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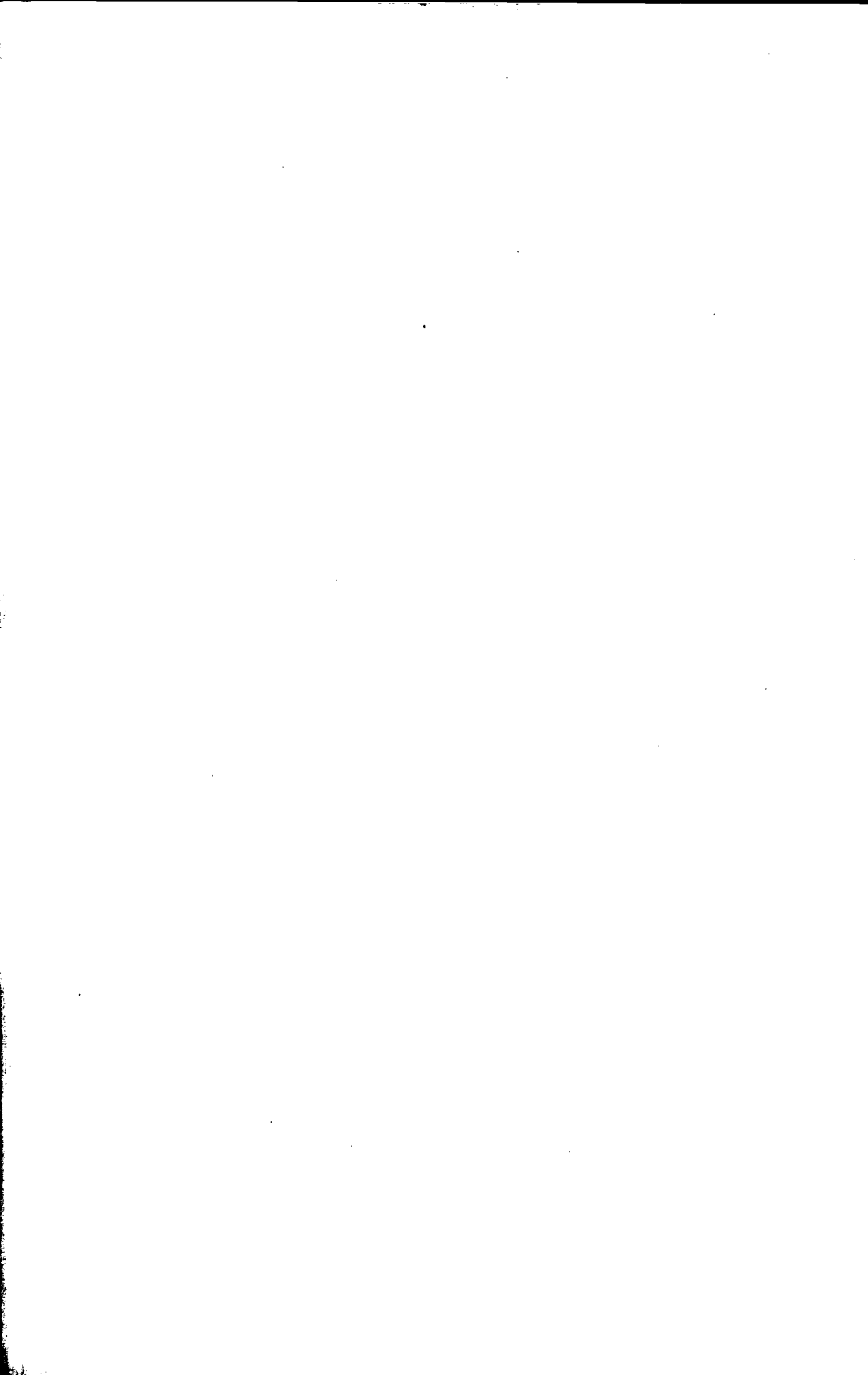
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## APPENDIXES



## APPENDIX A

### CONVERSIONS AND DEMOLITIONS

THE inventory of private nonfarm dwelling units has changed over time in ways other than through new construction. These changes have resulted from the shift of farm dwellings to nonfarm residential use, conversions of existing nonfarm dwelling units, and demolitions. Differences between the volume of new construction and net change in the stock of housekeeping dwelling units are also caused by variances in the definition of a dwelling unit by the two government agencies reporting on the inventory and the volume of new construction, and by deficiencies in the estimates of newly constructed dwelling units.

The Bureau of the Census, in its counts of all nonfarm dwelling units in 1940 and 1950 and of occupied units in previous census years, defines a dwelling unit as the living quarters occupied by or intended for occupancy by a single household. The Bureau of Labor Statistics, in its estimates of the number of new nonfarm housekeeping dwelling units started, restricts its definition to permanent units, to units in structures primarily constructed for residential purposes, and to units containing permanent housekeeping facilities, such as plumbing and permanent cooking facilities. Accordingly, aside from minor changes over time in the census definitions themselves, the decade increases in the housing stock, as measured by the first differences between the census counts of nonfarm dwelling units, varies from the decade totals of nonfarm dwelling units started at least by the net addition to the housing supply of those units which (1) are nonpermanent, (2) do not include permanent housekeeping facilities, (3) are located in already standing residential structures, or (4) are located in structures not primarily intended for residential purposes.

Such units are of two general types. First, there are dwelling units in trailers, cabins, temporary war housing, garages, factories, boats, tents, etc. These units never appear in the BLS series on housekeeping dwelling unit starts. Since this study uses the BLS definitions throughout, such units are not included in the series on housekeeping dwelling units started, and expenditures on such units are not included in the series on expenditures for housekeeping dwelling units.<sup>1</sup> The net number of dwelling units of this type added to the housing stock between 1930 and 1940 has been estimated at around 500,000.<sup>2</sup> A preliminary

<sup>1</sup> It is possible that a small proportion of expenditures on these units may be included in the nonhousekeeping expenditures series.

<sup>2</sup> M. H. Naigles, *Housing and the Increase in Population*, Bureau of Labor Statistics, Serial No. R 1421, 1942. Naigles offers a reconciliation between the 1930-

estimate for the 1940-1950 decade indicates that about 700,000 such units were added during this decade.

The second major type of dwelling unit additions not included in the series on housekeeping dwelling units started consists of conversions. Conversion may either add units to or withdraw units from the housing stock, but additions to the housing inventory are generally considered to have consistently outweighed withdrawals.

Conversions involving structural changes usually, though not invariably, include provision for permanent housekeeping facilities. Conversions without structural changes usually, though again not invariably, do not involve permanent housekeeping facilities, i.e. they may not have plumbing facilities and their cooking facilities are probably limited to a gas or an electric plate.

The statistical treatment of conversions in current estimates of residential construction may be unsatisfactory but must be accepted for practical purposes. Additions to the housing supply from either structural or nonstructural conversions are not included in the series on housekeeping dwelling units started. Withdrawals through either consolidation of dwelling units or conversion of residential space to non-residential use have, of course, no statistical relationship to dwelling unit starts.

Structural conversions of residential buildings, yielding either more or less dwelling units, are conceptually included in expenditures for residential additions and alterations. Expenditures for nonstructural conversions are not included in that series, and expenditures for conversion of residential space to nonresidential use are, of course, not part of residential construction expenditures.

Estimates of conversions are highly inadequate even for current and recent periods, and only the crudest guesses are available for earlier decades.

Table A-1 lists the most important estimates of the net number of dwelling units added by conversion for the six decades between 1890 and 1949. Wickens' estimates for the 1890-1929 period and Chawner's for the 1920-1929 period are based primarily on building permit data, data from the Real Property Inventory, and reports by official bodies of several cities. All of these sources yield estimates of conversions effected primarily by remodeling or structural alteration. Naigles' estimates for the 1930-1939 period, presented in the body of the table, cover all conversions, but separate estimates of structural and nonstructural con-

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1940 increment of nonfarm dwelling units, as reported by the Bureau of the Census, and the 1930-1939 estimates of nonfarm dwelling units started, as reported by the Bureau of Labor Statistics. A similar reconciliation by the BLS for the 1940-1950 decade is available in unpublished form.

versions are given in the footnotes. The preliminary estimate of conversions in 1940-1949 covers both structural and nonstructural conversions.

A significant change in the relative importance of net conversions apparently took place around 1930. Wickens' estimates of structural conversions for 1890-1929 run at about 2 to 3 per cent, and Chawner's estimate for 1920-1929 at about 7 per cent, of the number of new

TABLE A-1

Estimates of Net Number of Dwelling Units Added to Nonfarm Housing Stock by Conversion, Number Destroyed by Demolition or Disaster Losses, and Ratio to New Private Permanent Nonfarm Housekeeping Dwelling Units Started, 1890-1949

Decade	Net Number of Dwelling Units Added by Conversion	Ratio of Converted Units to Dwelling Units Started	Dwelling Units Destroyed through Demolition or Disaster Losses	Ratio of Destroyed Units to Dwelling Units Started
1890-1899	62,000 <sup>a</sup>	2.1%	208,000 <sup>b</sup>	7.1%
1900-1909	81,000 <sup>a</sup>	2.2	297,000 <sup>b</sup>	8.2
1910-1919	103,000 <sup>a</sup>	2.9	414,000 <sup>b</sup>	11.5
1920-1929	125,000 <sup>a</sup>	1.8	580,000 <sup>b</sup>	8.3
	500,000 <sup>c</sup>	7.1	600,000 <sup>d</sup>	8.6
1930-1939	1,070,000 <sup>e</sup>	40.4	397,000 <sup>f</sup>	15.0
1940-1949	2,000,000 <sup>g</sup>	35.1	1,000,000 <sup>h</sup>	17.6

<sup>a</sup> Probably limited to structural conversions. David L. Wickens, *Residential Real Estate*, National Bureau of Economic Research, 1941, p. 54.

<sup>b</sup> Wickens, *loc. cit.*

<sup>c</sup> Probably limited to structural conversions. Lowell J. Chawner, *Residential Building*, National Resources Committee, 1939, p. 14.

<sup>d</sup> Chawner, *loc. cit.*

<sup>e</sup> Includes both structural and nonstructural conversions. Nonstructural conversions estimated at 345,000, or 13.0 per cent of new dwelling units started in decade; structural conversions estimated at 725,000, or 27.4 per cent of new dwelling units started. M. H. Naigles, *Housing and the Increase in Population*, Bureau of Labor Statistics, Serial No. R 1421, 1942, p. 12.

<sup>f</sup> Naigles, *loc. cit.*

<sup>g</sup> Includes both structural and nonstructural conversions. Preliminary estimate by an interdepartmental committee of federal agencies.

<sup>h</sup> Preliminary estimate by an interdepartmental committee of federal agencies.

private permanent nonfarm housekeeping dwelling units started, while the BLS estimates for all conversions for 1930-1949 total between 35 and 40 per cent of such units, and for structural conversions alone for 1930-1939, about 27 per cent. The 1930-1939 and the 1940-1949 decades were characterized by a high level of conversion compared with earlier decades, both because of the effects of the Great Depression of the thirties and because of the war and postwar housing shortages of the forties.

It is likely that Wickens' estimates of structural conversions are much too low, particularly in view of the fact that Chawner's estimates of structural conversions for the twenties, derived from essentially the same type of source as Wickens' estimates, are at a level about four times the estimate made by Wickens.<sup>3</sup> The true level of such conversions during the entire 1890-1929 period might have been as much as four times as high as Wickens' estimates indicate. If the 1930-1939 experience was typical of the historical relationship between structural and nonstructural conversions, the latter have amounted in the past to about 50 per cent of the former, so that total conversions in the pre-1930 period might have been about six times the number estimated by Wickens. But the extent of doubling up of families in the thirties suggests that the use of the 1930-1939 relationship would involve some overestimate of nonstructural conversions for the pre-1930 period.

The remaining elements of inventory change consist of abandonments of dwelling units and destruction of units through demolition and through fire, flood, and other disaster losses; and of reclassification of farm dwellings. The data for estimating the number of units destroyed, even for recent periods, are extremely scanty, but the estimates listed in Table A-1 seem at least to be consistent.<sup>4</sup> The number of units destroyed through demolition and disaster loss has been estimated to run at only about one-tenth of the number of new units started during the first four decades and slightly higher during the last two decades and therefore at only about .2 per cent of the standing stock of dwelling units, with no very sharp trend in the ratio to total additions to the housing stock indicated.<sup>5</sup> The estimates for the last two decades are somewhat higher than those for previous decades, except for the years 1910-1919, but not significantly so in view of the wide error margins involved. Urban redevelopment and slum clearance programs and the increasing age of the housing stock may result in a slow increase in this ratio in the future.

As to reclassification, significant numbers of farmhouses were converted to nonfarm residential use as the farm population declined and farm land was absorbed into suburban and urban development. Neither the construction nor the transfer of these units is recorded in the series on new nonfarm dwelling units started or in any of the expenditure series presented here. It has been estimated that 91,000 farm units were

<sup>3</sup> It should be pointed out that Wickens' data relate solely to the twenties and his estimates for earlier decades were simply an extrapolation based on population.

<sup>4</sup> See Appendix E for a discussion of the capital consumption allowances associated with demolitions.

<sup>5</sup> This is in some measure a result of the fact that Wickens' estimates for the 1890-1919 decades were partially based on a simple population extrapolation.

transferred to nonfarm residential use in the 1930-1940 decade.<sup>6</sup> Preliminary estimates of such transfers (including those units affected by the change in definition of farm-nonfarm residence in the 1950 census) during the 1940-1950 decade suggest a total of about 1,250,000 during this period.

<sup>6</sup> Naigles, *op. cit.*