Residential Construction

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DURING the first 3 months of 1940 residential construction maintained the same general level of activity which has characterized it since the final quarter of 1938. Although the value of residential contracts awarded in 37 Eastern States, adjusted for seasonal variation, has been slightly lower than during the last 5 months of 1939, the decline has not been large. The relatively minor decline since last summer occurred primarily in public contracts, while private work, except in January, continued at a comparatively high rate. As figure 8 shows, the month-to-month

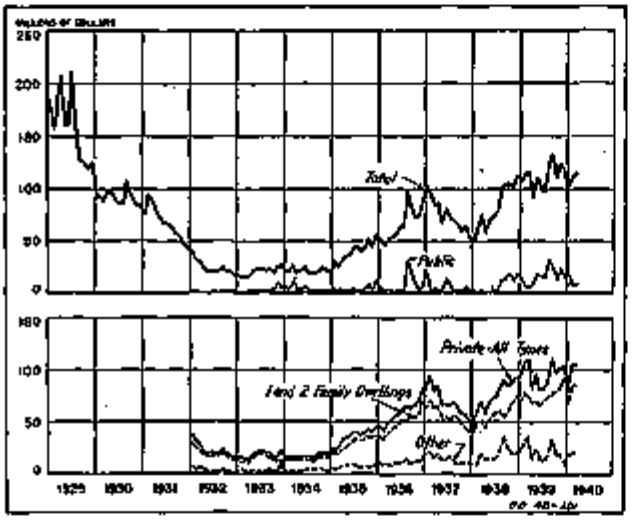

Figure 8.—Residential Building Contracts Awarded in 37 Eastern States, Adjusted for Seasonal Variations, 1929–40 (Adjusted for Seasonal Variations by the Board of Governors of the Federal Reserve System From Data Compiled by the F. W. Dodge Corporation).

fluctuations in residential contract awards have been irregular in direction and substantial in amount for many months. The figure for January, furthermore, was influenced by unusually severe winter weather over large areas of the country, which delayed the start of many projects.

In comparison with the first quarter of 1939 the total value of residential contracts awarded in the first 3 months of 1940 decreased 4 percent, as the result of a drop of 6 percent in private residential contracts which more than offset an increase of 22 percent in public contracts. The number of dwelling units covered by these contracts, on the other hand, increased 4 percent. The divergent movements in the value of residential contracts and the number of dwelling units were due in part to a decline in the average value per dwelling unit. This decline reflected primarily a decrease in the average size of dwelling units, rather than an actual cost reduction for identical accommodations. The divergence between value and number was augmented, also, by the sharp decline in the value of contracts for hotels, dormitories, and other nonhousekeeping accommodations, for which the number of dwelling units is not counted.

For private one- to four-family construction, some improvement in the immediate prospects during March and April is indicated by the behavior of mortgage-insurance applications received by the Federal Housing Administration, which in the past 2 years have tended to fluctuate somewhat in advance of the start of construction operations. The number of mortgages covering new homes to be built, selected for appraisal by the Federal Housing Administration, has advanced sharply since the end of February, reaching a new high point during the week ended April 13. From the beginning of 1940 until February 24 the number of these mortgages selected for appraisal had been almost identical, week by week, with the preceding year. For the first 8 weeks of the year the weekly average was 2,605 for 1940 and 2,591 for 1939. Beginning in the last week of February, however, at a time when a seasonal advance is customary, the rise was much more rapid than in 1939. In the week ended April 27, 1940, the number selected for appraisal was 5,076, as compared with 3,667 in the corresponding week a year ago. With so large an increase in the number selected for appraisal (even allowing for the fact that some applications may be rejected or withdrawn, and for the fact that a part of the increase may be due merely to a change in the proportion of all construction financed under F. H. A. insurance), it appears reasonable to expect the volume of private one- to four-family building during the next 4 months to rise above last year.

The value of public residential construction during the first 3 months of 1940, though larger than in the corresponding period of last year, has been at a rate only about half of the average rate maintained during the last 6 months of 1939. In view of the fact that public residential construction is now comprised almost entirely of projects under the program of the United States Housing Authority and that more than three-fifths of the program to be expected in the 37 eastern States has not yet been recorded in Dodge contracts, it appears likely that public residential contracts will soon recover from their present low volume, and may easily return to the level of the last 6 months of 1939.

For both private and public residential construction, therefore, available evidence suggests the probability of an increased volume of contracts, at least for the near future. The outlook for the latter part of 1940, however, must be judged on the basis of rather different considerations. The present sustained level of residen-

tial building follows a prolonged period of rapid advance. In each year since 1933, the volume of residential construction has increased, and the advance has been interrupted only by the relatively brief, though sharp, recession in 1937. In 1939 the number of nonfarm dwelling units on which construction was started was more than 8½ times the number started in 1933, according to estimates of the Bureau of Labor Statistics. The number of units started in 1939 was not much below the annual average number started during the last complete cycle—that is, from the low point in 1918 to the low point in 1933. On the other hand, the current level is far below that reached at the peak of the cycle, with the 1939 figure only about 50 percent of that for 1925. At the peak of the boom of the 1920's, however, population was increasing more rapidly than at present, residential building was stimulated by unsound financial practices which contributed substantially to the ensuing decline, and the rate of residential construction was so rapid that rents were falling and the number of vacant properties was undoubtedly rising. The present relatively low rate of population growth, the apparent lack of the speculative enthusiasm which was responsible for overbuilding in the 1920's, the magnitude and duration of the advance which has already taken place, and the failure of residential construction to show much increase during the past year and a half, at least raise the question whether the expansionary phase of the present cycle may be approaching its end under present conditions. With our existing knowledge, this question cannot be answered, but some light can be thrown upon it by consideration of the more important influences that are known to operate on residential construction.

DEMAND FOR NEW RESIDENTIAL CONSTRUCTION

The demand for additional dwelling units is determined to a considerable degree by changes in the number of households. These changes depend partly on various factors that influence the extent to which families live with other families or maintain separate households. Over long periods, the total number of families increases as the population grows, but the rate of increase in the number of families has followed a generally downward course since the early 1920's, just as the rate of growth of the entire population has tended to fall. During this period, however, the downward trend in net increase in the number of families has been the less steep than the decrease in the rate of population growth. The extent of doubling, which is the second factor in the number of households, is influenced over long periods by changing social customs and by gradual changes in the size of available dwelling units.

In determining year-to-year changes in the number of families, the long-run tendencies are less important than the various short-run factors. Changes in incomes affect marriage and divorce rates, and thus help to

CONSTRUCTION, BUILDING MATERIALS, AND REAL ESTATE

Year and month	Construction contracts awarded							Building-material shipments				Construction costs (Engr. News-Record) [4]	Loans outstanding		Real-estate foreclosures (nonfarm)
	Federal Reserve index, adjusted [1]	All types of construction [1]		Residential building	Nonresidential building [2]	Utilities [1]	Public works [1]	Common brick	Lumber	Oak flooring	Cement		Home Loan bank	Home Owners' Loan Corp.	
	Monthly average, 1923-25=100	Number of projects	Millions of dollars	Millions of square feet	Millions of dollars			Thousands	Mil. bd. ft.	Thous. bd. ft.	Thousands of barrels	Monthly average, 1913=100	Thousands of dollars		Monthly average 1926=100
1928: March	121	15,944	484.6	41.7	198.8	217.2	12.8	57.7			10,118	207.8			
1932: March	26	6,646	112.3	8.5	33.3	49.8	7.1	22.2			3,973	137.3			
1933: March	14	6,303	80.0	4.8	18.0	29.4	3.8	15.2			3,510	138.4	23,080		
1937: March	66	16,685	231.3	31.2	98.3	89.2	19.8	32.6	165,801	2,366	35,427	7,879	224.5	142,710	2,651,542	249
1938: March	46	14,533	228.9	20.1	79.4	87.8	16.7	49.0	114,000	1,883	35,656	7,259	228.5	152,106	2,522,046	195
1939:																
March	50	20,238	300.7	30.7	125.2	97.8	19.6	48.0	166,380	2,001	31,061	8,457	224.4	161,614	2,117,598	171
April	67	22,282	335.0	39.4	114.4	94.7	35.2	65.6	178,903	2,012	30,604	8,564	234.8	157,178	2,105,824	164
May	63	23,244	328.6	32.6	133.8	76.7	21.8	76.1	208,718	2,205	37,999	13,748	234.7	147,011	2,091,324	185
June	63	21,701	289.3	37.5	111.9	92.8	30.0	73.6	188,045	2,263	37,401	13,715	235.0	158,862	2,080,512	167
July	67	21,806	290.9	37.2	109.3	88.5	23.1	79.0	177,185	2,167	36,225	11,757	234.9	151,637	2,067,344	157
August	73	23,370	312.3	31.2	127.1	89.8	20.1	95.3	199,297	2,534	44,668	12,421	234.9	148,479	2,069,792	139
September	73	22,684	322.2	33.0	129.7	82.6	32.7	71.4	187,349	2,552	44,216	12,304	235.0	143,857	2,064,886	147
October	76	22,402	261.5	20.4	118.3	72.7	30.5	39.4	163,201	2,516	42,720	12,829	230.9	138,854	2,049,421	131
November	83	22,923	290.8	31.0	116.8	77.6	23.9	51.6	167,329	2,209	35,826	10,147	238.3	138,822	2,043,296	130
December	85	18,881	254.1	22.5	88.7	67.8	27.0	160.7	139,243	1,848	30,599	8,785	238.2	151,212	2,038,186	128
1940:																
January	75	13,577	196.2	18.1	77.4	52.5	16.4	47.0	58,014	1,984	29,850	2,289	238.3	150,758	2,031,341	114
February	83	15,805	200.6	19.1	74.9	70.6	12.2	42.9	84,020	1,943	33,312	4,005	238.8	144,315	2,026,614	103
March	82	20,020	212.2	31.1	121.7	11.7	17.8	58.8		2,190	31,488	7,716	238.3	127,042	2,021,101	112
First quarter average:																
1929	107	11,061	417.4	32.5	154.6	105.8	24.8	42.2				7,859	208.2			
1932	25	6,804	96.4	7.2	28.4	39.2	7.3	20.5				3,495	100.6			
1933	16	4,662	66.3	3.7	13.3	27.4	8.9	20.8				2,703	158.7			
1937	54	12,108	220.7	20.1	77.2	83.6	28.8	38.1	[3] 110,684	2,215	35,566	5,910	222.7			235
1938	44	10,705	179.4	12.3	61.0	64.0	21.4	41.5	[3] 71,386	1,847	37,436	5,402	230.1			192
1939	67	15,510	257.5	23.8	94.8	84.1	22.8	58.0	[3] 98,422	1,889	28,725	6,394	234.5			169
1940	80	17,577	223.0	22.1	92.8	68.6	18.2	49.9	[3] 71,407	1,938	33,610	5,503	238.3			118

[1] Based on 3-month moving average of values adjusted for seasonal variations; the averages, 1923–25, are computed from unadjusted indexes.
[2] Data revised 1929–38; see note marked with a dagger (†) on p. 21 of the July 1939 issue.
[3] Index is as of 1st of month; index for Apr. 1, 1940, is 238.3.
[4] 2 months, average, January through February.

determine the magnitude of the increases from time to time in the number of families. Changes in incomes and in rents affect directly the economic ability of families to live as separate households, and thus, together with the availability of dwelling units at the required rents, are important in influencing the extent of "doubling up."

From 1932 through 1937 the rate of increase in the number of nonfarm families rose, despite the long-time downward trend, and the increase in the number of families during 1937 was several times as large as the increase during 1932. Since 1937, however, the yearly increase in the number of families has fallen, and the increase in 1939 was appreciably less than that 2 years earlier. A decline from the level of a year or so ago is thus indicated in this factor of the demand for new residential construction. Since in the past residental construction has felt the effect of changes in the number of families several years after the changes in families took place, the resultant depressing effect on new building is likely to be a restraining factor currently and in the near future. These estimates of changes in the number of families are subject, however, to considerable error, especially at present when the base provided by the 1930 census is so far distant.

The indicated decline in the net increase in the number of families may be partially offset by the fact that the number of "doubled-up" families appears to have increased substantially during the past 10 years, with decreases in doubling occurring only in 1933 and 1934. Insofar as the forces causing this "doubling" are economic, any increase in the general level of incomes might bring about a large demand for additional dwelling units by causing some of these "doubled" families to reconstitute themselves as separate households.

The demand for additional dwelling units comes not only from an increase in the number of households but also from a shift in the location of households, insofar as this migration is away from places where the supply of dwelling units is already adequate and toward areas where an increased number of households can be housed only by additional building. The more rapid the migration of this character, the larger will be the necessary amount of building for any given increase in the total number of households in the entire country. Migration is not a new factor, though the possibility of declining population in certain cities or areas as the result of migration may be greater now than previously because of the slower increase in the total population. The extent of this internal migration is determined very largely by changes in industrial and commercial conditions, and the magnitude and direction of these movements of population may change quickly and drastically as the level of activity rises or falls. The high rate of industrial activity in late 1939 and early 1940 probably accelerated migration into industrial centers. It is not clear, however, whether rapid movement in this direction will continue now that the rate of activity has fallen. The Department of Agriculture has estimated that there has been a net migration to cities in every year from 1920 to 1938, except for 1932. Since 1932, however, the net migration to cities has been much smaller than during the 1920's, and the estimate for 1938 (the latest now available) is very low. Only 2 years since 1920 have shown smaller net migration to cities than 1938.

Migration, together with the influence of different rates of natural increase of the population in different areas, contributes to geographic variations in the rates of building. As the Bureau of Labor Statistics' estimates presented in figure 9 show, the rate of building in proportion to population has been highest during the past 3 years in the Pacific coast cities. Urban construction in the South Atlantic and Southern States was next most active. The lowest rates have been in cities in New England and in the other Northeastern States.

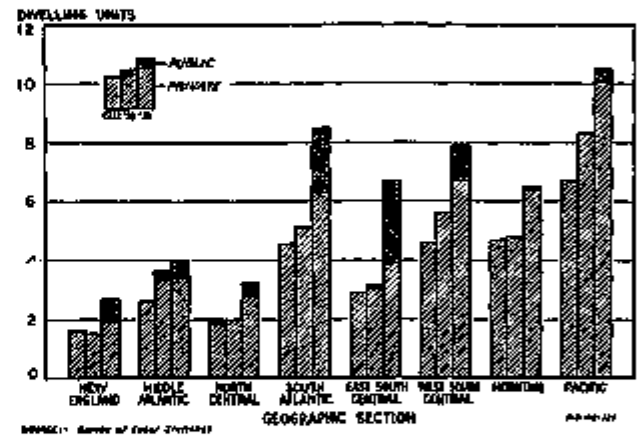

Figure 9.—Public and Private Dwelling Units Provided per 1,000 Population in Urban Areas of the United States, by Geographic Sections, 1937–39 (United States Department of Labor, Bureau of Labor Statistics).

In this respect, the situation since 1937 has been quite similar to that of other recent years. Information on building in villages, in unincorporated portions of metropolitan areas, and in the open country, is not available, though the same geographic differences probably exist for construction in these areas as for urban building. Public residential construction, of little consequence prior to 1939, has proceeded at the highest rate in cities in the South Atlantic and the East South Central States, where the rate of private construction was also relatively high. Public residential building was lowest in cities in the North Central, Mountain, and Pacific States.[1]

Further demand for additional dwelling units may arise also from population movements within cities or metropolitan areas. Cities have always tended to grow at their outskirts and generally to lose population

[1] The rates of construction per thousand of the population are based on 1930 population figures and are consequently unrepresentative insofar as the various groups of cities have had substantially different population trends during the past 10 years. It is felt, however, that the principal conclusions are unaffected by the use of 1930 population data.

in their downtown areas. It is clear from our present knowledge that this tendency is continuing, though it is not clear whether it is now becoming intensified. In recent years, the rate of urban residential construction has been highest in the smallest cities and somewhat lower in the larger cities. Figure 10, which is based on compilations of the Bureau of Labor Statistics, shows the estimated number of dwelling units on which construction was started in urban areas in 1937–39 per thousand of the population, for cities of different size.

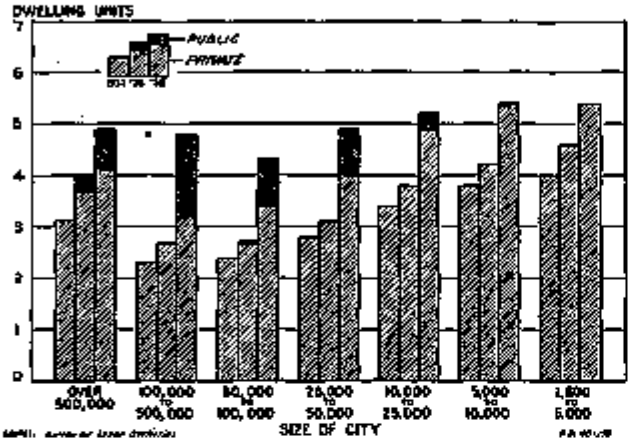

Figure 10.—Public and Private Dwelling Units Provided per 1,000 Population in Urban Areas of the United States, by Size of City, 1937–39 (United States Department of Labor, Bureau of Labor Statistics).

Detailed information available for 1939 indicates that the higher figures for the smaller communities represent a high rate of construction in the small suburbs of large cities. The rate of construction in small cities outside of metropolitan areas is low. Despite the high rates of construction in small suburban cities, however, a large proportion of the total volume of urban residential construction is still concentrated within the city limits of the central metropolitan cities. The estimates of the Bureau of Labor Statistics show that 70 percent of all dwelling units started in 1939 in cities within metropolitan areas were begun within cities of 100,000 or more population (which are in nearly all cases the central cities). Since detailed information is not available with respect to building outside of city limits, the proportion of all metropolitan residential construction which is undertaken in cities of over 100,000 population is not known, but it seems probable that it amounts to nearly 60 percent.

In many cases, however, where the limits of the central cities have in the past been extended to include large areas of vacant land, present residential construction is taking place far from the downtown areas, and may be accompanied by intracity population shifts. This appears to be the case in New York City, where construction has been particularly active in the outlying sections of Queens, and may be the case in Los Angeles. These two cities, together with Washington, D. C., and San Francisco, experienced in 1939 rates of construction far above the average for cities of over 500,000 population, and were responsible for the high rate shown in figure 10 for cities in this size group.

In 1937 and 1938, except for the influence of a few individual cities such as the four mentioned above, the relationship between city size and rate of building was both pronounced and definite. The smaller the city, the higher was its rate of building. In these 2 years, moreover, the proportion of all metropolitan building which was undertaken in the central cities was considerably lower than in 1939. In 1939 the differences in the rate of construction among cities of different size were somewhat smaller than in the 2 preceding years, and the share of the large cities somewhat greater, as a result of the concentration of public residential construction in the larger cities.

Although the present tendency of cities to expand at the periphery may be stronger than in the past and may now in some cases be causing an actual decline of population in the older downtown sections, changes in this tendency within the next year are not likely to be rapid. Construction on a large scale of express highways leading to the downtown areas of cities as now proposed would undoubtedly strongly accelerate the movement out into the suburbs, but this factor is unlikely to have important effects during 1940.

The effect upon the demand for residential construction exerted by changes in the level of incomes has already been mentioned. For 1939 as a whole the level of income payments was about 5 percent higher than in 1938. This improvement undoubtedly contributed, at least indirectly, to the increase in residential construction last year. In view of the lag between changes in income and their effect upon new construction, the rapid rise in income payments in the latter part of 1939 would normally be expected to have its principal effect in 1940. On account of the brief duration of the rise in incomes, however, it seems probable that, if the present recession continues and if the decline in income payments becomes large, the spurt in incomes late in 1939 may have no large effect on construction. In this case the major determining influence is likely to be the behavior of incomes during the remainder of 1940.

Market Conditions

During the past 2 years, residential rents have been stable or have declined slightly. The steady advance in rents which had begun in early 1934 came to an end late in 1937. From October 1937 to June 1939, following the decline in incomes accompanying the recession of 1937, the National Industrial Conference Board rent index declined about 4 percent. However, in the last few months of 1939 a fractional increase in this index occurred.

On the whole, residential vacancies appear currently to be relatively low. The rapid and almost universal decline in vacancies that began in 1933 came to an end in the latter part of 1936. Since that time trends in

vacancy have differed widely from city to city, but in most cases the changes (whether up or down) have not been large, and it appears that the general level of vacancy is not greatly different now from that prevailing in 1937. During the past 3 years, therefore, the market has been able to absorb the increased volume of residential construction. The net effect of all the changes that have occurred in the number of families, in family incomes, in construction costs, in financing costs, in rents, in popular tastes with regard to housing, and in the willingness of families and other investors to purchase new houses has been to make possible a sharply rising volume of new residential construction without any substantial addition to the unused supply.

Cost of Ownership.

During the past 2½ years, costs of residential construction have apparently fallen, though not by any large amount. The index of construction costs of a standard six-room frame house, compiled by the Federal Home Loan Bank Board, was 3.8 percent lower in February 1940 than in August 1937, despite the increase that occurred after the beginning of the European war in September. In comparison with residential rents, the cost of construction is apparently lower at the present time than in 1937 and is probably lower than in 1936. In comparison with family incomes the cost of construction is lower at present than at any other time in at least the past 2 years.

The total cost of housing depends not only on the cost of construction but also on operating costs such as taxes, repairs, and interest rates. Home-mortgage interest rates continued to decline during 1939 and at the end of December stood at lower levels than at any previous time. Furthermore, through the new provisions of the Federal Housing Administration with regard to insurance of loans for low-cost houses it is possible that financing can now be arranged for this type of construction on a much larger scale than in the past. Insofar as construction of these low-cost houses has previously been retarded by lack of financing, the new provision may serve as an important stimulant.

Supply of Additional Dwelling Units During 1939.

The number of new dwelling units on which construction was started in all nonfarm areas in 1939 is estimated by the Bureau of Labor Statistics at 465,000. This compares with a total of 347,000 in 1938. Of the 1939 total, it is estimated that 342,000 dwelling units were started in urban areas—that is, in incorporated cities with a population of 2,500 or more in 1930. The remaining 123,000 dwelling units, or more than one-fourth of the total, were started in "rural nonfarm" areas. In large part, as suggested above, these rural nonfarm dwelling units were erected not in the open country but in the environs of larger places or in villages

The figures cited above for new construction do not take into account additions to the supply of dwelling units resulting from conversion of existing structures to accommodate more families than originally intended. Similarly, they take no account of reductions in the existing supply by demolition, by fire and storm losses, and by conversions to nonresidential uses. The magnitude of these influences on the supply of dwelling units in the past few years is not known, though it is clear that the total number of units involved is large. To some extent, of course, net additions through conversion tend to be offset by demolitions. Both conversions and demolitions are known to be of particularly great current importance in the northeastern sections of the country where the rate of new construction is relatively low.

In 1939, as in each of the past 8 years, new construction was concentrated on single-family houses to a much greater extent than during the decade of the 1920's. The number of single-family houses started in 1939, for example, was 11 percent greater than in 1929, the most recent year of about the same over-all volume of residential construction, though the total number of units in all types of structures was 9 percent less. In comparison with 1925, the peak year, the number of single-family houses started in 1939 decreased 39 percent, while the number of units in two-family and other multifamily structures dropped 69 percent. In private construction, the predominance of one-family dwellings in 1939 was even greater than in the total, because of the relatively large proportion of public residential construction which took the form of apartment building. The lack of speculative enthusiasm and investment confidence, which has been partially responsible for the markedly lower level of construction of two-family and other multifamily structures for rental purposes in recent years, has thus contributed substantially to the failure of residential construction to rise to the levels reached in the 1920's.[1]

The supply of new dwelling units requires adjustment to the demand not only in terms of the total number of units to be supplied, the type of structures and their location, but also in terms of the price class of houses which prospective purchasers of new houses seek to buy. In urban places the average total cost per dwelling unit (including land) of new residential construction appears to have been in the neighborhood of $5,000 in 1939, as estimated on the basis of building permit data compiled by the Bureau of Labor Statistics. This was about the same as in 1938 and roughly 10 percent less than in either 1937 or 1936. For all nonfarm residential construction the average total cost per

[1] The construction estimates cited in this paragraph for 1925 and 1929 are those of the National Bureau of Economic Research. The estimate for 1939 was made by the Bureau of Labor Statistics.

dwelling unit was undoubtedly less than the $5,000 average in urban places. Computations based on the 1930 census data [3] showed that the average value of all existing structures in the nonfarm areas outside of cities in 1930 was about half the average value of existing dwelling units in urban places. If approximately the same ratio holds for newly built dwelling units, the average total cost per dwelling unit for all nonfarm construction (including urban construction) was approximately $4,500. The scatter about this average was wide, and it seems certain that more than half of the dwelling units were priced below this average. In fact, a large number of dwelling units were built with costs lower than the figure of $2,500, which is now regarded as the cost of the "low-cost house." The Architectural Forum has estimated that as many as 60,000 houses costing $2,500 or less were built.

Despite this relatively large number of low-cost houses now being built, it remains true that most of the new houses were constructed for the upper third of the population, and that the proportion of new houses built for families of typical income was relatively small. This situation is by no means new and is not in itself an indication that the market for new structures of the cost levels now being built is necessarily approaching saturation. The relatively low level of vacancies at the present time indicates, on the contrary, that the market is in general not overbuilt. However, if low-cost houses can be built which are better than existing houses of the same price, a large new market would be likely to appear because of the very large number of families who can afford to live in a house whose value is in the neighborhood of $2,500. If the improved financing arrangements for low-cost houses under the program of the Federal Housing Administration and the various programs for promotion of economical small-house construction succeed in providing low-cost houses that are definitely better in quality than existing houses now available for equal cost, a fairly substantial expansion of volume may be possible, at least until the price differential between new and existing houses disappears as the result of depreciation in value and reduction in rent of existing houses.

[3] David L. Wickens, "Differentials in Housing Costs," National Bureau of Economic Research, Bulletin 75, September 17, 1939.

Summary.

The recent increases in applications for mortgage insurance received by the Federal Housing Administration and the large volume of public residential construction which remains to be started under the present program of the United States Housing Authority should have a considerable influence on the volume of residential construction during at least the next few months. Over somewhat longer periods, however, the number of households, the extent of migration, the level of incomes, costs of construction and of ownership, the confidence of investors, and the other factors discussed in some detail above are likely to be of principal importance. During the past 18 months, the net effect of these influences has resulted in substantially a sidewise movement in residential contracts. Meanwhile, behavior of these factors has been mixed. The increase in the number of families has lessened, incomes have risen and subsequently lost a part of their rise, costs of construction have fallen and then recovered a portion of their decline, interest rates have continued to fall. On the whole, no powerful stimulus toward either a much increased or a much diminished volume of residential construction has appeared. Such a stimulus might come—in a favorable direction—from success in development and promotion of low-cost houses, or it might come from entirely outside the construction industry. Until it appears, however, there seems to be little reason to expect much change from the present level of activity.