APPENDIXES

APPENDIX A

COMPLETENESS OF ENUMERATION OF CHILDREN UNDER 5 YEARS OLD IN THE CENSUSES OF 1940 AND 1910

Underenumeration of children under 5 years old, particularly of infants under one year old, has been uniformly observed in the United States Census and in the Censuses of England and Wales and of various countries of continental Europe. Using data published by the Bureau of the Census, P. K. Whelpton of the Scripps Foundation for Population Research, has estimated the enumeration of children under 5 years old in the 1940 census to be only 93.6 percent complete for the white population and only 84.8 percent complete for the nonwhite population in the United States as a whole. These percentages are used in the present report. The Bureau of the Census has made a further study of the undercount, primarily for adjusting the fertility rates shown for subdivisions of the United States.

The enumeration of children under five years old in the 1940 census is estimated to be only 95.0 percent complete for the urban population, 94.2 percent complete for the rural-nonfarm population, and 86.8 percent complete for the rural-farm population of the United States. Considerable differences in the completeness of enumeration have been found for the several States (see tables A-1 to A-3).

The completeness of enumeration of children under 5 years old is expressed as the percentage which children enumerated in the census constitute of the "true" number of children of this age. The "true" number of children may be estimated in several different ways depending on the quality and type of basic data available. Where data permit, the best method of estimation consists of taking the number of births over the 5-year period preceding the census date, deducting the number of deaths among these infants up to the census date, adding in the number of children entering the area, and deducting the number of children leaving the area during the 5-year period.

The "true" number of children under 5 years old on April 1, 1940, was estimated for each State from data on births and subsequent infant deaths between April 1, 1935, and March 31, 1940, and from data on interstate migration of children during this 5-year period as shown by a special tabulation of State of birth for children under 5 years old enumerated in the 1940 Census. The figures on registered births were adjusted for underregistration in accordance with the results of the nation-wide birth registration test made by the Bureau of the Census in connection with the 1940 Census.[1] In the absence of more adequate information, the figures on registered infant deaths were adjusted for underregistration on the assumption that the percentage of infant deaths not registered was one-half the percentage of births not registered. Infant deaths are believed to be more completely registered than are births. The figures for migrant children were uniformly adjusted for underenumeration in accordance with the factors developed by P. K. Whelpton for the United States as a whole.

Adequate data on births, infant deaths, and migrant children for the 5-year period preceding the 1910 census date were not available. Hence, the "true" number of children under 5 years old living on April 15, 1910, had to be estimated by an indirect method.

In the computation of the "true" number of children under 5 years old on the date of the 1910 Census (April 15, 1910), both 1910 and 1930 Census data were used, as well as life tables for the periods 1909 to 1911 and 1929 to 1931. It was assumed that the enumeration of children 5 to 9 years old in the 1910 Census was substantially complete. From the number of female children in this age group shown by the 1910 census for each geographic division, with an allowance based on the life tables for subsequent mortality, the expected number of surviving women 25 to 29 years old on April 1, 1930, was computed. It was then assumed that the difference between the expected number of survivors and the number of women 25 to 29 years old actually enumerated in the 1930 Census was attributable to net migration of the women to or from the area during the preceding 20 years. It was further assumed that the women 20 to 24 years old enumerated in the 1930 Census had migrated during the preceding 20 years at the same rate as those 25 to 29 years old enumerated in the same census. It was then possible to estimate the number of women 20 to 24 years old who would have been enumerated for each area in the 1930 Census if no net migration had occurred during the preceding 20 years. With a restorative allowance for mortality, based on the life tables, the "true" number of female children under 5 years old living on April 15, 1910, could be estimated from the number of women 20 to 24 years old living on April 1, 1930, adjusted for migration. The computations were performed for geographic divisions rather than for States in order to reduce the errors which might otherwise have resulted from the use of data for small populations.

The method of estimating the "true" number of children under 5 years old living in urban, rural-nonfarm, and rural-farm areas at the census dates is even less precise than the method described above for the 1910 estimates for geographic divisions. Statistics on the urban-rural migration of children under 5 years old are scanty, but migration of this type is known to be considerably larger than the interstate or interdivisional migration. Farm or nonfarm residence cannot be determined from a birth or death certificate, and even the statistics on "urban" births and infant deaths are not always satisfactory.

The "true" number of children under 5 years old living in urban and rural areas was estimated by several different methods. No single method yielded measures of the completeness of enumeration of children under 5 years old that were internally consistent for all States, urban and rural. It was noted, however, that within regions the completeness of enumeration in the rural parts of States tended to exhibit a uniform relation to the completeness of enumeration in the corresponding urban part of the State, regardless of the method of estimation employed. Moreover, the urban-rural regional measures of completeness of enumeration formed patterns that seemed to be quite uniform for the 1940, 1930, and 1920 Census dates. A series of index numbers, based on an average of the results of several methods, was computed, wherein the completeness of enumeration in each rural-farm and rural-nonfarm area was expressed as a proportion of the completeness of enumeration in the corresponding urban area. There was one set of index numbers for whites and another for nonwhites, in each of the four regions. The same set of index numbers was used in the computation of both the 1940 and the 1910 "true" numbers of children under 5 years old, because of the similarity of the patterns mentioned above. The enumerated number of children under 5 years old in each urban and rural part of a State or geographic division was divided by the corresponding urban and rural index number. The results constituted a "provisional" estimate of the "true" number of children under 5 years old in each area. The provisional estimates for urban and rural areas were combined to secure a provisional estimate for each State or division as a whole. The "true" number of children under 5 years old in each State or division as a whole, but not by urban-rural residence, had already been estimated by the more precise methods described above. The ratio of the more precise "true" number of children under 5 years old to the provisional "true" number for the State or division was computed and applied to the index values to obtain the final measures of the completeness of enumeration in each urban and rural area.

[1] Bureau of the Census, "Studies in Completeness of Birth Registration," Vital Statistics - Special Reports, Vol. 17, No. 18.

Certain modifications of the urban and rural rates were made for the eight States for which the 1940 estimate of completeness of enumeration, made in the manner described above for urban white children under 5 years old, exceeded 100 percent. Since it was inadvisable to use factors exceeding 100 percent, the figure used for urban white women in these eight States was 100 percent, as indicated in table A-2. The figures for rural white women in these States were then recomputed, so that the urban and rural figures would be consistent with the figure for each State as a whole. The adjusted rural-nonfarm figures for two of these States also exceeded 100 percent. For these two States, 100 percent was used for both the urban and the rural-nonfarm figures and the rural-farm figures were recomputed. The fact that the estimated completeness of enumeration exceeded 100 percent for certain groups was probably a consequence of the use of rates that were too high for the completeness of birth registration in 1930 for the States involved.

Statistics on the percentage of children under 5 years old enumerated in the censuses of 1940 and 1910 are shown in tables A-1 to A-3. For 1940, statistics are presented for regions and States; for 1910 they are only shown for regions and geographic divisions since estimates by States were not made for 1910. The figures for nearly all States in 1940 are thought to be sufficiently accurate; the figures for urban and rural areas in 1940 and for all groups in 1910 should be regarded as only approximations in view of the less precise methods necessarily employed for the computations of the completeness factors.

Table A-1.—ESTIMATED PERCENTAGE OF CHILDREN UNDER 5 YEARS OLD ENUMERATED IN THE CENSUS, BY COLOR, FOR THE UNITED STATES, BY REGIONS, URBAN AND RURAL: 1940 AND 1910

CENSUS YEAR AND REGION	TOTAL			URBAN		
	All classes	White	Nonwhite	All classes	White	Nonwhite
1940						
United States	92.4	93.6	84.8	95.0	95.7	88.6
The Northeastern States	92.7	93.1	85.6	93.2	93.6	86.0
The North Central States	95.0	95.3	86.6	97.0	97.5	89.0
The South	89.9	92.3	84.1	95.0	97.1	89.1
The West	93.3	93.5	89.6	95.3	95.4	92.9
1910						
United States	92.9	94.0	84.7	97.5	97.9	89.9
The Northeastern States	96.7	96.7	94.6	97.4	97.4	95.8
The North Central States	94.2	94.2	94.2	98.1	98.2	96.5
The South	88.3	91.1	81.7	95.1	97.9	86.9
The West	94.8	95.2	85.0	98.2	98.3	94.1

CENSUS YEAR AND REGION	RURAL-NONFARM			RURAL-FARM		
	All classes	White	Nonwhite	All classes	White	Nonwhite
1940						
United States	94.2	94.9	86.3	88.8	88.5	80.5
The Northeastern States	94.3	94.6	81.7	84.4	84.4	82.4
The North Central States	94.5	94.7	86.9	91.6	91.6	87.0
The South	95.9	95.2	88.7	85.1	87.5	80.5
The West	94.8	94.9	90.7	86.8	86.8	86.2
1910						
United States	95.1	96.1	89.3	87.0	88.4	80.9
The Northeastern States	98.5	98.4	91.0	87.7	87.7	90.9
The North Central States	94.2	94.2	91.7	90.3	90.3	91.7
The South	93.2	96.0	86.9	84.5	87.2	78.2
The West	96.7	97.3	84.7	88.1	88.5	80.0

Table A-2.—ESTIMATED PERCENTAGE OF WHITE AND NONWHITE CHILDREN UNDER 5 YEARS OLD ENUMERATED IN THE CENSUS, FOR STATES, URBAN AND RURAL: 1940

(Statistics are shown only for those color groups for which 1935 to 1940 reproduction rates are presented in table 11)

STATE	TOTAL		URBAN		RURAL-NONFARM		RURAL-FARM	
	White	Nonwhite	White	Nonwhite	White	Nonwhite	White	Nonwhite
Alabama	91.6	85.5	97.9	91.0	96.0	-	87.1	81.9
Arizona	92.6	-	94.9	-	93.9	-	-	-
Arkansas	93.8	80.4	100.0	-	99.6	-	90.4	77.9
California	92.3	-	93.6	-	92.6	-	84.2	-
Colorado	94.8	-	97.9	-	96.9	-	88.1	-
Connecticut	94.0	-	94.2	-	95.2	-	-	-
Delaware	93.9	-	-	-	-	-	-	-
District of Columbia	[1]95.3	-	[1]95.8	-	-	-	-	-
Florida	90.3	86.8	93.2	-	91.4	88.6	83.0	-
Georgia	91.5	80.0	97.4	85.1	95.4	-	86.7	78.6
Idaho	95.7	-	100.0	-	99.2	-	90.1	-
Illinois	93.7	84.6	95.6	-	91.8	-	88.0	-
Indiana	95.0	-	98.0	-	94.1	-	90.2	-
Iowa	97.6	-	100.0	-	99.0	-	94.9	-
Kansas	96.8	-	100.0	-	97.5	-	93.4	-
Kentucky	93.5	-	99.7	-	97.7	-	88.7	-
Louisiana	94.8	86.9	99.5	92.2	97.5	-	88.5	82.9
Maine	93.1	-	93.8	-	94.8	-	84.4	-
Maryland	[1]91.7	82.0	[1]95.3	-	[1]93.4	-	[1]84.9	-
Massachusetts	94.6	-	94.7	-	95.7	-	-	-
Michigan	94.7	-	97.0	-	95.2	-	89.3	-
Minnesota	97.5	-	100.0	-	98.5	-	94.4	-
Mississippi	93.8	83.6	-	-	99.6	-	90.4	81.9
Missouri	94.6	-	98.5	-	94.5	-	90.6	-
Montana	94.5	-	98.2	-	97.2	-	88.4	-
Nebraska	98.0	-	100.0	-	99.7	-	95.8	-
Nevada	-	-	-	-	-	-	-	-
New Hampshire	95.3	-	96.1	-	97.1	-	-	-
New Jersey	91.2	-	91.5	-	92.5	-	-	-
New Mexico	87.9	-	91.4	-	90.5	-	82.2	-
New York	93.2	86.1	93.7	88.4	94.7	-	84.3	-
North Carolina	90.9	82.3	96.9	-	95.0	-	86.3	78.9
North Dakota	96.9	-	-	-	99.0	-	94.9	-
Ohio	94.2	88.6	96.5	89.2	92.7	-	88.8	-
Oklahoma	96.8	-	100.0	-	100.0	-	93.2	-
Oregon	96.1	-	99.1	-	98.1	-	89.2	-
Pennsylvania	92.6	83.7	93.4	84.3	94.3	-	84.1	-
Rhode Island	93.7	-	93.8	-	-	-	-	-
South Carolina	93.2	79.9	98.7	-	98.7	-	87.8	77.3
South Dakota	98.0	-	100.0	-	100.0	-	96.2	-
Tennessee	92.8	89.5	99.0	-	97.0	-	88.1	-
Texas	92.1	88.1	96.8	92.9	94.7	-	86.0	83.6
Utah	97.4	-	99.6	-	98.6	-	89.6	-
Vermont	93.7	-	-	-	97.4	-	-	-
Virginia	[1]91.7	85.5	[1]95.3	-	[1]93.4	-	[1]84.9	80.9
Washington	95.8	-	98.2	-	97.2	-	88.4	-
West Virginia	87.2	-	91.5	-	89.5	-	81.3	-
Wisconsin	95.7	-	99.1	-	95.1	-	91.2	-
Wyoming	92.8	-	-	-	-	-	-	-

[1] Figures shown are for the District of Columbia (entirely urban), Maryland, and Virginia combined.

Table A-3.—ESTIMATED PERCENTAGE OF WHITE AND NONWHITE CHILDREN UNDER 5 YEARS OLD ENUMERATED IN THE CENSUS, FOR DIVISIONS, URBAN AND RURAL: 1910

(Except for the three southern divisions, statistics for nonwhite were not computed for areas smaller than regions, urban and rural)

GEOGRAPHIC DIVISION	TOTAL		URBAN		RURAL-NONFARM		RURAL-FARM	
	White	Nonwhite	White	Nonwhite	White	Nonwhite	White	Nonwhite
New England	95.8	-	96.5	-	97.5	-	86.9	-
Middle Atlantic	96.9	-	97.6	-	98.5	-	87.9	-
East North Central	95.5	-	98.7	-	94.8	-	90.8	-
West North Central	91.8	-	96.8	-	92.9	-	89.0	-
South Atlantic	91.4	78.8	97.5	85.4	95.6	85.4	86.8	75.1
East South Central	89.7	83.3	97.1	89.4	95.2	89.4	86.4	80.4
West South Central	91.6	85.4	98.7	90.6	96.7	90.6	87.8	81.6
Mountain	94.7	-	98.5	-	97.5	-	88.6	-
Pacific	95.4	-	98.0	-	97.0	-	88.2	-

APPENDIX B

PROPORTION OF ALL CHILDREN UNDER 5 YEARS OLD AND 5 TO 9 YEARS OLD REPRESENTED IN SAMPLE C (1940) AND SAMPLE W (1910)

Although women of specified ages are fully represented in both Sample C and Sample W, children under 5 years old and 5 to 9 years old are somewhat underrepresented. In the classification of women by number of children under 5 years old and 5 to 9 years old, only those children presumably born to the woman and living in the same household as their mothers at the time of the census were counted. No children whose mothers were not living in the household were included in the samples. (See section on "Children under 5 years old".) In the computation of certain fertility rates for women during the periods when the children were born, an allowance was made for children not represented in the samples. If this allowance had not been made, the fertility rates would have been too low.

Table B-1.—PERCENTAGE OF ALL CHILDREN UNDER 5 YEARS OLD AND 5 TO 9 YEARS OLD REPRESENTED IN SAMPLE C, BY COLOR, FOR THE UNITED STATES, BY REGIONS, URBAN AND RURAL: 1940

(Statistics are shown only for those color groups for which 1930 to 1935 or 1935 to 1940 reproduction rates are presented in table 7)

REGION AND AGE OF CHILD (YEARS)	TOTAL			URBAN		
	All classes	White	Nonwhite	All classes	White	Nonwhite
CHILDREN UNDER 5						
United States	96.1	97.1	88.3	96.4	97.3	88.4
The Northeastern States	96.5	96.7	91.9	97.1	97.3	92.4
The North Central States	97.0	97.2	90.0	96.9	97.3	90.2
The South	94.8	97.4	87.5	94.5	97.0	85.9
The West	97.1	97.3	95.4	97.1	97.2	96.0
CHILDREN 5 TO 9						
United States	93.4	94.7	84.0	94.2	95.1	84.8
The Northeastern States	94.5	94.8	87.2	94.9	95.4	87.0
The North Central States	95.4	95.6	87.4	95.2	95.8	88.2
The South	90.9	93.7	83.0	91.0	94.0	82.5
The West	94.0	94.3	89.7	94.6	94.6	-

REGION AND AGE OF CHILD (YEARS)	RURAL-NONFARM			RURAL-FARM		
	All classes	White	Nonwhite	All classes	White	Nonwhite
CHILDREN UNDER 5						
United States	96.1	96.9	87.5	95.8	97.2	88.0
The Northeastern States	94.7	94.9	-	95.0	95.0	-
The North Central States	97.2	97.3	-	96.6	96.7	-
The South	95.6	97.5	87.2	94.6	97.7	87.7
The West	97.3	97.7	-	97.5	97.6	99.2
CHILDREN 5 TO 9						
United States	92.9	93.9	83.6	92.3	94.1	83.1
The Northeastern States	93.8	94.0	-	92.8	92.3	-
The North Central States	95.3	95.4	-	95.3	95.4	-
The South	91.2	93.0	83.4	90.7	94.2	82.7
The West	92.7	93.1	-	95.3	95.7	93.1

The method used to estimate the proportion of all enumerated children who were not represented in the sample data may be briefly described. Age-specific ratios of children to women were computed from the sample data. These ratios were then applied to the numbers of women at each corresponding age level in the complete count. The sum of these products constituted an estimate of the number of children living with their mothers, such as would have been expected from data based on a complete count. The total number of children enumerated was, of course, available from the complete counts. The proportion of all enumerated children represented in the sample data was obtained by dividing the estimated number of children living with their mothers, by the corresponding number of children enumerated in the complete count.

Tables B-1 and B-2 show the percentage of all enumerated children under 5 years old and 5 to 9 years old represented in Sample C and Sample W, respectively, by color of child, for the United States by regions, urban and rural. Table B-3 presents corresponding percentages for Sample C for cities of 250,000 inhabitants or more, and for metropolitan districts of cities of 1,000,000 inhabitants or more. Tables B-3 and B-4 show the percentages for Samples C and W, respectively, for States, urban and rural.

Table B-2.—PERCENTAGE OF ALL CHILDREN UNDER 5 YEARS OLD REPRESENTED IN SAMPLE W, BY COLOR, FOR THE UNITED STATES, BY REGIONS, URBAN AND RURAL: 1910

(Statistics are not available separately for rural-nonfarm and rural-farm areas. Statistics are shown only for those color groups for which 1905 to 1910 reproduction rates are presented in table 7; statistics are shown for "rural" if reproduction rates are presented in table 7 for either rural-nonfarm or rural-farm)

REGION	TOTAL			URBAN			RURAL		
	All classes	White	Nonwhite	All classes	White	Nonwhite	All classes	White	Nonwhite
United States	95.5	96.7	86.4	95.9	96.6	86.4	94.6	96.8	86.5
The Northeastern States	96.1	96.3	86.5	96.0	96.3	85.7	94.1	94.2	-
The North Central States	97.0	97.2	88.0	97.1	97.2	85.8	95.9	97.0	-
The South	93.7	96.8	86.3	94.2	96.8	86.3	93.8	96.9	86.4
The West	96.0	96.1	90.2	95.9	96.2	88.3	96.4	96.6	91.3

In interpreting the figures in these tables it should be borne in mind that "all enumerated children" include not only children living with mothers 15 to 49 years old and children whose mothers are dead, but also a small number of children under 5 whose mothers were under 15 or over 49 years old at the time of the census; and a small number of children 5 to 9 years old whose mothers were under 20 or over 54 years old at the time of the census.

Table B-3.—PERCENTAGE OF ALL WHITE AND NONWHITE CHILDREN UNDER 5 YEARS OLD REPRESENTED IN SAMPLE C, FOR CITIES OF 250,000 INHABITANTS OR MORE, AND FOR METROPOLITAN DISTRICTS OF CITIES OF 1,000,000 INHABITANTS OR MORE: 1940

(Statistics are shown only for those color groups for which reproduction rates are presented in table 13)

AREA	White	Nonwhite	AREA	White	Nonwhite
CITIES					
Atlanta, Ga.	95.9	-	Oakland, Calif.	98.6	-
Baltimore, Md.	96.5	-	Philadelphia, Pa.	98.3	-
Birmingham, Ala.	97.5	-	Pittsburgh, Pa.	96.4	-
Boston, Mass.	96.8	-	Portland, Oreg.	104.8	-
Buffalo, N. Y.	100.8	-	Providence, R. I.	88.1	-
Chicago, Ill.	96.2	-	Rochester, N. Y.	97.1	-
Cincinnati, Ohio	97.1	-	St. Louis, Mo.	98.8	-
Cleveland, Ohio	97.6	-	St. Paul, Minn.	98.9	-
Columbus, Ohio	99.8	-	San Antonio, Tex.	100.9	-
Dallas, Tex.	91.5	-	San Francisco, Calif.	98.1	-
Denver, Colo.	99.1	-	Seattle, Wash.	99.0	-
Detroit, Mich.	101.1	-	Toledo, Ohio	97.4	-
Houston, Tex.	100.3	-	Washington, D. C.	95.4	-
Indianapolis, Ind.	98.5	-			
Jersey City, N. J.	102.3	-	METROPOLITAN DISTRICTS		
Kansas City, Mo.	98.1	-			
Los Angeles, Calif.	94.3	-	Chicago Metropolitan Dist.	97.1	-
Louisville, Ky.	91.8	-	Detroit Metropolitan Dist.	99.3	-
Memphis, Tenn.	103.4	-	Los Angeles Metropolitan District	96.8	-
Milwaukee, Wis.	100.2	-	New York-Northeastern New Jersey Metropolitan Dist.	97.2	92.9
Minneapolis, Minn.	92.9	-	Philadelphia Metropolitan District	96.9	-
Newark, N. J.	96.1	-			
New Orleans, La.	98.8	-			
New York, N. Y.	97.3	94.8			

Furthermore, the results are subject to some sampling variations, since the fertility rates used were those based on Sample C and Sample W. In a few instances, a percentage greater than 100 appears in the tables. This situation arises from the fact that the women in the sample data happened to have, on the average, more children than women in the complete count. In some other instances, the percentage shown for a State is not intermediate between the corresponding percentages for urban and rural portions of that State. This situation arises from the fact that the distribution of women by urban and rural residence in the sample differed slightly from that in the complete count.

Table B-4.—PERCENTAGE OF ALL WHITE AND NONWHITE CHILDREN UNDER 5 YEARS OLD REPRESENTED IN SAMPLE C, FOR STATES, URBAN AND RURAL: 1940

(Statistics are shown only for those color groups for which 1935 to 1940 reproduction rates are presented in table 11)

STATE	TOTAL		URBAN		RURAL-NONFARM		RURAL-FARM	
	White	Nonwhite	White	Nonwhite	White	Nonwhite	White	Nonwhite
Alabama	97.6	85.1	98.6	83.6	97.8	-	97.5	87.4
Arizona	95.4	-	91.6	-	95.4	-	-	-
Arkansas	95.4	86.7	94.9	-	91.2	-	96.7	86.7
California	97.6	-	96.2	-	101.3	-	98.9	-
Colorado	98.3	-	101.4	-	96.2	-	98.2	-
Connecticut	97.5	-	98.2	-	94.1	-	-	-
Delaware	92.9	-	-	-	-	-	-	-
District of Columbia	95.4	-	-	-	-	-	-	-
Florida	95.6	86.9	95.1	-	96.0	89.1	95.4	-
Georgia	96.0	89.2	97.0	80.9	94.2	-	96.9	90.9
Idaho	96.2	-	99.2	-	91.5	-	97.8	-
Illinois	96.3	92.5	95.6	-	96.5	-	98.7	-
Indiana	95.0	-	96.9	-	93.3	-	92.8	-
Iowa	98.7	-	98.7	-	98.6	-	98.5	-
Kansas	96.5	-	99.5	-	94.6	-	93.8	-
Kentucky	97.7	-	93.8	-	96.4	-	99.7	-
Louisiana	101.2	91.8	97.0	96.1	105.7	-	101.9	90.1
Maine	96.9	-	97.2	-	98.5	-	91.6	-
Maryland	96.9	87.1	94.7	-	97.6	-	104.5	-
Massachusetts	97.1	-	97.1	-	94.1	-	-	-
Michigan	98.7	-	98.4	-	99.4	-	97.6	-
Minnesota	94.9	-	95.9	-	96.0	-	93.8	-
Mississippi	97.7	89.4	-	-	99.5	-	97.5	89.5
Missouri	99.2	-	97.9	-	104.5	-	98.5	-
Montana	97.5	-	94.1	-	101.0	-	97.7	-
Nebraska	97.5	-	97.0	-	98.5	-	97.2	-
Nevada	-	-	-	-	-	-	-	-
New Hampshire	96.9	-	100.3	-	95.2	-	-	-
New Jersey	96.6	-	97.2	-	93.5	-	-	-
New Mexico	92.3	-	92.3	-	91.5	-	93.7	-
New York	97.8	95.6	97.7	94.8	98.1	-	98.0	-
North Carolina	97.1	84.8	99.5	-	96.8	-	96.9	85.1
North Dakota	94.7	-	-	-	94.3	-	96.2	-
Ohio	97.6	92.2	97.8	91.3	96.5	-	97.0	-
Oklahoma	99.4	-	97.1	-	100.8	-	100.7	-
Oregon	98.1	-	104.5	-	96.1	-	91.0	-
Pennsylvania	95.2	93.7	96.5	92.0	92.9	-	93.7	-
Rhode Island	94.9	-	95.2	-	-	-	-	-
South Carolina	97.5	85.8	97.6	-	100.0	-	96.4	86.2
South Dakota	98.4	-	97.3	-	98.5	-	98.8	-
Tennessee	96.6	89.1	97.2	-	96.0	-	98.4	-
Texas	98.6	82.9	98.8	85.5	98.1	-	99.2	82.9
Utah	98.7	-	96.2	-	96.9	-	-	-
Vermont	94.3	-	-	-	92.5	-	-	-
Virginia	96.1	87.5	96.9	-	96.4	-	93.0	88.9
Washington	99.9	-	100.3	-	98.8	-	99.8	-
West Virginia	96.2	-	99.2	-	96.8	-	93.5	-
Wisconsin	97.0	-	98.0	-	94.9	-	97.2	-
Wyoming	93.5	-	-	-	-	-	-	-

Table B-5.—PERCENTAGE OF ALL WHITE AND NONWHITE CHILDREN UNDER 5 YEARS OLD REPRESENTED IN SAMPLE W, FOR STATES, URBAN AND RURAL: 1910

(Statistics are not available separately for rural-nonfarm and rural-farm areas. Statistics are shown only for those color groups for which 1905 to 1910 reproduction rates are presented in table 11; statistics are shown for "rural" if reproduction rates are presented in table 11 for either rural-nonfarm or rural-farm)

STATE	TOTAL		URBAN		RURAL	
	White	Nonwhite	White	Nonwhite	White	Nonwhite
Alabama	96.0	87.0	98.5	89.9	95.4	86.6
Arizona	95.9	-	99.2	-	94.6	-
Arkansas	97.6	87.4	93.5	-	97.7	87.8
California	94.9	-	95.5	-	94.6	-
Colorado	96.1	-	96.8	-	95.5	-
Connecticut	96.3	-	[1]	-	[1]	-
Delaware	96.0	-	-	-	-	-
District of Columbia	92.5	-	-	-	-	-
Florida	93.7	90.1	99.1	-	92.3	-
Georgia	97.5	87.5	95.0	81.2	97.7	88.4
Idaho	97.6	-	97.0	-	98.3	-
Illinois	97.1	80.0	96.9	-	97.1	-
Indiana	96.7	-	96.4	-	96.4	-
Iowa	98.6	-	98.7	-	98.7	-
Kansas	97.3	-	97.6	-	97.3	-
Kentucky	96.7	-	97.1	-	96.5	-
Louisiana	99.1	88.7	99.2	87.4	99.0	89.7
Maine	95.0	-	[1]	-	[1]	-
Maryland	94.6	85.6	95.2	-	94.1	-
Massachusetts	96.9	-	96.5	-	96.4	-
Michigan	96.3	-	96.9	-	95.7	-
Minnesota	98.1	-	97.4	-	98.2	-
Mississippi	95.5	84.2	-	-	94.9	84.1
Missouri	96.5	-	96.8	-	96.5	-
Montana	98.8	-	98.3	-	96.7	-
Nebraska	98.4	-	98.2	-	98.4	-
Nevada	-	-	-	-	-	-
New Hampshire	97.5	-	99.7	-	93.3	-
New Jersey	95.6	-	95.9	-	94.4	-
New Mexico	97.2	-	102.0	-	96.3	-
New York	96.4	85.8	96.2	85.4	97.1	-
North Carolina	96.5	84.8	97.8	-	96.5	84.7
North Dakota	97.5	-	-	-	97.5	-
Ohio	97.5	83.6	98.5	85.5	96.1	-
Oklahoma	99.6	-	99.3	-	99.6	-
Oregon	96.5	-	95.6	-	98.2	-
Pennsylvania	96.6	88.7	97.3	90.0	95.5	-
Rhode Island	92.5	-	91.8	-	-	-
South Carolina	97.2	86.9	97.5	-	97.1	86.7
South Dakota	96.6	-	97.2	-	96.6	-
Tennessee	96.7	87.1	100.1	-	96.4	-
Texas	97.0	88.1	95.3	85.7	97.6	88.2
Utah	98.4	-	96.5	-	99.0	-
Vermont	93.3	-	[1]	-	[1]	-
Virginia	95.8	85.6	97.8	-	95.3	85.8
Washington	98.3	-	98.4	-	98.7	-
West Virginia	97.0	-	95.9	-	97.0	-
Wisconsin	96.9	-	96.6	-	97.6	-
Wyoming	98.2	-	-	-	-	-

[1] Percentages for urban and rural parts of the State are not shown, because of differences between Sample W and the complete count in the definition of urban and rural population.

APPENDIX C

LIFE-TABLE STATIONARY POPULATION FOR FEMALES UNDER 55 YEARS OLD, 1930 TO 1939 AND 1909 TO 1911

In the computation of reproduction rates and other fertility rates based on numbers of women and their children under 5 years old and 5 to 9 years old, a restorative allowance was made for deaths among both the children and the women between the period when the children were born and the date of the census. The allowance for mortality was based on the stationary population, or the L_x column, of specially prepared life tables. For most of the fertility measures, only the L_x values for females under 55 years old were required for the computations. These L_x values are presented in tables C-1 to C-3. The life table values for rural areas were applied to women in both rural-nonfarm and rural-farm areas.

The majority of the life tables used for the present report were computed by the somewhat less precise abridged or indirect methods and are adequate for the purpose at hand, but are subject to greater error than the life tables elsewhere published by the Bureau. In particular, the life tables for the period 1909 to 1911 should be regarded only as approximations to the true mortality conditions prevailing at that time. Adequate death statistics were available only for those States in the Death Registration Area of the United States. Between 1909 and 1911 only about a fourth of the States were included in the Death Registration Area. The death rates on which the life tables are based had to be estimated for States not in the Death Registration Area from 1909 to 1911. The estimates were based on the number of deaths, classified by color, sex, and age, enumerated for each State in the census of 1900, and from the known trend in death rates between 1900 and 1911 for the Death Registration Area.

As a check on the method, age-specific death rates, estimated from 1900 census data were projected to 1909-1911 for each of the States in the Death Registration Area of 1910. The resulting estimates for 1909-1911 death rates were compared with corresponding rates computed from actual death statistics for 1909-1911, and were found to be in satisfactory agreement. In addition, the white and nonwhite life tables for 1909-1911 were compared with life tables available for other countries during this period. The statistics for nonwhites in the West, for instance, were not greatly different from those in a life table for Indians in Mexico at about this time.

Table C-1.—LIFE-TABLE STATIONARY POPULATION (ΣL_x) FOR FEMALES UNDER 55 YEARS OLD, BY AGE AND COLOR, FOR THE UNITED STATES, BY REGIONS, URBAN AND RURAL: 1930 TO 1939

(The radix of each life table is 10,000; that is, the figures may be interpreted as the number of years lived in the stated age interval by the survivors of 10,000 female births)

COLOR AND AGE (x)	UNITED STATES			THE NORTHEASTERN STATES			THE NORTH CENTRAL STATES			THE SOUTH			THE WEST		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
All Classes															
Under 5 years	47,236	47,357	47,135	47,512	47,540	47,456	47,627	47,647	47,596	46,830	46,418	46,995	47,196	47,569	46,828
Under 1 year	9,609	9,622	9,599	9,640	9,641	9,636	9,659	9,660	9,657	9,561	9,502	9,584	9,807	9,855	9,561
1 year	9,486	9,489	9,447	9,516	9,521	9,506	9,540	9,544	9,534	9,390	9,312	9,422	9,459	9,535	9,399
2 years	9,415	9,443	9,391	9,478	9,484	9,461	9,500	9,506	9,492	9,326	9,240	9,360	9,406	9,495	9,325
3 years	9,384	9,413	9,360	9,450	9,458	9,435	9,474	9,480	9,466	9,289	9,198	9,326	9,374	9,465	9,289
4 years	9,362	9,390	9,338	9,430	9,436	9,418	9,454	9,457	9,447	9,264	9,166	9,303	9,350	9,443	9,264
5 to 9 years	46,577	46,700	46,479	46,931	46,956	46,917	47,051	47,048	47,053	46,069	45,503	46,293	46,503	46,991	46,057
10 to 14 years	46,293	46,407	46,223	46,690	46,696	46,674	46,780	46,770	46,807	45,768	45,109	46,035	46,197	46,706	45,725
15 to 19 years	45,931	46,038	45,869	46,382	46,396	46,367	46,462	46,453	46,497	45,316	44,544	45,648	45,650	46,342	45,354
20 to 24 years	45,335	45,440	45,261	45,921	45,943	45,901	45,988	45,958	46,003	44,584	43,841	44,955	45,266	45,785	44,776
25 to 29 years	44,599	44,705	44,509	45,321	45,343	45,299	45,341	45,326	45,389	43,582	42,583	44,089	44,583	45,093	44,097
30 to 34 years	43,783	43,897	43,696	44,625	44,635	44,610	44,626	44,593	44,693	42,541	41,433	43,166	43,827	44,314	43,349
35 to 39 years	42,813	42,905	42,762	43,785	43,775	43,792	43,756	43,700	43,824	41,321	40,069	42,088	42,956	43,409	42,529
40 to 44 years	41,675	41,883	41,666	42,684	42,666	42,797	42,685	42,582	42,945	39,875	38,435	40,817	41,950	42,550	41,590
45 to 49 years	40,179	40,152	40,344	41,206	41,164	41,517	41,337	41,135	41,756	38,185	36,467	39,352	40,656	40,991	40,418
50 to 54 years	38,251	38,029	38,626	39,160	39,037	39,787	39,537	39,181	40,190	36,072	33,988	37,539	39,001	39,235	38,926
White															
Under 5 years	47,458	47,550	47,373	47,588	47,611	47,528	47,706	47,742	47,668	47,195	46,893	47,528	47,332	47,631	47,021
Under 1 year	9,639	9,647	9,631	9,650	9,652	9,646	9,669	9,672	9,666	9,613	9,569	9,655	9,621	9,658	9,581
1 year	9,509	9,526	9,494	9,531	9,535	9,520	9,555	9,562	9,548	9,464	9,407	9,490	9,484	9,541	9,424
2 years	9,463	9,485	9,443	9,493	9,499	9,477	9,517	9,527	9,507	9,404	9,343	9,431	9,456	9,502	9,368
3 years	9,434	9,457	9,413	9,467	9,475	9,451	9,492	9,501	9,482	9,369	9,302	9,397	9,407	9,478	9,336
4 years	9,413	9,435	9,392	9,447	9,452	9,434	9,473	9,480	9,465	9,345	9,272	9,375	9,384	9,454	9,312
5 to 9 years	46,846	46,937	46,761	47,024	47,036	46,997	47,152	47,164	47,143	46,488	46,048	46,672	46,687	47,046	46,318
10 to 14 years	46,584	46,669	46,519	46,770	46,777	46,760	46,886	46,894	46,870	46,216	45,684	46,439	46,392	46,765	46,014
15 to 19 years	46,281	46,368	46,218	46,478	46,503	46,463	46,595	46,614	46,570	45,886	45,275	46,151	46,044	46,420	45,671
20 to 24 years	45,804	45,892	45,725	46,080	46,094	46,015	46,148	46,181	46,127	45,351	44,669	45,663	45,517	45,887	45,148
25 to 29 years	45,200	45,287	45,112	45,507	45,557	45,428	45,581	45,624	45,533	44,887	43,949	45,049	44,864	45,216	44,519
30 to 34 years	44,519	44,603	44,433	44,859	44,914	44,781	44,924	44,976	44,859	43,939	43,129	44,365	44,128	44,461	43,809
35 to 39 years	43,708	43,777	43,641	44,088	44,121	43,979	44,144	44,192	44,081	43,064	42,182	43,554	43,280	43,577	43,025
40 to 44 years	42,713	42,750	42,706	43,055	43,094	43,021	43,178	43,198	43,156	42,033	41,062	42,597	42,277	42,515	42,112
45 to 49 years	41,423	41,388	41,544	41,701	41,672	41,773	41,924	41,871	42,003	40,786	39,659	41,478	41,050	41,201	40,970
50 to 54 years	39,657	39,461	39,999	39,694	39,623	40,050	40,212	40,040	40,672	39,219	37,808	40,079	39,398	39,471	39,356
Nonwhite															
Under 5 years	45,708	45,568	45,782	45,866	46,143	43,739	45,562	46,060	43,552	45,775	44,903	46,095	44,522	46,252	43,535
Under 1 year	9,409	9,387	9,421	9,419	9,455	9,144	9,401	9,482	9,155	9,411	9,293	9,455	9,342	9,560	9,260
1 year	9,163	9,136	9,178	9,192	9,246	8,778	9,145	9,241	8,760	9,174	9,006	9,237	8,912	9,284	8,767
2 years	9,084	9,057	9,098	9,122	9,183	8,655	9,052	9,162	8,606	9,100	8,915	9,188	8,758	9,179	8,585
3 years	9,041	9,011	9,056	9,081	9,144	8,600	9,000	9,114	8,588	9,059	8,864	9,130	8,680	9,127	8,492
4 years	9,011	8,977	9,029	9,052	9,115	8,562	8,963	9,081	8,495	9,031	8,827	9,108	8,630	9,095	8,451
5 to 9 years	44,784	44,563	44,884	44,874	45,289	42,402	44,491	45,082	42,004	44,882	43,780	45,287	42,710	45,118	41,616
10 to 14 years	44,386	44,140	44,545	44,540	44,880	41,786	43,995	44,631	41,342	44,513	43,318	44,958	42,112	44,598	41,005
15 to 19 years	43,584	43,178	43,872	43,711	44,100	40,862	43,018	43,712	40,269	43,737	42,524	44,299	41,272	43,835	40,114
20 to 24 years	42,160	41,535	42,592	42,347	42,748	39,236	41,455	42,182	38,411	42,519	40,628	43,065	40,010	42,898	38,644
25 to 29 years	40,464	39,728	40,996	40,748	41,182	37,404	39,689	40,420	36,386	40,594	38,740	41,510	38,563	41,427	36,886
30 to 34 years	38,652	37,918	39,295	39,105	39,579	35,509	37,878	38,634	34,302	38,745	36,795	39,851	37,154	40,140	35,195
35 to 39 years	36,583	35,775	37,363	37,253	37,731	33,386	35,799	36,555	31,966	36,801	34,477	37,937	35,899	38,751	33,585
40 to 44 years	34,165	33,184	35,190	34,994	35,478	31,039	33,344	34,077	29,450	34,112	31,686	35,792	34,128	37,103	32,019
45 to 49 years	31,294	30,141	32,753	32,138	32,619	28,334	30,419	31,149	26,693	31,238	28,594	35,546	32,224	35,044	30,259
50 to 54 years	27,851	26,296	29,782	28,800	28,998	25,382	26,861	27,496	23,755	27,784	24,591	30,418	29,905	32,581	28,256

Table C-2.—LIFE-TABLE STATIONARY POPULATION (ΣL_x) FOR FEMALES UNDER 55 YEARS OLD, BY AGE AND COLOR, FOR THE UNITED STATES, BY REGIONS, URBAN AND RURAL: 1909 TO 1911

(The radix of each life table is 10,000; that is, the figures may be interpreted as the number of years lived in the stated age interval by the survivors of 10,000 female births)

COLOR AND AGE (x)	UNITED STATES			THE NORTHEASTERN STATES			THE NORTH CENTRAL STATES			THE SOUTH			THE WEST		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
All classes															
Under 5 years	44,102	43,249	44,674	43,457	42,981	44,818	45,555	44,705	46,142	43,076	39,342	43,825	45,266	45,205	45,307
Under 1 year	9,317	9,237	9,370	9,218	9,169	9,360	9,476	9,393	9,534	9,219	8,863	9,298	9,453	9,460	9,449
1 year	8,884	8,753	8,985	8,746	8,659	8,995	9,155	9,003	9,260	8,701	8,024	8,835	9,110	9,108	9,112
2 years	8,717	8,526	8,845	8,581	8,476	8,880	9,035	8,847	9,185	8,488	7,645	8,657	8,977	8,961	8,987
3 years	8,625	8,415	8,766	8,489	8,375	8,814	8,988	8,761	9,111	8,374	7,465	8,558	8,895	8,871	8,910
4 years	8,559	8,358	8,708	8,423	8,302	8,769	8,921	8,699	9,072	8,294	7,345	8,487	8,831	8,805	8,849
5 to 9 years	42,164	40,977	42,980	41,531	40,877	43,404	44,124	42,880	44,954	40,695	35,570	41,743	43,528	43,354	43,627
10 to 14 years	41,494	40,239	42,373	40,964	40,276	42,905	43,585	42,246	44,472	39,838	34,370	40,984	42,851	42,649	42,981
15 to 19 years	40,653	39,395	41,541	40,394	39,708	42,330	42,934	41,802	43,849	38,627	32,869	39,876	42,071	41,894	42,181
20 to 24 years	39,876	38,180	40,203	39,564	38,902	41,449	41,957	40,671	42,845	36,733	30,794	38,095	40,943	40,786	41,055
25 to 29 years	37,959	36,789	38,722	38,531	37,891	40,380	40,809	39,580	41,691	34,659	28,675	36,133	39,642	39,452	39,811
30 to 34 years	36,396	35,216	37,255	37,334	36,677	39,269	39,579	38,283	40,544	32,445	26,298	34,102	38,318	38,028	38,623
35 to 39 years	34,699	33,452	35,656	35,951	35,256	38,059	38,228	36,829	39,350	30,048	23,719	31,937	36,869	36,416	37,384
40 to 44 years	32,941	31,574	34,071	34,420	33,661	36,756	36,797	35,250	38,095	27,700	21,251	29,814	35,305	34,692	36,053
45 to 49 years	31,057	29,503	32,437	32,648	31,792	35,314	35,201	33,445	36,736	25,389	18,760	27,748	33,562	32,751	34,575
50 to 54 years	28,876	27,091	30,364	30,499	29,507	33,573	33,318	31,297	35,134	22,908	16,120	25,519	31,486	30,439	32,813
White															
Under 5 years	44,461	43,552	45,155	43,542	43,055	44,918	45,630	44,773	46,216	43,653	40,461	44,333	45,809	45,494	46,039
Under 1 year	9,357	9,268	9,426	9,228	9,178	9,372	9,485	9,401	9,542	9,294	8,989	9,356	9,515	9,492	9,532
1 year	8,952	8,788	9,078	8,763	8,674	9,015	9,169	9,016	9,274	8,816	8,242	8,936	9,213	9,162	9,250
2 years	8,795	8,594	8,949	8,599	8,492	8,902	9,052	8,862	9,181	8,612	7,898	8,765	9,096	9,026	9,147
3 years	8,709	8,487	8,878	8,509	8,392	8,837	8,985	8,777	9,128	8,503	7,723	8,671	9,022	8,939	9,082
4 years	8,648	8,415	8,826	8,443	8,319	8,792	8,939	8,717	9,091	8,428	7,611	8,605	8,963	8,875	9,028
5 to 9 years	42,656	41,383	43,630	41,633	40,967	43,530	44,223	42,979	45,060	41,416	36,942	42,391	44,225	43,717	44,574
10 to 14 years	42,037	40,676	43,090	41,070	40,372	43,052	43,705	42,357	44,600	40,629	35,806	41,697	43,583	43,033	43,965
15 to 19 years	41,348	39,960	42,437	40,527	39,819	42,496	43,088	41,745	43,992	39,712	34,661	40,848	42,871	42,304	43,279
20 to 24 years	40,313	38,938	41,388	39,713	39,029	41,635	42,150	40,865	43,008	38,298	33,155	39,495	41,783	41,214	42,228
25 to 29 years	39,083	37,707	40,160	38,708	38,040	40,579	41,036	39,794	41,873	36,596	31,381	37,876	40,497	39,883	41,017
30 to 34 years	37,753	36,307	38,929	37,547	36,859	39,482	39,843	38,577	40,748	34,780	29,386	36,212	39,197	38,477	39,874
35 to 39 years	36,267	34,725	37,601	36,196	35,476	38,292	38,558	37,183	39,571	32,766	27,189	34,371	37,756	36,876	38,654
40 to 44 years	34,644	32,976	36,191	34,690	33,819	37,012	37,157	35,656	38,335	30,594	24,878	32,390	36,211	35,159	37,365
45 to 49 years	32,844	30,989	34,668	32,942	32,074	35,582	35,576	33,889	36,984	28,376	22,451	30,398	34,466	33,221	35,903
50 to 54 years	30,735	28,645	32,902	30,806	29,810	33,841	33,729	31,780	35,596	26,005	19,826	28,267	32,374	30,910	34,129
Nonwhite															
Under 5 years	41,545	38,338	42,273	38,583	38,703	37,136	41,068	41,588	40,432	41,683	36,147	42,637	30,484	32,694	29,649
Under 1 year	9,019	8,711	9,088	8,628	8,676	8,441	8,988	9,044	8,875	9,055	8,488	9,125	7,592	8,008	7,439
1 year	8,395	7,811	8,527	7,776	7,846	7,500	8,314	8,429	8,173	8,421	7,394	8,595	6,187	6,879	6,001
2 years	8,159	7,436	8,323	7,463	7,533	7,191	8,058	8,173	7,918	8,189	6,933	8,405	5,755	6,179	5,590
3 years	8,033	7,255	8,210	7,308	7,374	7,052	7,915	8,022	7,784	8,065	6,758	8,297	5,545	5,974	5,381
4 years	7,939	7,125	8,125	7,208	7,274	6,952	7,813	7,920	7,682	7,973	6,596	8,215	5,405	5,854	5,238
5 to 9 years	38,797	34,470	39,787	35,123	35,479	33,770	38,139	38,739	37,408	38,984	31,762	40,272	25,897	28,252	25,050
10 to 14 years	37,790	33,168	38,867	34,071	34,458	32,607	36,996	37,672	36,167	37,999	30,455	39,393	24,553	26,891	23,734
15 to 19 years	36,030	31,027	37,272	32,617	33,037	31,039	35,114	35,864	34,163	36,235	28,309	37,802	22,686	25,009	21,871
20 to 24 years	33,352	28,160	34,756	30,953	31,409	29,212	32,710	33,548	31,506	33,494	25,401	35,258	20,862	23,309	19,940
25 to 29 years	30,759	25,655	32,259	29,524	29,804	27,424	30,562	31,460	29,132	30,789	22,853	32,683	18,569	22,115	16,520
30 to 34 years	27,832	22,903	29,617	27,473	27,943	25,556	28,279	29,148	26,849	27,835	20,006	28,957	18,163	20,686	17,078
35 to 39 years	24,983	19,979	26,910	25,372	25,825	23,551	25,827	26,636	24,484	24,762	17,012	27,164	18,721	19,102	15,683
40 to 44 years	22,418	17,588	24,571	23,075	23,478	21,487	23,578	24,303	22,403	22,155	14,468	24,793	15,321	17,406	14,414
45 to 49 years	20,002	14,917	22,406	20,633	20,946	19,472	21,327	21,897	20,474	19,711	12,131	22,625	13,859	15,523	13,155
50 to 54 years	17,354	12,252	20,017	18,011	18,196	17,438	18,762	19,075	18,390	17,074	9,677	20,218	12,366	13,502	11,906

Table C-3.—LIFE-TABLE STATIONARY POPULATION (ΣL_x) FOR WHITE AND NONWHITE FEMALES UNDER 55 YEARS OLD, BY AGE, FOR DIVISIONS, URBAN AND RURAL: 1930 TO 1939 AND 1909 TO 1911

(The radix of each life table is 10,000; that is, the figures may be interpreted as the number of years lived in the stated age interval by the survivors of 10,000 female births. Except for the three Southern divisions, statistics for nonwhites were not computed for areas smaller than regions, urban and rural)

DIVISION, COLOR, AND AGE (x)	1930 TO 1939			1909 TO 1911		
	Total	Urban	Rural	Total	Urban	Rural
NEW ENGLAND						
White						
Under 5 years	47,557	47,576	47,494	43,426	43,140	44,946
Under 1 year	9,643	9,644	9,637	9,184	9,152	9,352
1 year	9,523	9,527	9,511	8,719	8,666	9,004
2 years	9,486	9,491	9,470	8,577	8,514	8,910
3 years	9,462	9,467	9,446	8,500	8,433	8,858
4 years	9,443	9,447	9,430	8,446	8,375	8,822
5 to 9 years	47,021	47,052	46,992	41,723	41,347	43,746
10 to 14 years	46,778	46,795	46,776	41,214	40,825	43,518
15 to 19 years	46,513	46,545	46,505	40,654	40,272	42,764
20 to 24 years	46,117	46,148	46,072	39,855	39,478	41,905
25 to 29 years	45,588	45,629	45,514	38,898	38,531	40,901
30 to 34 years	44,955	45,002	44,867	37,812	37,434	39,889
35 to 39 years	44,193	44,238	44,109	36,579	36,178	38,814
40 to 44 years	43,228	43,266	43,199	35,195	34,753	37,656
45 to 49 years	41,903	41,900	42,029	33,527	33,027	36,326
50 to 54 years	40,045	39,995	40,409	31,444	30,859	34,661
MIDDLE ATLANTIC						
White						
Under 5 years	47,599	47,622	47,538	43,578	43,024	44,907
Under 1 year	9,655	9,654	9,648	9,243	9,187	9,379
1 year	9,534	9,538	9,522	8,777	8,676	9,018
2 years	9,495	9,501	9,479	8,606	8,484	8,898
3 years	9,469	9,475	9,453	8,510	8,377	8,830
4 years	9,448	9,454	9,436	8,442	8,300	8,782
MIDDLE ATLANTIC--Con.						
White--Con.						
5 to 9 years	47,028	47,037	47,003	41,603	40,825	43,441
10 to 14 years	46,782	46,784	46,759	41,019	40,196	42,937
15 to 19 years	46,476	46,487	46,461	40,480	39,652	42,394
20 to 24 years	46,053	46,072	46,008	39,663	38,872	41,558
25 to 29 years	45,499	45,517	45,421	38,637	37,874	40,465
30 to 34 years	44,846	44,869	44,751	37,444	36,669	39,342
35 to 39 years	44,054	44,063	43,957	36,046	35,246	38,110
40 to 44 years	43,035	43,040	42,984	34,500	33,641	36,782
45 to 49 years	41,629	41,576	41,714	32,714	31,751	35,511
50 to 54 years	39,629	39,487	39,963	30,549	29,445	33,533
EAST NORTH CENTRAL						
White						
Under 5 years	47,687	47,721	47,647	45,206	44,462	45,959
Under 1 year	9,666	9,668	9,662	9,429	9,354	9,506
1 year	9,551	9,558	9,544	9,085	8,950	9,222
2 years	9,514	9,523	9,503	8,961	8,798	9,128
3 years	9,488	9,497	9,478	8,890	8,709	9,073
4 years	9,468	9,475	9,460	8,641	8,553	9,030
5 to 9 years	47,130	47,140	47,117	43,783	42,885	44,758
10 to 14 years	46,862	46,859	46,867	43,171	42,080	44,281
15 to 19 years	46,563	46,576	46,560	42,552	41,459	43,665
20 to 24 years	46,118	46,132	46,086	41,601	40,557	42,658
25 to 29 years	45,536	45,571	45,480	40,460	39,459	41,489

Table C-3.—LIFE-TABLE STATIONARY POPULATION (ΣL_x) FOR WHITE AND NONWHITE FEMALES UNDER 55 YEARS OLD, BY AGE, FOR DIVISIONS, URBAN AND RURAL: 1930 TO 1939 AND 1909 TO 1911—Continued

(The radix of each life table is 10,000; that is, the figures may be interpreted as the number of years lived in the stated age interval by the survivors of 10,000 female births. Except for the three Southern divisions, statistics for nonwhites were not computed for areas smaller than regions, urban and rural)

DIVISION, COLOR, AND AGE (x)	1930 TO 1939			1909 TO 1911		
	Total	Urban	Rural	Total	Urban	Rural
EAST NORTH CENTRAL—Con.						
White—Con.						
30 to 34 years	44,863	44,912	44,794	39,258	38,232	40,340
35 to 39 years	44,065	44,104	43,997	37,957	36,861	39,158
40 to 44 years	43,072	43,085	43,046	36,550	35,335	37,921
45 to 49 years	41,765	41,715	41,858	34,973	33,583	36,583
50 to 54 years	39,995	39,793	40,256	33,111	31,508	35,015
WEST NORTH CENTRAL						
White						
Under 5 years	47,741	47,779	47,704	46,225	45,247	46,578
Under 1 year	9,675	9,678	9,672	9,563	9,472	9,596
1 year	9,562	9,589	9,555	9,287	9,114	9,349
2 years	9,524	9,534	9,514	9,179	8,962	9,258
3 years	9,499	9,509	9,490	9,119	8,879	9,206
4 years	9,481	9,489	9,475	9,077	8,820	9,169
5 to 9 years	47,213	47,221	47,197	44,943	43,515	45,466
10 to 14 years	46,956	46,959	46,950	44,435	42,895	45,006
15 to 19 years	46,665	46,684	46,661	43,819	42,271	44,891
20 to 24 years	46,237	46,286	46,199	42,890	41,408	43,426
25 to 29 years	45,693	45,734	45,634	41,813	40,371	42,331
30 to 34 years	45,067	45,113	44,999	40,654	39,153	41,221
35 to 39 years	44,333	44,371	44,267	39,359	37,752	40,018
40 to 44 years	43,435	43,444	43,411	37,978	36,182	38,771
45 to 49 years	42,272	42,217	42,348	36,447	34,411	37,420
50 to 54 years	40,709	40,543	40,945	34,648	32,508	35,834
SOUTH ATLANTIC						
White						
Under 5 years	47,206	46,908	47,539	44,084	41,332	44,817
Under 1 year	9,607	9,561	9,627	9,318	9,042	9,389
1 year	9,462	9,405	9,488	8,880	8,376	9,011
2 years	9,408	9,348	9,435	8,710	8,095	8,874
3 years	9,376	9,311	9,405	8,620	7,957	8,799
4 years	9,353	9,283	9,384	8,556	7,862	8,744
5 to 9 years	46,581	46,131	46,733	42,158	38,368	43,191
10 to 14 years	46,316	45,809	46,529	41,494	37,394	42,610
15 to 19 years	46,021	45,455	46,281	40,698	36,405	41,689
20 to 24 years	45,556	44,921	45,851	39,444	35,048	40,710
25 to 29 years	44,954	44,259	45,295	37,936	33,469	39,289
30 to 34 years	44,242	43,474	44,649	36,324	31,673	37,836
35 to 39 years	43,383	42,542	43,849	34,479	29,624	36,174
40 to 44 years	42,346	41,409	42,884	32,443	27,398	34,332
45 to 49 years	41,068	39,976	41,741	30,351	25,048	32,476
50 to 54 years	39,402	38,059	40,298	28,044	22,451	30,453
Nonwhite						
Under 5 years	45,432	44,497	45,783	41,997	36,725	42,952
Under 1 year	9,358	9,230	9,406	9,069	8,549	9,160
1 year	9,104	8,921	9,172	8,475	7,498	8,651
2 years	9,027	8,827	9,102	8,252	7,053	8,469
3 years	8,986	8,778	9,064	8,140	6,874	8,371
4 years	8,957	8,741	9,039	8,061	6,753	8,301
5 to 9 years	44,532	43,368	44,960	39,528	32,681	40,802
10 to 14 years	44,165	42,927	44,648	38,652	31,491	40,005
15 to 19 years	43,362	41,943	44,001	37,088	29,568	38,612
20 to 24 years	41,935	40,217	42,733	34,551	26,863	36,271
25 to 29 years	40,137	38,242	41,104	31,955	24,355	33,830
30 to 34 years	38,145	36,156	39,307	29,015	21,462	31,139
35 to 39 years	35,859	33,681	37,276	25,832	18,293	28,280
40 to 44 years	33,244	30,748	35,009	23,088	15,577	25,838
45 to 49 years	30,200	27,324	32,434	20,603	13,137	23,646
50 to 54 years	26,570	23,153	29,341	17,866	10,530	21,182
EAST SOUTH CENTRAL						
White						
Under 5 years	47,289	46,972	47,397	44,590	41,635	45,049
Under 1 year	9,632	9,589	9,651	9,399	9,121	9,440
1 year	9,483	9,427	9,507	8,992	8,464	9,072
2 years	9,418	9,358	9,444	8,815	8,150	8,919
3 years	9,381	9,315	9,409	8,721	7,996	8,835
4 years	9,355	9,283	9,386	8,663	7,904	8,783
5 to 9 years	46,545	46,098	46,719	42,711	38,550	43,364
10 to 14 years	46,269	45,755	46,484	42,035	37,535	42,754
15 to 19 years	45,927	45,350	46,196	41,146	36,409	41,934
20 to 24 years	45,383	44,705	45,697	39,688	34,788	40,533
25 to 29 years	44,692	43,941	45,059	37,957	32,957	38,871
30 to 34 years	43,905	43,074	44,337	36,151	30,905	37,194
35 to 39 years	42,995	42,080	43,481	34,166	28,659	35,359
40 to 44 years	41,946	40,958	42,500	32,064	26,334	33,412
45 to 49 years	40,695	39,538	41,381	29,878	23,847	31,422
50 to 54 years	39,109	37,713	39,997	27,462	21,070	29,225
Nonwhite						
Under 5 years	46,077	45,274	46,380	42,552	37,373	43,521
Under 1 year	9,480	9,353	9,500	9,142	8,641	9,213
1 year	9,258	9,063	9,297	8,592	7,639	8,752
2 years	9,164	8,992	9,229	8,381	7,208	8,556
3 years	9,122	8,942	9,190	8,285	7,015	8,452
4 years	9,093	8,904	9,164	8,172	6,870	8,348

DIVISION, COLOR, AND AGE (x)	1930 TO 1939			1909 TO 1911		
	Total	Urban	Rural	Total	Urban	Rural
EAST SOUTH CENTRAL—Con.						
Nonwhite—Con.						
5 to 9 years	45,204	44,168	45,582	39,987	33,098	41,028
10 to 14 years	44,819	43,687	45,243	38,979	31,685	40,096
15 to 19 years	43,989	42,657	44,563	37,083	29,305	38,375
20 to 24 years	42,565	40,929	43,510	34,268	26,268	35,756
25 to 29 years	40,860	39,055	41,787	31,593	23,682	33,220
30 to 34 years	39,049	37,146	40,134	28,685	20,817	30,527
35 to 39 years	36,970	34,898	38,305	25,728	17,857	27,832
40 to 44 years	34,540	32,157	36,205	23,218	15,351	25,558
45 to 49 years	31,707	28,941	33,817	20,891	13,025	23,436
50 to 54 years	28,399	25,073	31,011	18,334	10,571	21,166
WEST SOUTH CENTRAL						
White						
Under 5 years	47,125	46,815	47,257	42,142	38,155	42,952
Under 1 year	9,607	9,560	9,626	9,152	8,785	9,225
1 year	9,452	9,393	9,477	8,552	7,840	8,696
2 years	9,388	9,326	9,415	8,278	7,578	8,483
3 years	9,352	9,284	9,381	8,151	7,150	8,354
4 years	9,326	9,252	9,358	8,029	7,002	8,244
5 to 9 years	46,395	45,930	46,588	39,187	33,591	40,538
10 to 14 years	46,091	45,528	46,311	38,167	32,167	39,449
15 to 19 years	45,696	45,061	45,978	37,061	30,859	38,425
20 to 24 years	45,097	44,382	45,436	35,478	29,230	36,903
25 to 29 years	44,377	43,593	44,770	33,548	27,339	35,048
30 to 34 years	43,606	42,749	44,062	31,441	25,147	33,105
35 to 39 years	42,746	41,811	43,256	29,159	22,778	30,978
40 to 44 years	41,745	40,732	42,324	26,769	20,346	28,727
45 to 49 years	40,528	39,377	41,235	24,367	17,881	26,518
50 to 54 years	38,975	37,591	39,889	21,958	15,401	24,304
Nonwhite						
Under 5 years	46,117	45,316	46,414	39,808	33,311	41,012
Under 1 year	9,462	9,355	9,502	8,812	8,146	8,927
1 year	9,243	9,089	9,301	8,066	6,847	8,285
2 years	9,172	9,001	9,256	7,786	6,519	8,059
3 years	9,134	8,954	9,200	7,651	6,085	7,925
4 years	9,106	8,917	9,175	7,513	5,914	7,818
5 to 9 years	45,279	44,256	45,641	36,474	28,139	38,095
10 to 14 years	44,905	43,757	45,301	35,333	26,706	37,057
15 to 19 years	44,135	42,806	44,678	33,350	24,444	35,250
20 to 24 years	42,833	41,217	43,521	30,264	21,396	32,352
25 to 29 years	41,273	39,495	42,104	27,374	18,846	29,548
30 to 34 years	39,602	37,780	40,597	24,362	16,168	26,720
35 to 39 years	37,665	35,614	38,679	21,380	13,476	23,947
40 to 44 years	35,380	33,015	36,898	18,878	11,259	21,626
45 to 49 years	32,659	29,868	34,604	16,491	9,128	19,418
50 to 54 years	29,395	26,068	31,851	13,955	6,997	17,011
MOUNTAIN						
White						
Under 5 years	46,619	47,000	46,225	44,827	44,444	45,154
Under 1 year	9,523	9,570	9,472	9,432	9,389	9,446
1 year	9,346	9,419	9,271	9,060	8,984	9,092
2 years	9,283	9,367	9,196	8,902	8,794	8,948
3 years	9,247	9,334	9,156	8,804	8,676	8,859
4 years	9,220	9,310	9,128	8,729	8,591	8,789
5 to 9 years	45,838	46,278	45,358	42,880	42,117	43,218
10 to 14 years	45,488	45,923	44,999	42,082	41,262	42,448
15 to 19 years	45,073	45,502	44,592	41,252	40,415	41,646
20 to 24 years	44,457	44,874	43,986	40,029	39,173	40,454
25 to 29 years	43,664	44,061	43,215	38,802	37,874	39,058
30 to 34 years	42,751	43,124	42,330	37,180	36,101	37,762
35 to 39 years	41,750	42,057	41,377	35,586	34,292	36,374
40 to 44 years	40,591	40,857	40,347	33,922	32,396	34,956
45 to 49 years	39,261	39,470	39,140	32,071	30,299	33,328
50 to 54 years	37,616	37,725	37,600	29,925	27,891	31,447
PACIFIC						
White						
Under 5 years	47,786	48,017	47,503	48,650	48,449	48,855
Under 1 year	9,680	9,712	9,646	9,595	9,579	9,612
1 year	9,568	9,616	9,517	9,580	9,527	9,634
2 years	9,529	9,584	9,472	9,281	9,238	9,326
3 years	9,504	9,562	9,445	9,229	9,177	9,281
4 years	9,485	9,543	9,423	9,185	9,130	9,242
5 to 9 years	47,221	47,518	46,903	45,468	45,168	45,767
10 to 14 years	46,958	47,274	46,649	44,950	44,617	45,304
15 to 19 years	46,641	46,986	46,342	44,312	43,964	44,669
20 to 24 years	46,170	46,472	45,866	43,513	42,951	43,723
25 to 29 years	45,581	45,868	45,294	42,120	41,722	42,609
30 to 34 years	44,913	45,189	44,651	40,907	40,431	41,670
35 to 39 years	44,135	44,378	43,921	39,563	38,964	40,461
40 to 44 years	43,182	43,369	45,049	38,088	37,341	39,257
45 to 49 years	41,949	42,081	41,927	36,394	35,492	37,879
50 to 54 years	40,299	40,351	40,250	34,517	33,219	36,164

APPENDIX D

PROCEDURE FOR COMPUTING GROSS AND NET REPRODUCTION RATES FROM AGE-SPECIFIC RATIOS OF CHILDREN TO WOMEN

1. Method for Computing Reproduction Rates from Age-specific Ratios of Children Under 5 Years Old to Women

a. Computation of age-specific female birth rates.—The computation of the reproduction rates involved the estimation of age-specific female birth rates. These birth rates were computed from data contained in the report entitled "Differential Fertility, 1940 and 1910—Fertility for States and Large Cities," showing the number of children under 5 years old per 1,000 women in each 5-year age interval from 15 to 49 years. The method of computation is described briefly below:

(1). Computation of ratios of female children to women.—The ratios of children to women shown in the above-mentioned report involve children of both sexes, whereas for the purpose of computing age-specific female birth rates, ratios of female children under 5 years old to women were desired. Such ratios were readily estimated. Figures on the number of children under 5 years old classified by sex are presented in Volume II of the Sixteenth Decennial Census and in Volumes II and III of the Thirteenth Decennial Census Reports on Population. From these figures, the percentage of females among the total children under 5 years old was determined. By multiplying each age-specific ratio of children to women (from the fertility report) by the proportion of female children, estimates of age-specific ratios of female children to women were obtained.

(2). Allowance for deaths among children.—In order to compute birth rates, it was necessary to convert the figures on female children under 5 years old into figures on female births. Children under 5 years old at the date of the census were survivors from births during the preceding 5-year period. The number of births from which these children survived was estimated on the basis of the female stationary population figures obtained from the life table, as given in Appendix C of this report. The "ΣL_x" figure for the age interval "under 5 years" was divided by 50,000 to obtain a figure showing the proportion of females born during a 5-year period who would be living at the end of this period. The age-specific ratios of female children were divided by this survival proportion. The results were estimates of age-specific ratios of female births during the preceding five years to women living at the census date.

(3). Allowance for deaths among women.—Similarly, the data on number of women living at the census date had to be converted into estimates of the number living at the middle of the 5-year period to which the estimates on number of births applied. For this purpose, an allowance was made for those women who had died during the 2 1/2 years preceding the date of the census. The proportion of women in each age group who survived 2 1/2 years was computed from the life tables presented in Appendix C. The proportion of women who survive 2 1/2 years is the ratio of the stationary population of an "age at census" interval to the stationary population 2 1/2 years younger. For example, the 2 1/2-year survival proportion for women 15 to 19 years old at the date of the census is the ratio of the "ΣL_x" figure for the age group 15 to 19 to the "ΣL_x" figure for the age group 12 1/2 to 16 1/2 years. To estimate the stationary population 2 1/2 years younger, it is sufficient to average the stationary population in two successive 5-year "age at census" intervals. In the above example, the "ΣL_x" figure for the group 12 1/2 to 16 1/2 years can be obtained by adding together the figures for the age groups 10 to 14 and 15 to 19 years, and dividing the sum by 2. (For the rates shown in this report, however, a slight refinement was employed, consisting of osculatory interpolation[1].)

The age-specific birth rates were computed by multiplying each age-specific ratio of female births to women (see section b) by the appropriate life table proportion of women surviving 2-1/2 years.

b. Computation of unadjusted gross reproduction rates.—The unadjusted gross reproduction rate was computed by summing the age-specific female birth rates for women during the 5-year period preceding the census date, as obtained in step a, above.

c. Computation of unadjusted net reproduction rates.—In order to compute the net reproduction rate, it was necessary to multiply each age-specific female birth rate by the corresponding proportion of female births expected to survive to the specific age group. For example, the birth rate for women 15 to 19 years old at the census date was multiplied by the proportion of girl babies who survive to the ages 12 1/2 to 16 1/2 years. Such survival proportions were computed by dividing the stationary population of age intervals 12 1/2 to 16 1/2 years, 17 1/2 to 21 1/2 years, etc., by 50,000. The net reproduction rate was computed by summing the products of the age-specific female birth rates and these survival proportions.

d. Computation of adjusted gross and net reproduction rates.—The adjusted gross and net reproduction rates were computed by dividing the unadjusted gross or net reproduction rate by the percentage of children enumerated in the census (see Appendix A) and then by the percentage of enumerated children who were represented in the fertility data (see Appendix B).

2. Method for Computing Reproduction Rates From Age-specific Ratios of Children 5 to 9 Years Old to Women

The method for computing reproduction rates from age specific ratios of children 5 to 9 years old to women is analogous to the method described above for computing the reproduction rates from age-specific ratios of children under 5 years old to women. The report entitled "Differential Fertility, 1940 and 1910—Fertility for States and Large Cities" presents figures on the number of children 5 to 9 years old per 1,000 women in the 5-year age intervals from age 20 to 24 years to age 50 to 54 years. Women were about 7 1/2 years younger during the period the children were born than at the date of the census. The proportion of children who were female and the various survival proportions were computed in a manner analogous to that used for data involving children under 5 years old. In computing the adjusted reproduction rates, however, no allowance was made for underenumeration of children 5 to 9 years old, because the enumeration of children in this age interval was deemed to be reasonably complete.

3. Possible Refinements in the Method of Computing the Reproduction Rates

The method of computing gross and net reproduction rates from ratios of children to women which has been described above does not take into account the fact that the distribution of children by age varies with the age of the woman. For instance, few women 15 to 19 years old have children more than one year old, and few women 45 to 49 years old have children less than two years old. There is a more precise method for computing the reproduction rates, which takes into account the variation in the distribution of children by age among women of different age intervals. This more precise method was not used for the computation of the reproduction rates shown in the present report. The greater amount of labor involved by the more precise method was considered unwarranted because of the degree of error present in the life tables at hand and because of the sampling fluctuations inherent in the fertility data. In general, reproduction rates computed with approximate allowances for mortality among children and women differ by only a fraction of one percent from reproduction rates computed with precise allowances for mortality.

[1] For a discussion of osculatory interpolation, see U. S. Bureau of the Census, "United States Life Tables: 1890, 1901, 1910, 1901-1910," Government Printing Office, Washington, 1921, pp. 344-345.

APPENDIX E

PROCEDURE FOR COMPUTING AVERAGE ANNUAL AGE-SPECIFIC BIRTH RATES FROM RATIOS OF CHILDREN UNDER 5 YEARS OLD TO WOMEN

The average annual age-specific birth rates shown in this report were computed from the census data on number of children under 5 years of age per 1,000 women in various age groups (obtained from the report entitled "Differential Fertility, 1940 and 1910—Fertility for States and Large Cities"). The method of computation was, in general, similar to that used for computing quinquennial female birth rates over the five-year period preceding the census date, as explained in Appendix D. The steps are given below:

1. The ratios of children to women were adjusted for underenumeration of children in the census (see Appendix A) and for the extent to which those children enumerated were not represented in the sample data on which the fertility reports are based (see Appendix B).

2. Allowances for deaths of children and deaths of women during the 5-year period were made by means of survival proportions based on the life tables. The method of computing these allowances was the same as that described in Appendix D, except that for the children, life-table stationary population figures for both sexes combined were used instead of those for females. The figures for both sexes are shown in table E-1.

Table E-1.—LIFE-TABLE STATIONARY POPULATION ($_5L_x$) FOR CHILDREN UNDER 5 YEARS OLD, BY COLOR, FOR THE UNITED STATES, BY REGIONS, URBAN AND RURAL: 1930 TO 1939 AND 1905 TO 1910

(The radix of each life table is 10,000; that is, the figures may be interpreted as the number of years lived in the first five years of life by the survivors of 10,000 births)

AREA	All classes	White	Nonwhite	AREA	All classes	White	Nonwhite
1930 TO 1939				1905 TO 1910			
United States	46,897	47,137	45,264	United States	43,543	43,925	40,842
Urban	47,027	47,255	45,114	Urban	42,636	42,958	37,476
Rural	46,788	47,044	45,343	Rural	44,152	44,666	41,610
The Northeastern States	47,193	47,276	45,432	The Northeastern States	42,857	42,947	37,525
Urban	47,224	47,300	45,729	Urban	42,351	42,430	37,857
Rural	47,133	47,211	45,165	Rural	44,308	44,415	36,224
The North Central States	47,318	47,402	45,107	The North Central States	45,093	45,174	40,339
Urban	47,339	47,441	45,640	Urban	44,183	44,258	40,887
Rural	47,284	47,362	42,968	Rural	45,722	45,801	39,669
The South	46,462	46,853	45,355	The South	42,455	43,065	40,987
Urban	46,020	46,528	44,404	Urban	38,518	39,689	35,197
Rural	46,839	46,994	45,877	Rural	43,250	43,789	41,996
The West	46,854	47,000	45,785	The West	45,015	45,385	35,317
Urban	47,277	47,322	45,846	Urban	44,847	45,028	36,934
Rural	46,458	46,665	42,945	Rural	45,128	45,611	34,711

3. The resulting age-specific birth rates for women over a five-year period were converted into average annual birth rates for women who were in specific age intervals in each of the five years preceding the date of the census. For this purpose, it was necessary to take into account the fact that women were shifting from one age interval to another during the five-year period, whereas birth rates for women of fixed age intervals were desired. The varying ages were taken into account by means of a series of interpolation equations.