphia, Pa.	15	30	3	9	11	24	3	8	68	97	23	26
Pittsburgh, Pa.	9	12	5	15	6	7	3	12	31	30	32	34
San Francisco, Calif.[7].	10	13	7	11	8	13	3	9	18	14	28	16
Seattle, Wash.	5	4	5	12	3	3	1	10	26	17	46	18
Stockton, Calif.	6	8	4	7	6	8	3	9	8	9	7	4
Tulsa, Okla.	14	16	5	28	14	16	3	24	15	12	12	68
Washington, D. C.[8].....	36	37	53	26	9	11	4	12	232	156	689	139

See footnotes on p. 38.

Table 26.--Commercially built private nonfarm dwelling units: Percent distribution by type of structure and by type of builder, selected metropolitan areas, 1949[5]

Metropolitan area	Percent distribution								
	All commercially built dwelling units	1-family houses started by				Dwellings in 2-or-more-family structures started by			
		All types of builders	Operative builders	General contractors	Operative builders-general contractors	All types of builders	Operative builders	General contractors	Operative builders-general contractors
Atlanta, Ga.	100	49	36	8	5	51	44	6	1
Binghamton, N. Y.	100	78	54	14	10	22	8	2	12
Boston, Mass.	100	85	56	19	10	15	5	8	2
Chicago, Ill.	100	81	39	27	15	19	8	10	1
Cleveland, Ohio	100	78	43	11	24	22	20	1	1
Dallas, Tex.	100	87	55	13	19	13	7	3	3
Dayton, Ohio	100	65	40	22	3	35	15	20	0
Denver, Colo.	100	84	68	6	10	16	13	2	1
Detroit, Mich.	100	94	86	7	1	6	6	(2)	0
El Paso, Tex.	100	94	75	18	1	6	4	1	1
Grand Rapids, Mich.	100	100	41	18	41	(2)	0	(2)	(2)
Lancaster, Pa.	100	97	21	48	28	3	0	2	1
Los Angeles, Calif.	100	73	52	11	10	27	17	6	4
Miami, Fla.	100	64	41	8	15	36	21	9	6
Mobile, Ala.	100	60	19	21	20	40	11	23	6
New Haven, Conn.	100	88	41	33	14	12	9	1	2
New York, N. Y.[6]	100	59	48	8	3	41	32	7	2
Philadelphia, Pa.	100	80	67	9	4	20	16	3	1
Pittsburgh, Pa.	100	60	37	15	8	40	33	5	2
San Francisco, Calif.[7]..	100	75	44	16	15	25	7	15	3
Seattle, Wash.	100	63	40	11	12	37	10	24	3
Stockton, Calif.	100	83	53	20	10	17	13	3	1
Tulsa, Okla.	100	91	71	5	15	9	5	3	1
Washington, D. C.[8]	100	27	21	3	3	73	37	33	3

See footnotes on p.38 .

Footnotes

[1] Insufficient number to show separately.

[2] Less than 0.5 percent of total.

[3] With overall responsibility, as an operative residential builder or a general contractor, or both; special trade contracting is not classified as building construction for purposes of these tables.

[4] Includes price of land. For owner-built houses, data are based on owner's best estimate of reasonable value of the house at time of completion.

[5] The estimates of the average size of builders, the distribution of firms by type of builder and by type of structures built, and other ratios shown in these tables for 24 selected metropolitan areas, are based on the number of dwelling units started according to sample data collected in the "1949 Survey of the Residential Building Industry." For some areas, previously published data on dwelling units started, obtained from Bureau surveys conducted for other purposes, may differ from the basic starts information used in this study, because of differences in the sample. See May 1951 Supplement to Construction, monthly publication of the Bureau of Labor Statistics, and BLS Bulletin 1115, New Housing in Metropolitan Areas, 1949-51.

In addition to the privately owned dwellings shown, the following numbers of units in public housing projects were started in 1949: Atlanta, 16; Binghamton, 166; Boston, 4,970; Chicago, 851; Denver, 88; El Paso, 48; New Haven, 81; New York, 20,813; San Francisco, 28; and Washington, 128.

[6] Data for New York are affected materially by exclusion of public housing from this survey, since a substantial amount of public housing was begun there in 1949. (See footnote 5.) The average size of builders' operations, especially in the case of the general contractors, and the importance of general contractors' output in the total are thereby minimized.

[7] Results presented here for the San Francisco area, for the most part, are generally in agreement with Maisel's findings. Exact comparisons should not be attempted, however, because the Maisel study covered housing completed in 1949 and the survey upon which this report is based, covered housing started.

[8] Data for Washington, D. C. reflect an extraordinary amount of large elevator-type apartment building in 1949 by general contractors.

Note: Where percent distributions are shown, components may not always add to 100 because of rounding.

☆ U. S. GOVERNMENT PRINTING OFFICE : 1954 O—324347